2006

ENVIRONMENTAL REVIEW COMMISSION

MINUTES

ENVIRONMENTAL REVIEW COMMISSION
2005-2006
MEMBERSHIP LIST

Senator Charlie Albertson, Co-chair
525 Legislative Office Building
Raleigh, NC 27603-5925
(919) 733-7505; Fax (919) 715-8329

Senator Daniel G. Clodfelter, Co-Chair
110 North Tryon Street
Charlotte, NC 28202-4003
(704) 331-1041; Fax (704) 378-2041

Senator Katie Dorsett
1000 N. English Street
Greensboro, NC 27405
(336) 275-0628; Fax (336) 272-6853

Senator James S. Forrester
P. O. Box 459
Stanley, NC 28164
(704) 263-8603; Fax (704) 263-8169

Senator Hamilton Horton
860 Englewood Drive
Winston-Salem, NC 27106
(336) 725-4266

Senator Eleanor Kinnaird
207 West Poplar Avenue
Carrboro, NC 27510
(919) 929-1607; Fax (919) 856-2223

Senator A. B. Swindell
P. O. Box 788
Nashville, NC 27856
(252) 462-0190; Fax (252) 459-4385

Senator David Weinstein
204 Walnut Cove Drive
Lumberton, NC 28358
(910) 739-3048; Fax (910) 608-0034

Representative Pryor Gibson, III, Co-chair
P. O. Box 1010
Wadesboro, NC 28170
(704) 694-5957

Representative Joe Hackney
P. O. Box 1329
Chapel Hill, NC 27514
(919) 929-0323; Fax (919) 929-3960

Representative Jim Harrell
PO Box 626
Elkin, NC 28621
(336) 902-0276; Fax (336) 835-1241

Representative Pricey Harrison
PO Box 9339
Greensboro, NC 27429
(336) 292-1953; Fax (919) 856-0417

Representative Howard Hunter
146 NC 461
Winton, NC 27986
(252) 332-3130; Fax (252) 332-7580

Representative Carolyn H. Justice
P. O. Box 964
Hampstead, NC 28443
(910) 270-4604; Fax (910) 270-3455

Representative Daniel F. McComas
P. O. Box 2274
Wilmington, NC 28402
(910) 343-8372; Fax (910) 343-8003

Representative Edith Warren
P.O. Box 448
Farmville, NC 27828
(252) 753-4198; Fax (252) 753-5603

STAFF

George F. Givens, Commission Counsel
Jeffrey Hudson, Assistant Commission Counsel
Jennifer McGinnis, Assistant Commission Counsel
Tim Dodge, Commission Analyst
Research Division
545 Legislative Office Building
(919) 733-2578

Susan Iddings, Assistant Commission Counsel
Bill Drafting Division
401 Legislative Office Building
(919) 733-6660

Dot Waugaman, Commission Clerk
309 Legislative Office Building
(919) 715-2525; Fax (919) 754-3232

North Carolina General Statutes
ARTICLE 12D.

Environmental Review Commission.

§ 120-70.41. Commission established.

The Environmental Review Commission is hereby established.

§ 120-70.42. Membership; cochairs; vacancies; quorum.

(a) The Environmental Review Commission shall consist of six Senators appointed by the President Pro Tempore of the Senate, six Representatives appointed by the Speaker of the House of Representatives, who shall serve at the pleasure of their appointing officer, the Chair or a Cochair of the Senate Committee on Agriculture, Environment, and Natural Resources or the equivalent committee, the Chair or a Cochair of the House of Representatives Committee on Environment and Natural Resources or the equivalent committee, the Chair or a Cochair of the Senate Committee on Appropriations – Natural and Economic Resources or the equivalent committee, and the Chair or a Cochair of the House of Representatives Committee on Appropriations – Natural and Economic Resources or the equivalent committee.

(b) The President Pro Tempore of the Senate shall designate one Senator to serve as cochair and the Speaker of the House of Representatives shall designate one Representative to serve as cochair.

(c) Except as otherwise provided in this subsection, a member of the Commission shall continue to serve for so long as the member remains a member of the General Assembly and no successor has been appointed. A member of the Commission who does not seek reelection or is not reelected to the General Assembly may complete a term of service on the Commission until the day on which a new General Assembly convenes. A member of the Commission who resigns or is removed from service in the General Assembly shall be deemed to have resigned or been removed from service on the Commission. Any vacancy that occurs on the Environmental Review Commission shall be filled in the same manner as the original appointment.

(d) A quorum of the Environmental Review Commission shall consist of nine members.

§ 120-70.43. Powers and duties.

(a) The Environmental Review Commission shall have the following powers and duties:

(1) To evaluate actions of all boards, commissions, departments, and other agencies of the State and local governments as such actions relate to the environment or protection of the environment, including but not limited to an evaluation of:

a. Benefits of each program relative to costs;

b. Achievement of program goals;

c. Use of measures by which the success or failure of a program can be measured; and
d. Conformity with legislative intent;

(2) To study on a continuing basis the organization of State government as it relates to the environment or to the protection of public health and the environment, including but not limited to:
a. Improvements in administrative structure, practices, and procedures;
b. Increased integration and coordination of programs and functions;
c. Increased efficiency in budgeting and use of resources;
d. Efficient administration of licensing, permitting, and grant programs;
e. Prompt, effective response to environmental emergencies;
f. Opportunities for effective citizen participation; and
g. Broadening of career opportunities for professional staff;

(3) To make any recommendations it deems appropriate regarding the reorganization and consolidation of environmental regulatory agencies and the recodification of statutes relating to the environment, including but not limited to:
a. Ways in which agencies may operate more efficiently and economically;
b. Ways in which agencies can provide better services to the State and to the people; and
c. Instances in which functions of agencies are duplicative, overlapping, incomplete in scope or coverage, fail to accomplish legislative objectives, or for any other reason should be redefined or redistributed;

(4) To review and evaluate changes in federal law and regulations, relevant court decisions, and changes in technology affecting the environment or protection of the environment;

(5) To review existing and proposed State law and rules affecting the environment or protection of the environment and to determine whether any modification of law or rules is in the public interest;

(6) To make reports and recommendations, including draft legislation, to the General Assembly from time to time as to any matter relating to the powers and duties set out in this section; and

(7) To undertake such additional studies as it deems appropriate or as may from time to time be requested by the President Pro Tempore of the Senate, the Speaker of the House of Representatives, either house of the General Assembly, the Legislative Research Commission, the Joint Legislative Commission on Governmental Operations, the Joint Legislative Utility Review Committee, or the Joint Select Committee on

Low-Level Radioactive Waste and to make such reports and recommendations to the General Assembly regarding such studies as it deems appropriate; provided that the Environmental Review Commission shall not undertake any study which the General Assembly has assigned to another legislative commission or committee.

(b) The Environmental Review Commission may continue the study of environmental agency consolidation and reorganization. The study of environmental agency consolidation shall include, but is not limited to:

(1) Monitoring the implementation of Session Laws 1989, c. 727;

(2) Evaluation of the organization, programs, and operation of the Department of Environment and Natural Resources;

(3) Evaluation of the organization, functions, powers, and duties of the components of the Department of Environment and Natural Resources, including boards, commissions, councils, and regional offices; and

(4) Recodification of the General Statutes relating to the environment and environmental agencies.

(c) In addition to its general powers and duties, the Environmental Review Commission shall have the following powers and duties with respect to hazardous waste management:

(1) To study the current and projected need for hazardous waste treatment, storage, and disposal capacity in the State in light of anticipated generation of hazardous waste and alternatives for hazardous waste treatment and disposal;

(2) To evaluate the potential for the development of additional hazardous waste treatment, storage, and disposal capacity by the private sector;

(3) To study the necessity for and scope of hazardous waste treatment, storage, and disposal facilities which are sited, owned, or operated by the State;

(4) To review progress in securing a volunteer county to host a hazardous waste treatment facility;

(5) To study incentives and compensation for the community which hosts, either voluntarily or involuntarily, a hazardous waste treatment facility, including any additional incentives and compensation which may be needed, whether there should be differential compensation for a volunteer county, options for use of funds by local governments, distribution of compensation among local governments, and methods of providing flexibility in the development of an incentives and compensation package for a particular local community;

(6) To review progress in developing interstate agreements for the treatment, storage, and disposal of hazardous waste;

(7) To assist in the development of cooperative, comprehensive regional approach to hazardous waste treatment and disposal;

(8),(9) Repealed by Session Laws 2001-474, s. 12.

(10) To study the capacity assurance requirement under the Comprehensive Environmental Response, Compensation and Liability Act of 1980, Pub. L. No. 96-510, 94 Stat. 2767, 42 U.S.C. 9601 et seq., as amended, and the Superfund Amendments and Reauthorization Act of 1986, Pub. L. No. 99-499, 100 Stat. 1613, as amended as it relates to the continued eligibility of North Carolina for remedial actions under Superfund;

(11) To study alternatives available to the State for dealing with hazardous waste and the ramifications of those alternatives; and

(12) To receive and evaluate reports of every State agency, board, and commission which has any power or duty with respect to hazardous waste management.

§ 120-70.44. Additional powers.

The Environmental Review Commission, while in the discharge of official duties, may exercise all the powers provided for under the provisions of G.S. 120-19, and G.S. 120-19.1 through G.S. 120-19.4. The Environmental Review Commission may meet at any time upon the call of either cochairman, whether or not the General Assembly is in session. The Environmental Review Commission may meet in the Legislative Building or the Legislative Office Building upon the approval of the Legislative Services Commission.

Notwithstanding any rule or resolution to the contrary, proposed legislation to implement any recommendation of the Environmental Review Commission regarding any study the Environmental Review Commission is authorized to undertake or any report authorized or required to be made by or to the Environmental Review Commission may be introduced and considered during any session of the General Assembly.

§ 120-70.45. Compensation and expenses of members.

Members of the Environmental Review Commission shall receive subsistence and travel expenses at the rates set forth in G.S. 120-3.1.

§ 120-70.46. Staffing.

The Legislative Services Officer shall assign as staff to the Environmental Review Commission professional employees of the General Assembly, as approved by the Legislative Services Commission. Clerical staff shall be assigned to the Environmental Review Commission through the offices of the Supervisor of Clerks of the Senate and Supervisor of Clerks of the House of Representatives. The expenses of employment of clerical staff shall be borne by the Environmental Review Commission.

§ 120-70.47. Funding.

From funds available to the General Assembly, the Legislative Services Commission shall allocate monies to fund the work of the Environmental Review Commission.

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 733-2578
FAX: (919) 715-5460

SUSAN S. IDDINGS
ASSISTANT COMMISSION COUNSEL
401 LEGISLATIVE OFFICE BUILDING
(919) 733-6660

JENNIFER L. McGINNIS
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

DOROTHY M. WAUGAMAN
COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 715-2525
FAX: (919) 754-3232

JEFF W. HUDSON
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

TIMOTHY R. DODGE
COMMISSION ANALYST
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

23 February 2006

Ms. Jo Anne Sanford, Chair
North Carolina Utilities Commission
4325 Mail Service Center
Raleigh, NC 27699-4325

Transmitted via hand delivery and electronic mail to sanford@ncuc.net and via surface mail.

Re: Study of Renewable Energy Portfolio Standard

Dear Ms. Sanford:

Late last year I, on behalf of the Environmental Review Commission (ERC), requested that Commissioner James Y. Kerr, II, of the North Carolina Utilities Commission (NCUC) determine whether and under what circumstances the NCUC would be willing to undertake a study of options for, and the potential costs and benefits of, implementing a renewable energy portfolio standard in North Carolina. This request was based on a 2005 legislative proposal for such a study that was not enacted. In the course of considering this matter, Commissioner Kerr and I determined that some of the parties who are interested in this subject had significant concerns about the scope and direction of the study as initially proposed in the various study bills.

To address these concerns, Commissioner Kerr convened a meeting of interested parties on 11 January 2006. This meeting resulted in a proposal for a study of issues related to renewable energy portfolio standards that is acceptable to all parties. At its 24 January 2006 meeting, the ERC heard a presentation by Commissioner Kerr that included a description of the process outlined above and the nature, scope, cost, and timeline for the proposed study. An important aspect of this study is ongoing advisory consultation by the NCUC and its staff with all interested parties.

Following Commissioner Kerr's presentation, the ERC discussed the proposal and ultimately adopted a motion "to request the NCUC to undertake the proposed study of renewable energy portfolio standards as described by Commissioner Kerr." Thus the purpose of this letter is to officially convey that request. It is my understanding that preparations to conduct the study are already underway. A transcript of Commissioner Kerr's presentation and the related discussion during the 24 January meeting of the ERC is enclosed for reference. We request that the NCUC

provide the ERC with a status report on the study no later than 1 July 2006 and a final report on the study no later than 1 December 2006.

Please accept my sincere thanks on behalf of the ERC to the NCUC for its willingness to undertake this important study and to the staff of the NCUC for its assistance with this matter. In addition, we particularly appreciate the time and attention that Commissioner Kerr has devoted to moving this project forward. Please feel free to contact me if you have any questions of if I can be of any assistance to the NCUC.

Respectfully yours,

s/

George F. Givens
Commission Counsel

Enclosure (1)

c: Senator Charles Albertson, Co-Chair
Senator Daniel Clodfelter, Co-Chair
Representative Pryor Gibson, Co-Chair
Commissioner James Y. Kerr, II
Sam Watson
Dot Waugaman, Commission Clerk

Environmental Review Commission: 24 January 2006

Transcript from portion of the meeting related to the study of a renewable energy portfolio standard:

Representative Gibson recognized Mr. James Y. Kerr, Commissioner of the North Carolina Utilities Commission, to discuss a proposed study of the costs and benefits of a renewable energy portfolio standard. The Commission has followed interest in the General Assembly in the conduct of a cost-benefit study of a renewable energy portfolio standard in North Carolina. The State energy policy also speaks to such a study. Mr. Givens contacted the Commission about their willingness or interest in conducting a study in the absence of formal legislation. The answer was that they are happy to do whatever the General Assembly wants them to do. They did want to get an idea of the parameters of such a study and to make sure their thoughts about the matter were in sync with a number of stakeholders that would be interested in such a study, including the ERC staff. Regardless of what the General Assembly did or did not ask them to do, there are a number of issues at the Commission: for example, integrated resource planning and new nuclear generation facilities. There are a number of issues to which renewable energy alternative sources generation and possibly renewable portfolio standards would be of interest to the Commission; therefore, the interests of the Commission and the General Assembly seem to coincide.

In preparation for discussing the subject with the ERC, Commissioner Kerr convened a gathering of the most prominent stakeholders, including the load serving entities in the state, the regulated utilities, the NC Sustainable Energy Association, ERC staff, Mr. Steve Rose from the Joint Utility Review Commission, and representatives of the existing North Carolina Green Power program. As a result of the discussions, the Commission is convinced that conducting a study consistent with the desires of what they believe is representative of a well represented group of stakeholders, is something within their ability and more importantly, within their budget. What they propose doing undertaking the conduct of such a study, committing up to $200,000 of their budget for the project. They have done some preliminary research into what studies in other states have cost, and think that $100,000 to $150,000 is a good range. The more detailed the study, and the more follow-up work involved, the more expensive it would be. What the Commission contemplates is that in any engagement they would enter into with a consultant, part of the agreement would be to have the consultant available to the ERC, and to other interested committees of the General Assembly once the study is completed, to interpret the study, answer questions, run additional scenarios, and so forth.

In terms of the details of the study, Commissioner Kerr noted that the study bill that passed one of the houses was fairly prescriptive in its design and some of the items it sought to have studied. He said he did not believe those are necessarily bad ideas, but at this juncture, based on the research the Commission has done, it does not appear that any particular manner of conducting the study has been decided upon by other states who have conducted studies. No single template, no single set of scenarios, no single exhaustive, well-settled list of the types of issues to be looked at has developed. The Commission believes it would be best to convene a meeting with stakeholders representing the key interests, and have them organized so they can assist the Commission in drafting an appropriate request for proposals. The Commission would then propose issue a request for proposal and let the consultant conduct the study. What they would be paying for is the best expertise available at the time. The Commission would then have the consultant help them design the study, including the issues to be considered and the manner in which the study would be modeled, not only to derive the quantifiable benefits, but also to look at the qualitative issues relevant to the study.

With a stakeholder process developed, the stakeholders would also have input into the design of the study. Then, the study would be conducted, and the stakeholders would be required at that time to provide raw data to the consultant. A lot of the information needed to input into the study exists in various places, whether it be the State Energy Office, or at the load serving entities. The stakeholders would be involved again in providing raw data. The Commission envisions the

consultant coming up with a preliminary draft report; then the stakeholder group, who would be familiar with the North Carolina situation, would review the preliminary draft. The Commission would then propose to produce a final report. All interested parties would have an opportunity to file comments. The Commission would propose bundling the study as well as the comments of any interested parties together, and then present them to the ERC and to the Joint Utility Review Commission or any other appropriate committee within the General Assembly.

The study called for a 1 April 2006 deadline, unrealistic at this point in time. The Commission would hope to have the study completed in the late fall of 2006, certainly before the 2007 session of the General Assembly. They would like staff and committees to have access to the final report before session.

Commissioner Kerr said the Commission is willing to undertake the study. They would benefit from being asked by ERC to conduct it with an obligation to come back and report back at a future meeting. They would chose a consultant and budget for the consultant in a way that would make the consultant available to the committee for any follow-up work. He commented that the Commission does not envision coupling the presentation of the study with any particular policy recommendation. The product they envision would be a factual, analytical, reference point provided to the ERC. ERC and other organs of the General Assembly would be responsible for making the policy suggestions. The Commission would be happy to answer questions once the policy is properly in their arena. They foresee their study producing a reference point to give factual information to any policy discussions ERC wanted to have.

Senator Albertson moved the ERC request the Utility Commission undertake the proposed study of renewable energy portfolio standards as described in the presentation by Commissioner Kerr.

North Carolina General Assembly
House of Representatives
State Legislative Office Building
300 N. Salisbury Street Room 506
Raleigh, North Carolina 27601-1096

REPRESENTATIVE DANIEL F. McCOMAS
19TH DISTRICT

HOME ADDRESS: P.O. Box 2274
WILMINGTON, NC 28402
TELEPHONE: (919) 733-5786
(919) 754-3194 FAX
EMAIL ADDRESS: dannym@ncleg.net

COMMITTEES:

FINANCE - CHAIRMAN
ENVIRONMENT AND NATURAL RESOURCES - VICE CHAIR.
APPROPRIATIONS
PUBLIC UTILITIES
RULES, CALENDAR AND OPERATIONS OF THE HOUSE
TRANSPORTATION

February 27, 2006

Ms. Dot Waugaman, Commission Clerk
309 Legislative Office Building
Raleigh, NC 27601

Dear Ms. Waugaman:

During the February 14th meeting of the Environmental Review Commission, several of you mentioned trucks and buses and their effect on air quality.

In my professional capacity, I own and operate a small trucking fleet which has to meet rigorous air quality standards. In the last five years, truck engines have evolved to one of the cleanest internal combustion engines, and during the 2007 model year, these air quality standards will be even more rigorous.

I am pleased to enclose a brochure describing the accomplishment of the industry to date and hope you find it informative and enjoyable.

Very truly yours,

Daniel F. McComas

DFM:jrl

MINUTES
ENVIRONMENTAL REVIEW COMMISSION
24 January 2006

The Environmental Review Commission (ERC) met on Tuesday 24 January 2006 at 9:30 a.m. in Room 544 of the Legislative Office Building. Representative Pryor Gibson presided.

The following members were present: Senators Albertson, Clodfelter, Forrester, Kinnaird, Swindell, and Weinstein; and Representatives Gibson, Hackney, Harrell, Harrison, Justice, and Warren. Mr. George Givens, Commission Counsel; Mr. Jeffrey Hudson, Assistant Commission Counsel; Ms. Jennifer McGinnis, Assistant Commission Counsel; Ms. Susan Iddings, Assistant Commission Counsel: Mr. Tim Dodge, Commission Analyst; and Ms. Mary Watson, Substitute Commission Clerk, were also present.

On 9 January 2006, notice was sent to members and interested parties via e-mail and regular mail. A copy of the notice is included in the attachments to these minutes as **Exhibit A**. Copies of the agenda for the meeting and visitor registration sheets are included in the attachments as **Exhibits B** and **C**.

Representative Pryor called the meeting to order and asked Mr. Givens for any comments he might have. Mr. Givens announced that two reports have been received since the previous meeting (the annual report on implementation of resident inspectors program at commercial hazardous waste facilities [**Exhibit D**] and the annual report on the comprehensive hazardous waste management plan [**Exhibit E**]). Both annual reports were distributed at the meeting. Four additional reports have been held for presentation at future meetings. They include:

- Annual Report on the Compliance/Enforcement of Water Quality Laws for Facilities that Discharge into Surface Waters
- Parks and Recreation Trust Fund Annual Report, Fiscal Year 2003-2004
- North Carolina Natural Heritage Trust Fund Award Report, Fiscal Year 2003-2004
- Report on the Pilot Program for the Inspection of Animal Waste Management Systems

Mr. Givens commented that the studies bill usually prescribes agenda items for the ERC; however, the studies bill was not enacted in 2005. A number of non-controversial items included in various editions of the bill form the agenda for today's meeting. The first item is an action item to do with developing a renewable energy portfolio standard. If the study bill had passed, the Utilities Commission would have been asked to do the study and report to the ERC. They are willing to do the study if asked to do so by the ERC. Commissioner Kerr is to report on that item. The Commissioner held a stakeholders meeting on the issue at Mr. Givens' request at the Utilities Commission office a week ago, at which time an agreement was reached. The balance of the agenda focuses on solid waste issues. There will be a meeting of the Commission on Seafood and Aquaculture on Tuesday, 31 January 2006, and the first meeting of the Commission on Global Climate Change will be Friday, 3 February 2006 at 10:00 a.m. in Room 643, LOB. A working group on risk-based limited liability for environmental cleanup has begun meeting and will report at a later date. The next meetings of the ERC will be Tuesday, 14 February 2006 and probably Wednesday, 15 February 2006, with field trips. The public planning meeting for the February meetings has been changed. It is now scheduled for Monday, 6 February 2006 at 2:00 p.m.. The public planning meeting for the March meeting is scheduled for Thursday, 2 March 2006. The public planning meeting for this meeting was held on Tuesday 17 January 2006.

Senator Clodfelter was recognized to comment on the Joint North Carolina-South Carolina Commission on the Catawba Water Basin, which held its second meeting last week. Senator Clodfelter said he was very pleased with the meeting. The main topic of discussion was water supply planning in the basin. One of the most exciting items was that Duke Energy presented to members the development of their model for predicting water flow along the river and in all the lakes from the headwaters of the Catawba River to the Santee Cooper system. Duke Energy has developed a modeling capability that will

allow them to reconstruct data from all climate conditions over the last 75 years to know exactly what lake levels will be, what water flow will be, and what the safe withdrawals are for water supply usage up and down the river. The Commission took some action to endorse a protocol that has been agreed in the Federal Energy Regulatory Commission (FERC) licensing process to put in place conservation measures in the event of future droughts such as ones in 2001 and 2002. They also discussed North Carolina's water supply planning model, which South Carolina does not have. There was a good deal of discussion about getting the model copied in South Carolina. There was also some discussion about gaps and need for amendments for the interbasin transfer policy of the two states based on the new data now available. Permitted withdrawals from the Catawba Basin already exceed the carrying capacity of the river today in drought conditions. Duke Energy has made the model available both to DENR and to South Carolina Department of Health and Environmental Control, and both agencies will be using it to evaluate issues of expansion of water treatment plants and withdrawals from river basins. He added that the Commission did not discuss the specifics of the pending Cabarrus-Kannapolis-Concord application, but they did discuss generally the states' rules and regulations on transfers in light of the fact that we now have the ability to predict what the impact of those will be. What Duke Energy has developed for the Catawba does not exist for any of our other river basins, but it does give us an ability to copy the model in the other river basins of the two states that cross the state lines as well as those that are internal to North Carolina. There was no hearing or discussion of the specifics of any applications pending. The Commission will meet quarterly. Mr. Givens said there is a reporting requirement in the statute that sets up the state's involvement in the Commission. The report is due October 1.

Senator Clodfelter added that the low-flow protocols settled on do not affect any intakes other than those in the Duke Energy controlled areas. DENR and DHEC have agreed to look at what regulatory changes should be recommended to ERC and to South Carolina counterparts to bring everyone under the same drought protocol in the event of another drought.

Senator Swindell commented that he is a member of the Roanoke Virginia/North Carolina Commission. It met once last year and has not met since. He suggested all interstate commissions should be activated.

Representative Gibson recognized Mr. James Y. Kerr, Commissioner of the North Carolina Utilities Commission, to discuss a proposed study of the costs and benefits of a renewable energy portfolio standard. The Commission has followed interest in the General Assembly in the conduct of a cost-benefit study of a renewable energy portfolio standard in North Carolina. The State energy policy also speaks to such a study. Mr. Givens contacted the Commission about their willingness or interest in conducting a study in the absence of formal legislation. The answer was that they will do whatever the General Assembly wants them to do. They did want to get an idea of the parameters of such a study and to make sure their thoughts about the matter were in sync with a number of stakeholders that would be interested in such a study, including the ERC staff. Regardless of what the General Assembly did or did not ask them to do, there are a number of issues at the Commission: for example, integrated resource planning and new nuclear generation facilities. There are a number of issues to which renewable energy alternative sources generation and possibly renewable portfolio standards would be of interest to the Commission; therefore, the interests of the Commission and the General Assembly seem to coincide.

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the General Assembly once the study is completed, to interpret the study, answer questions, run additional scenarios, and so forth.

In terms of the details of the study, Commissioner Kerr noted that the study bill that passed one of the houses was fairly prescriptive in its design and some of the items it sought to have studied. He said he did not believe those are necessarily bad ideas, but at this juncture, based on the research the Commission has done, it does not appear that any particular manner of conducting the study has been decided upon by other states who have conducted studies. No single template, no single set of scenarios, no single exhaustive, well-settled list of the types of issues to be looked at has developed. The Commission believes it would be best to convene a meeting with stakeholders representing the key interests, and organize them so they can assist the Commission in drafting an appropriate request for proposals. The Commission would then propose issue a request for proposal to find the best consultant to conduct the study. The Commission would then have the consultant help them design the study, including the issues to be considered and the manner in which the study would be modeled, not only to derive the quantifiable benefits, but also to look at the qualitative issues relevant to the study.

With a stakeholder process developed, the stakeholders would also have input into the design of the study. Then, the study would be conducted, and the stakeholders would be required at that time to provide raw data to the consultant. A lot of the information needed to input into the study exists in various places, whether it be the State Energy Office, or at the load serving entities. The stakeholders would be involved again in providing raw data. The Commission envisions the consultant coming up with a preliminary draft report; then the stakeholder group, who would be familiar with the North Carolina situation, would review the preliminary draft. The Commission would then propose to produce a final report. All interested parties would have an opportunity to file comments. The Commission would propose bundling the study as well as the comments of any interested parties together, and then present them to the ERC and to the Joint Utility Review Commission or any other appropriate committee within the General Assembly.

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Commissioner Kerr said the Commission is willing to undertake the study. They would benefit from being asked by ERC to conduct it with an obligation to come back and report back at a future meeting. He commented that the Commission does not envision coming up with any particular policy recommendation. The product they envision would be a factual, analytical, reference point provided to the ERC. ERC and other organs of the General Assembly would be responsible for making the policy suggestions. The Commission will answer questions once the policy is properly in their arena. They foresee their study producing a reference point to give factual information to any policy discussions ERC wants to have.

Senator Albertson moved the ERC request the Utility Commission undertake the proposed study of renewable energy portfolio standards as described in the presentation by Commissioner Kerr.

Senator Kinnaird asked how many states already have renewable energy portfolio standards. Commissioner Kerr replied that 22 states have renewable energy portfolio standards of some sort. There are probably other proposals being considered at this time. The Commissioner said Berkeley Laboratory in Oakland, CA, has completed a survey of all the studies that have been conducted (38). No best practices have emerged on how to conduct such a study. In the Berkeley studies, about 55 percent of the renewable energy reflected in the studies is wind energy. While North Carolina has some wind resources, we also have countervailing environmental concerns with respect to the use of wind.

Representative Harrison asked if the Utilities Commission is able to adopt renewable energy policies absent a legislative mandate for a renewable energy portfolio standard,. Commissioner Kerr replied he had not considered whether the Commission could force anyone to do anything without

legislative direction. He added he thought they might be able to persuade, but not compel, as they have with the North Carolina Green Power program. By statute, the Commission is mandated to provide the least cost reasonable alternative energy generation, which probably would result in ruling against renewable energy unless there were some overriding policy decision, because renewable energy is now more costly than currently used sources of energy.

The motion by Senator Albertson carried.

Representative Gibson recognized Mr. Scott Mouw, Chief of the Community and Business Assistance Section, Division of Pollution Prevention and Environmental Assistance (DPPEA), DENR, to discuss measures to reduce the amount of solid waste disposed of within North Carolina landfills, bans on the disposal of certain types of waste in landfills, and more aggressive recycling requirements (see **EXHIBIT F** for PowerPoint presentation).

Senator Kinnaird asked if the Community and Business Assistance Section works with the League of Municipalities, the Association of County Commissioners and the Association of Solid Waste. Mr. Mouw replied that they do. He said they have collected data with the League of Municipalities to see how municipalities perform. The League includes articles in their newsletters about recycling and how communities can increase recovery. The Section has worked with the County Commissioners and the Solid Waste Association of North America on similar issues. Those groups conduct workshops and training in which Section staff takes part, teaching local governments on how to increase recovery of recyclables.

Representative Gibson recognized Mr. Paul Crissman, Head of the Planning and Program Management Branch, Solid Waste Section, Division of Waste Management (DWM), DENR, to present the annual report on the status of solid waste management efforts. He traced the development of lined landfills and federal and state legislation regulating solid waste from the late 1980's to the present time. He showed a Clay County landfill in its active state in 1988 and the same area in 2005, demonstrating the results of good practice in closing landfills. He showed pictures of modern transfer stations. Landfills are now often regional, serving a particular geographic area, usually areas with a 100-mile radius. Mr. Crissman noted the increasing cost of fuel prices could have an effect on that statistic. Statistics show there is not only an increase in total tonnage of solid waste, but there is also an increase in per capita tonnage of solid waste. Capacity is not universally available within a 90-mile radius. There are also permit conditions and other limiting factors at landfills. North Carolina relies heavily on out-of-state landfills to handle North Carolina's solid waste. Almost 10 percent of our waste goes out of state. Our imports are relatively negligible, but could dramatically increase in the future.

As our society has changed, we have adopted products that require disposal (coffee-to-go houses, water bottles, etc.). These changes cause dramatic increases in waste to deal with in the near future. Another change is that some big landfills are going to close in the future. Wake County is much closer to reaching the limit of its landfill capacity than the statewide average of 18.7 years.

Representative Gibson asked for a larger print copy of the net export/net import chart showing existing and future prediction, including a time line.

Senator Forrester asked what would happen if Virginia and South Carolina refused to accept our solid waste. He also asked about the status of co-generation plants to help with recycling and processing our waste. Would there be a tax advantage to counties getting into the co-generation business. Mr. Crissman replied that waste is a commodity and cannot be barred or taxed. Virginia has tried several times to halt the importation of waste, but their attempts have not been successful. Concerning co-generation efforts, he said a lot of waste has been used as boiler fuel. He added that New Hanover County has burned mixed solid waste to create electricity, but it is a very expensive process.

Senator Clodfelter asked if Mr. Crissman has any data on the composition of the waste stream and how it is changing. He further asked to what extent packaging is a component of the waste stream. Mr. Crissman said North Carolina has not conducted such a study recently. Georgia completed a study a

couple of years ago and found that the primary elements of the waste stream are fiber and paper. He is not aware if the sources of the waste were identified. Senator Clodfelter asked if there could be differential taxes on products based on the amount of packaging materials.

Senator Albertson asked staff to find out what Alaska does with its waste. He also asked how long landfill liners last. Mr. Crissman replied that the design of the landfill is such that is irrelevant because landfills have a strong cap. The cover requirements are very strict and keep water away from the waste.

Representative Gibson recognized Mr. Edward F. Mussler, Supervisor, Solid Waste Permitting Branch, DWN, DENR, to discuss the permitting requirements for landfills and proposed rules related to solid waste management (see **Exhibit H** for a copy of his PowerPoint presentation). As of 1993, EPA mandated liners and leachate collection systems for all landfills. Mr. Mussler showed pictures of the process used to make landfills be compliant with EPA requirements. North Carolina transitioned all unlined municipal landfills to lined landfills by 1998. He explained the permitting process and then discussed the four proposed landfills in eastern North Carolina: Riegel Ridge (Columbus County), Black Bear (Camden County), Alligator River (Hyde County), and North Carolina Resource Conservation and Recovery (Brunswick County). He also reported on solid waste rulemaking for construction and demolition debris.

Senator Kinnaird asked about how solid waste material decomposes if the liquid is removed. Mr. Mussler replied that in the past the process was to remove the leachate to create a "tomb." Currently, there is a movement to reintroduce leachate into the landfill (leachate recirculation) in an attempt to break down the material. Dr. Mort Barletts at North Carolina State University is looking at biological processes in landfills to operate them as big compost piles so that the environmental liability would be reduced if something catastrophic would happen. It would also increase methane gas production to be used for renewable energy portfolio standard. Composting is an aerobic process, which needs oxygen. A different biological process, anaerobic, occurs in the lack of oxygen. It gives off methane as a by-product. In a landfill, oxygen is not preferred because a landfill heats up and adding oxygen causes it to catch on fire, so the anaerobic process (adding water) is preferred. Waste Management Industries, Inc., is doing a lot of research across the country. They operate a landfill aerobically, and when the temperature gets high, they convert it to anaerobic. While the processes do something a little different biologically, the outcome is about the same.

Representative Hackney commented that notification of people living near proposed landfills has been deficient. He asked if the new rules addressed the notification issue. Mr. Mussler replied that there are statutes that require local governments to inform the community and to hold meetings about what occurring; however there are no rules specifying who is to be notified. Representative Hackney asked that he look at the notification issue to address who is to be notified and how they are to be notified.

Mr. Givens asked where the rules are in the rulemaking process. Mr. Mussler replied they have been through DENR, fiscal notes have been prepared, and the rules are ready to be published in the Register. Three meetings are scheduled around the state (in Asheville, Charlotte and Greenville) to discuss the rules with interested parties. There will be a public hearing in Raleigh in April. The Commission for Health Services meets on May 10. Mr. Givens asked if the rules could be revised to provide for direction of notification of adjacent or proximate landowners. Representative Gibson recognized Mr. Dexter Matthews, Director of the Division of Waste Management, for his comments. Mr. Matthews said it is not too late to add to the final rules before they go before the Commission for Health Services. He said the Division would look at the issue of notification of adjacent landowners.

Representative Harrison asked for information about the financial qualifications aspect of the permitting process, specifically what backing is required for Limited Liability Corporations (LLCs) that run landfills. In three of the four eastern proposed landfills, there is a corporation behind the LLC. Mr. Mussler said the issue arises when there is an LLC behind a partnership that has LLPs that are owned by a holding company that could be offshore. He said the Division is looking for people to help them deal with those issues. What they look at is what happens financially in the long term, because there are

concerns even after the landfill closes. While the Division has financial assurance on municipal solid waste landfills, they do not have that assurance for other types of operations.

Senator Clodfelter observed requiring a bond up front would solve the problem of the corporate structure situation, since a bond remains no matter what the corporate structure is. Mr. Mussler commented the Division has the ability to ask for financial assurance for closure and post-closure expenses for 30 years after closure. They do not have the authority to require assurances on the front end.

Representative Gibson recognized Mr. Murray K. Griffin, President and CEO of Atlantic Coast Consulting, Inc., to discuss technical and economic issues associated with the development and operation of new solid waste landfills (see **Exhibit I** for a copy of his statement and **Exhibit J** for a cutaway picture of a landfill in operation).

Representative Gibson recognized Mr. Richard B. Whisnant, Associate Professor of Public Law and Government, University of North Carolina School of Government, to discuss legal issues concerning the disposal of solid waste, including landfill franchise issues and the importation of out-of-state waste (see **Exhibit K** for a summary of his remarks). He said franchises are an important way of having private-public partnerships and getting access to capital and expertise from companies. He identified issues that raise concerns worthy of legislative attention:

- How much citizen participation should there be before the award of a franchise?
- Does the landfill site have to be identified before a franchise is awarded?
- Can companies compel counties to create franchise ordinances?
- Who controls rates/fees and how are they reviewed?

Mr. Whisnant ended his presentation with a discussion of whether trash is a problem or an economic development opportunity. There is a mismatch between the stated policy of trying to encourage reduction, reuse and recycling, and the fact that franchise agreements lock counties into a "more is better" mentality.

Senator Clodfelter commented that the franchise model does not work. It presumes a state of affairs that no longer exists, that solid waste is still tracking along the traditional view of a franchise where the local community would allow a power company, a local bus company or a cable TV company to provide a service to citizens of that particular community instead of the government doing it. With the regionalization of waste facilities, that is not what is happening. Landfills serve groups of regions and counties. The better model of regulation might be a Utilities Commission model of regulation where there is a commission to issue certificates of public convenience and necessity. Senator Clodfelter asked for Mr. Whisnant's ideas on how to address some of the issues.

Representative Gibson suggested that the franchise model would be a better model than the utilities model because of the permanence of the issues. He said he would like the counties to make the decisions and take the criticism for them.

Senator Kinnaird asked if it would be possible to write into franchise agreements that companies would have to do a certain amount of recycling. Mr. Whisnant replied he believed that could be done. He said currently there are statutory requirements concerning what should be in franchise agreements. There is a requirement to have a fairly simply statement about the area and the population to be served. The General Assembly may decide to debate whether more requirements are needed.

Representative Gibson recognized Ms. Nancy E. Scott, Assistant Attorney General, Environmental Division, North Carolina Department of Justice, for a brief overview of the constraints the federal courts have imposed on local and state laws under the Commerce Clause of the United States Constitution. Article I, Section 8, Clause 3 of the U. S. Constitution provides that Congress shall have the power to regulate commerce among the states. The Supreme Court long ago concluded that this Clause not only empowers Congress to regulate interstate commerce, but also imposes limitations on the states

in the absence of congressional action. It understands the economic unit to be the nation as a whole. One state in its dealings with another state may not place itself in a situation of economic isolation. Through the years, Supreme Court decisions have nullified state laws, which they have found to constitute economic protectionism, while at the same time the courts have recognized that incidental burdens on interstate commerce may be unavoidable when a state legislates to safeguard the health and safety of its people.

In 1978, in the case of Philadelphia v. New Jersey, the Supreme Court first held that solid waste, even though it may have no intrinsic value, is an article in commerce. The State of New Jersey, noting the rapid increase in the volume of solid and liquid waste, enacted a prohibition on the treatment and disposal of all wastes, which originated or was collected outside the state. New Jersey's reasons for this prohibition were to conserve its existing landfill sites and to preserve the environmental quality of the state. The Court struck down New Jersey's law as violating the Commerce Clause, acknowledging that New Jersey had indeed the right to protect both the pocketbooks of its citizens and the environment of the state. The Court stated that these purposes might not be accomplished by discriminating against articles of commerce coming from outside the state unless there is some reason apart from their origin to treat them differently. The State conceded the harm caused by waste arises after the waste is disposed in the landfill. At that point, the State conceded there is no basis to distinguish out-of-state waste from domestic waste. If waste of any kind is inherently harmful, so is any waste. The Court held that both on its face and in its plain effects, the New Jersey law violated the principles of non-discrimination under common Commerce Clause and was clearly impermissible. The Court observed that the New Jersey law blocked the importation of waste in an obvious effort to "saddle those outside the state with the entire burden of slowing the flow of refuse into New Jersey's remaining landfill sites." The Court also noted that New Jersey may pursue its objectives by slowing the flow of all waste into the state's remaining landfills, even though interstate commerce may incidentally be affected. The scope of the dormant Commerce Cause is in fact a judicial creation. The Court has generally distinguished between two types of impermissible regulations: where a law or regulation affirmatively discriminates against interstate commerce on its face or in practical effect, or was enacted with a discriminatory purpose it violates the Constitution, unless the state or local government actually can demonstrate that the law is justified by a valid factor unrelated to economic protectionism and that there are no nondiscriminatory alternatives adequate to preserve the local interest.

Under this analysis, the law is subjected to strict scrutiny by the courts. In fact the Fourth Circuit Court of Appeals has called this scrutiny a "virtually per se rule of invalidity." A regulation which does not discriminate on its face or in practical fact, in which it is supported by a legitimate state interest, which incidentally burdens interstate commerce is subject to a balancing test. The test was first set forth in a 1970 Supreme Court case of Pike v. Bruce Church. Such a law is constitutional unless, under the balancing test, the burden on interstate commerce is clearly excessive in relation to the local benefits. Of course, there is no clear line separating these two broad categories of regulation and prescribing the appropriate level of scrutiny by the courts.

Since deciding Philadelphia v. New Jersey, the Supreme Court has decided four other cases challenging state or local legislation impermissibly burdening interstate commerce. In each case, the Court struck down the challenged laws. In both Chem Waste Management v. Hunt (a 1992 case) and Oregon Waste Systems, Inc. v. Oregon (a 1994 case) the Court invalidated higher disposal fees or surcharges imposed by a state on waste disposed in the state which originated outside the state. In Fort Gratchit Landfill v. Michigan (a 1992 case), the court invalidated a Michigan statute which had the effect of barring a private landfill owner from accepting solid waste originating outside of a county in which a landfill was located.

In CAN Carbone v. the Town of Clarkstown (a 1994 case), the Supreme Court invalidated a town ordinance which required all non-hazardous solid waste within the town to be processed at the town's designated, privately owned transfer station. Carbone, the plaintiff in the case, brought solid waste from outside the state into a facility which Carbone owned in the town, where the company separated recyclable materials from the rest of the waste stream. Instead of sending the residue after the recyclables were taken out, to the transfer station designated by the town, Carbone wanted to transfer it

directly to an out-of-state landfill, which Carbone alleged was cheaper. A five justice majority found that the ordinance in practical effect discriminated against interstate commerce by "driving up the cost of waste disposal from out-of-state generators and by excluding out-of-state and other in-state waste processors from the local market." The Court observed that garbage is a profitable business because its possessor must pay to get rid of it. The article of commerce, the Court said, is not so much the solid waste itself, but the service of processing and disposing of it. The Court concluded. "the flow control ordinance is just one more instance of local processing requirements that we have long held to be invalid." They further noted that the flow control ordinance hoards solid waste and the demand to get rid of solid waste for the benefit of the preferred processing facility. Clarkstown itself maintained that the waste flow control ordinance was really a financing measure to insure the long-term survival of the designated facility, which the town found was necessary in order to provide safe handling and environmentally sound disposal of solid waste generated within the town. The courts said there were nondiscriminatory alternatives available for addressing these legitimate concerns of the town: health, safety, environmental, and financial concerns. The courts suggested the town could have uniform safety regulations, which were enacted without the objective to discriminate, and these regulations would insure that competitors like Carbone would not underprice the market by cutting corners on his environmental safety. The court also suggested the town thought that if special financing were necessary, the town may actually subsidize the facility through general taxes or municipal bonds. The Court said, "But having elected to use open market to earn revenues for its project, the town may not employ discriminatory regulation to give that project an advantage over rival businesses from out of state." Justice O'Connor filed a concurring opinion in this case. She found that the ordinance was in fact even handed in its approach, but under her application of the Pike v. Bruce Church balancing test to these ordinance, she found that the burdens under interstate commerce outweighed the local benefits.

Since the decision in Philadelphia v. New Jersey, there have been dozens of solid waste commerce clause cases decided in the federal circuit courts of appeals. Ms. Scott focused on the Fourth Circuit only. The Fourth Circuit has decided three significant cases in the past ten years. In 1995, in the case of Chambers Medical Technologies of South Carolina v. Bryant, the court held that a South Carolina law that imposed a fluctuating cap on the amount of solid waste that a licensed incinerator may handle on an annual basis did not discriminate on its face or in practical effect. Although the cap was based on the amount of waste projected to be generated within the state, the cap did not impose any limits on out-of-state waste, which could be eligible for disposal through in-state facilities. However, it is important to note that the court remanded the case for a factual determination by the lower court whether or not the creation of the cap itself showed the legislature's discriminatory intent.

Following the remand of the case, Solid Waste Treatment Council v. South Carolina, the Fourth Circuit in 1996 in the same case with a different name (Environmental Technical Council v. Sierra Club), the court affirmed a permanent injunction against enforcement of certain state laws, executive orders, and regulations that limited the amount of out-of-state hazardous waste eligible for disposal within the state of South Carolina. There were exceptions written into both the disposal cap and the regulations for the needs requirement for the expansions and new facilities that could be based only on in-state concerns and had no relationship to rates generated from out-of-state. The Appeals Court found that these measures were overtly discriminatory on the basis of where the waste originated because these exceptions were based only on in-state concerns.

In Waste Management Holdings, Inc. v. Gilmore (a 2002 case), the Fourth Circuit held that the legislative record and other official statements demonstrated that certain state laws were purposely designed to discriminate against out-of-state waste by preventing or limiting its flow into the state of Virginia. Provisions of the laws, including daily tonnage cap requirements on landfills, restricted stacking of containerized waste on barges, truckload certifications, special requirements for vehicles with four or more axles, and a ban on using three rivers for waste importation were also discriminatory in effect, the Court said. The state failed to show in that case that less restrictive alternatives were unavailable. Of course, as Justice O'Connor observed in the Carbone case, "it is within Congress' power to authorize local imposition of flow control. Should Congress revisit this area and enact legislation providing a clear indication that it intends for states and localities to implement waste flow control, the State would defer to that legislative judgment."

Senator Clodfelter asked if the state could say that any waste coming to a landfill in North Carolina has to originate from a source that has a recycling program that meets at least the standards required of North Carolina communities that generate waste. Ms. Scott said there was a case in a different circuit that may have addressed that issue, but she did not read the case for her presentation. She said she would provide more information on the case to the Commission members.

Representative Gibson recognized Mr. Scott Mouw again, this time to discuss policy alternativers and programs for the management of electronic waste (see **Exhibit L** for a copy of his PowerPoint presentation). Senator Clodfelter asked about getting advanced recycling fees from out-of-state vendors. Mr. Mouw replied he would look at what California has experienced, as well as at what some data on market share of computers and televisions shows.

Representative Harrison asked about the grant program from a trust fund for solid waste. Some of the Solid Waste Trust Fund revenue comes from advanced recycling fees on ires and white goods and some from cost sharing by local government from public outreach programs. She asked if grants have been helpful in encouraging counties to adopt recycling programs. Mr. Mouw said that local government recycling grant rounds are held every spring. At that time, the Section receives a vast array of ideas from local governments.

Representative Gibson recognized Ms. Charlotte Jesneck, Head of the Inactive Hazardous Sites Branch, Superfund Section, DWM, DENR, to present the annual report on the inactive hazardous sites program (see **Exhibit M** for an outline of her remarks and **Exhibit N** for a copy of the report). She listed sites that have no financially viable financial party due to dischargers filing for bankruptcy: Burlington Industries, Cannon Mills, Cone Mills and Texfi Industries. The Department has filed claims in bankruptcy court to get cleanup costs to address the sites, but often little can be retrieved. Payouts have been between $0 to 33 percent of the cost needed to address the site. Ms. Jesneck reviewed HB 1769 (2005 Session) that proposed a $1 per ton surcharge on waste coming into landfills. In 2002, there were 29 states that had a state-wide surcharge, ranging from less than $1 to $9 per ton. Of the 29 states, 22 have a $1 a ton or higher surcharge.

Representative Hackney said there needs to be a mechanism to address the most serious of the orphan dumps. He recommends making a proposal for funding consideration during the upcoming short session.

Representative Gibson asked if the Branch has determined there are more sites that have not yet been found. Ms. Jesneck replied that they continue to discover about 10 sites a year.

Mr. Givens asked if Branch staff expect the Governor's Budget to include a recommendation for General Fund funding of the Superfund program. Ms. Robin Smith, Assistant Secretary, DENR, commented the department has not developed an expansion budget request on this issue, except by introducing the $1 a ton surcharge for solid waste. The fee would generate about $10 million a year to create a dedicated source of funding for the inactive hazardous sites fund as well as brownfields redevelopment and to address orphan landfills. They are, however, looking for other funding options for the short term.

Representative Gibson recognized Mr. Jack Butler, Chief of the Superfund Section, DWM, DENR, to report on Superfund cost share fund expenditures for cleanup of sites on the National Priorities List (NPL) (see **Exhibit O** for a supporting document summarizing the 10% cost-share fund). He explained the process by which the Section gets the sites and how they respond. When a new site comes into the Superfund Section, it is assessed to see if the Federal Superfund Program is the best option for addressing the site. It so, it goes through a site assessment process, including a hazard ranking score (HRS). If it scores high enough, it can become a candidate for proposal on the NPL. After public comment and finalization it becomes a final NPL site. During the process, EPA does a Potentially Responsible Party (PRP) search, and if it becomes an NPL site, they issue an order to any PRPs, for them to clean up the site. Should no PRPs be found, or if the PRPs are unable to pay for the cleanup,

EPA can access federal Superfund monies to clean up the site. When that happens, they request the state to enter into a Superfund State contract, which commits the state to provide a 10% cost share of the total clean up costs as well as 100% of any eventual Operation and Maintenance (O&M) costs. If groundwater contamination is present at the site, the first 10 years of treatment of ground water is considered part of the remediation, and the federal government pays 90% of O&M costs, with the state paying 10%. EPA says the process of getting funding for Superfund sites is very competitive since funds for clean up are limited. When EPA gets the go ahead for funding of specific sites, and presents a contract to the state, the state has to have their funds available or the contract cannot be signed. If the contract is not signed, EPA loses the 90% money and it reverts. It is very unusual to have a site for which money has been returned be approved at a later time. It is important to maintain a sufficient balance in the account so the state can be ready to participate in any Superfund State contracts.

Mr. Givens asked if Mr. Butler has an estimate of what the clean up of Ward Transformer in Wake County might cost. Mr. Butler replied he does not. At present, the PRPs are paying for clean up activity at the facility itself. Further downstream through Lake Crabtree is an unknown. The PRPs have not agreed to pay for that clean up; however, they may be willing to do so in the future. A big question is also what technology would be used to clean up the site, so the cost of the cleanup is totally unknown at this time. Whether it would be Superfund financed or PRP financed is also not known. If it is Superfund financed, the state cost would be well over the $743,000 remaining in the state matching money for Superfund contracts. The PCBs in Lake Crabtree have been found in lower levels in the lake. It could be that the Lake would be capped as is, or it could be that the lake would have to be dredged and the PCBs disposed of as hazardous waste. If the lake is dredged, it could go into the 10s of millions of dollars for the total cleanup cost.

Representative Gibson recognized Mr. Bruce Nicholson, Brownfields Program Manager, DWM, DENR, for a report on the effectiveness of the Brownfields Property Reuse Act (see **Exhibit P** for a copy of the report, and **Exhibit Q** for a list of project locations by county and a map showing the sites). He used Pilot Mills, a site within a mile of the Legislative Building, as an example. The property had been on the tax rolls as a $200,000 property. It is now completely developed and has a tax value of $12 million. The environmental problem is chlorinated solvents in the groundwater. To make the site safe for reuse, certain areas of the site that contained small amounts of mercury and arsenic were capped. The capped areas have to be maintained as a land use restriction. As an additional safeguard, there cannot be any organized athletic use of any of the fields in the area. If someone were to put the site to a use that negated the land use restrictions, they would be required to clean up the site. There is a requirement in a brownfield agreement that an annual land use restriction update is to be sent to DENR. The remedies made for the brownfield sites are risk-based, so receptors around the site are taken into consideration in determining what needs to be done to make the site available for development. Receptors include wells, surface water bodies, storm sewers that go to surface water bodies, and so forth.

Senator Swindell asked if potential brownfields are catalogued when a plant closes. Mr. Nicholson said that many of the sites coming into the program are textile related. He added that the program works closely with the Department of Commerce as they recruit industry to the sites. The state's largest layoff was the Pillowtex facility in Kannapolis. A brownfields agreement has been applied for that site.

Representative Gibson asked if the time line for approval of sites has improved. Mr. Nicholson replied that the time line has been fairly steady over the years, and is fairly short for someone to gain closure on a site. He said the program has a challenge because of the increasing number of agreements being sought. He added that the federal government provided start up funds for the program, but those funds have now leveled off, requiring more state funds to operate the program. Therefore, fees are being increased as allowed in the statute to offset the costs to the Department of hiring more technical and legal staff for the program.

Representative Hackney commented that developing with brownfield agreements is a way of pushing the cleanup off on a future generation. Mr. Nicholson added that the program does not alleviate the responsible party that contaminated the site from any liability. There are many sites in the program

where a cleanup program is being enforced against a responsible party while there is a buyer who seeks to reuse that property has received a simultaneous brownfield agreement.

Mr. Givens reminded the committee that the next meeting is on February 14, 2006.

The meeting adjourned at 1:20 p.m.

Representative Pryor Gibson, Co-Chair
Presiding

Senator Charlie Albertson, Co-Chair

Dot Waugaman

Dot Waugaman, Commission Assistant

Senator Daniel Clodfelter, Co-Chair

LIST OF EXHIBITS

Exhibit A	Notice of Meeting dated 9 January 2006
Exhibit B	Agenda of Meeting
Exhibit C	List of Attendees
Exhibit D	Annual Report on Resident Inspectors Program at Commercial Hazardous Waste Facilities
Exhibit E	Annual Report on the Comprehensive Hazardous Waste Management Plan
Exhibit F	PowerPoint Presentation by Scott Mouw, Community and Business Assistance Section
Exhibit G	PowerPoint Presentation by Paul Crissman, Planning & Program Management Branch
Exhibit H	PowerPoint Presentation by Edward Mussler, Solid Waste Permitting Branch
Exhibit I	Remarks of Murray Griffin, President and CEO, Atlantic Coast Consulting, Inc.
Exhibit J	Diagram of Cross Section of Lined Landfill
Exhibit K	Memorandum dated 24 January 2006 re Municipal Solid Waste Landfill Franchise Issues
Exhibit L	PowerPoint Presentation by Scott Mouw, Community and Business Assistance Section
Exhibit M	Inactive Hazardous Sites Program
Exhibit N	Annual Report on Inactive Hazardous Sites Program dated October 2005
Exhibit O	Status of Superfund Cost-Share Fund as of November 30, 2005
Exhibit P	Annual Report on Brownfields Property Reuse Act, October 2005
Exhibit Q	List of North Carolina Brownfields – Project Locations by County

EXHIBIT A

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 733-2578
FAX: (919) 715-5460

SUSAN S. IDDINGS
ASSISTANT COMMISSION COUNSEL
401 LEGISLATIVE OFFICE BUILDING
(919) 733-6660

JENNIFER L. McGINNIS
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

DOT WAUGAMAN
COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 715-2525
FAX (919) 754-3232

JEFF W. HUDSON
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

TIMOTHY R. DODGE
COMMISSION ANALYST
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

9 January 2006

TO: Members of the Environmental Review Commission
Interested Parties

FROM: George F. Givens, Commission Counsel
Dot Waugaman, Commission Clerk

RE: **Notice of Commission Meeting**
Local Site Visits
Notice of Planning Meeting
Schedule of Future Meetings
Meetings of Interested Parties (605 Working Groups)
Additional Information

COMMISSION MEETING – 24 JANUARY 2006:

The Environmental Review Commission (ERC) will meet at 9:30 a.m. Tuesday 24 January 2006 in Room 544 of the Legislative Office Building in Raleigh. With regard to Wednesday 25 January 2006, please see the Local Site Visits section of this notice.

At the 24 January meeting, the Commission will begin or continue studies for which the Commission is responsible, hear reports from State agencies, discuss topics to be considered at future meetings, and attend to other matters. Listed below are potential agenda topics for this meeting. More specific information regarding the agenda for the 24 January meeting of the Commission will be developed at the staffMee planning meeting discussed below.

POSSIBLE AGENDA TOPICS:

Solid and Hazardous Waste Management:

1) Issues related to solid waste, including measures to reduce the amount of solid waste disposed of within North Carolina landfills, statewide tipping fees, bans on the disposal of certain types of waste in landfills, more aggressive recycling requirements, and enhanced regulatory requirements for landfills and other solid waste management facilities

2) Annual report on the Inactive Hazardous Sites Program (G.S. 130A-310.10)

3) Annual report on implementation of the Resident Inspectors Program at commercial hazardous waste facilities (G.S. 130A-295.02(m))

4) Report of Superfund cost share fund expenditures for cleanup of sites on the National Priorities List (S.L. 1999-237(15.6)(b))

5) Annual report on the North Carolina Hazardous Waste Management Plan (G.S. 130A-294(i))

6) Annual report on the Effectiveness of the Brownfields Property Reuse Act (G.S. 130A-310.40)

7) Semiannual report on agency litter enforcement, litter prevention, and litter removal efforts (G.S. 147-12(b))

8) Annual report on the Dry-Cleaning Solvent Cleanup Program (G.S. 143-215.104U)

9) Annual report on the mercury minimization plan prepared by DENR (G.S. 130A-310.57)

10) Measures to reduce the quantity of mercury that is released into the environment that impacts natural resources and that harms the public health of the citizens of the State

11) Issues related to liability for the cleanup of environmental damage and the defenses to liability that are available to innocent landowners and prospective purchasers of contaminated properties

12) Establishment of a consistent and uniform risk-based approach to the assessment, prioritization, and remediation of environmental contamination

13) Discussion of policy alternatives and programs for the management of electronics waste

General/Miscellaneous:

14) Annual report on fish kills within the preceding year (G.S. 143B-279.7(c))

15) Annual report on Basinwide Water Quality Management Plans (G.S. 143-215.8B)

16) Issues related to actions available to governmental agencies to respond to violations and noncompliance by licensed environmental professionals and consultants

17) Other matters related to the Commission's powers and duties under G.S. 120-10.43

LOCAL SITE VISITS – 25 JANUARY 2006:

The Commission will not hold a business meeting on Wednesday 25 January 2006. This date may be utilized, however, for site visits in the Raleigh area or as an alternative meeting date in the event of inclement weather. Further information on the site visits, including transportation arrangements, will be sent to members of the Commission at a later date.

PLANNING MEETING:

To facilitate development of the agenda for the 24 January meeting of the Commission, to plan for subsequent meetings of the Commission, and to receive input from interested persons regarding the work of the Commission, the Commission Counsel will hold an informal planning meeting at **2:00 p.m. on Tuesday 17 January 2006 in Room 605 of the Legislative Office Building**. Persons who wish to participate in the development of the agenda for meetings of the Commission, or who are interested in any matter before the Commission, are invited to attend.

SCHEDULE OF FUTURE MEETINGS:

Below is a schedule of meetings of the Environmental Review Commission for January 2006 through May 2006. This schedule is tentative and subject to adjustment. For planning purposes, however, please reserve these dates. Please note the following:

1. This schedule has been developed in anticipation of the need for at least one full-day business meeting each month to address the regular workload. In addition, it allows for at least two joint meetings with other oversight entities, including the Joint Legislative Commission on Seafood and Aquaculture, the Joint Legislative Transportation Oversight Committee, and the Joint

Legislative Utility Review Committee. It includes enough days to allow for the possibility of one or more optional field trips and for cancellations as a result of hazardous weather conditions.

2. Commission meetings normally begin at 9:30 a.m., include a lunch break, and run until mid-afternoon. Please plan on meeting from 9:30 a.m. until at least 3:30 p.m. Unless otherwise announced, the Commission will meet in room 544 LOB.

3. To facilitate development of the agenda for meetings of the Commission and to receive input from interested persons regarding the future work of the Commission, the Commission Counsel holds informal planning meetings for staff and interested parties. Commission members are not expected to attend these meetings. Only one staff planning meeting is scheduled per month, regardless of the number of scheduled meetings of the Commission. Unless otherwise announced, public staff planning meetings will be held in room 605 LOB.

4. The 2006 Regular Session is scheduled to begin at 12:00 noon on Wednesday 9 May 2006. The Commission may meet shortly after the beginning of the session to complete work and to consider any legislative proposals and recommendations.

Commission Meeting	**Staff Planning Meeting**
Tuesday 24 January 2006	2:00 p.m. Tuesday 17 January 2006
Tuesday 14 and Wednesday 15 February 2006	***2:00 p.m. Monday 6 February 2006*** *(Please note change in date and time)*
Tuesday 14 and Wednesday 15 March 2006	10:00 a.m. Friday 3 March 2006
Tuesday 11 and Wednesday 12 April 2006	2:00 p.m. Monday 3 April 2006
Wednesday 3 May 2006	10:00 a.m. Thursday 27 April 2006
Monday 8 May 2006	

MEETINGS OF INTERESTED PARTIES (605 WORKING GROUPS):

The Commission Counsel will hold meetings of interested parties on specific topics as indicated below:

Risk-Based/Limit Liability for Environmental Cleanups Working Group
- 2:00 p.m. Thursday 26 January 2006 – 605 Legislative Office Building
- 2:00 p.m. Monday 13 February 2006 – 605 Legislative Office Building
- 2:00 p.m. Monday 6 March 2006 – 605 Legislative Office Building

ADDITIONAL INFORMATION:

If you have questions related to the Commission, please feel free to contact the Commission Counsel or other Commission staff at (919) 733-2578.

EXHIBIT B

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 733-2578
FAX: (919) 715-5460

SUSAN S. IDDINGS
ASSISTANT COMMISSION COUNSEL
401 LEGISLATIVE OFFICE BUILDING
(919) 733-6660

JENNIFER L. McGINNIS
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

DOROTHY M. WAUGAMAN
COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 715-2525
FAX: (919) 754-3232

JEFF W. HUDSON
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

TIMOTHY R. DODGE
COMMISSION ANALYST
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

AGENDA
9:30 a.m. Tuesday 24 January 2006
Room 544 Legislative Office Building

1. Call to order
   Representative Pryor A. Gibson, Presiding

2. Introductory remarks by Cochairs
   Representative Pryor A. Gibson
   Senator Charles W. Albertson
   Senator Daniel G. Clodfelter

3. Report to the Commission and explanation of agenda items
   George F. Givens, Commission Counsel

4. Discussion of a proposed study of the costs and benefits of a renewable energy portfolio standard
   James Y. Kerr, II, Commissioner
   North Carolina Utilities Commission

5. Discussion of measures to reduce the amount of solid waste disposed of within North Carolina landfills, bans on the disposal of certain types of waste in landfills, and more aggressive recycling requirements
   Scott B. Mouw, Chief
   Community and Business Assistance Section, Division of Pollution Prevention and Environmental Assistance (DPPEA), Department of Environment and Natural Resources (DENR)

6. Annual report on the status of solid waste management efforts (G.S. 130A-309.06(c))
   Paul S. Crissman, Head
   Planning and Program Management Branch, Solid Waste Section, Division of Waste Management (DWM), DENR

7. Discussion of permitting requirements and proposed rules related to solid waste management
   Edward F. Mussler, Supervisor
   Solid Waste Permitting Branch, DWM, DENR

8. Discussion of technical and economic issues associated with the development and operation of new solid waste landfills
   Murray K. Griffin, President and CEO
   Atlantic Coast Consulting, Inc.,
   Atlanta, Georgia

9. Discussion of legal issues concerning the disposal of solid waste, including landfill franchise issues and the importation of out-of-state waste
   Richard B. Whisnant, Associate Professor of Public Law and Government
   UNC School of Government

   Nancy E. Scott, Assistant Attorney General
   Environmental Division, North Carolina Department of Justice

10. Discussion of policy alternatives and programs for the management of electronics waste
    Scott B. Mouw, Chief
    Community and Business Assistance Section, DPPEA, DENR

11. Report of Superfund cost share fund expenditures for cleanup of sites on the National Priorities List (S.L. 1999-237(15.6)(b))
    Jack R. Butler, Chief
    Superfund Section, DWM, DENR

12. Annual report on the Inactive Hazardous Sites Program (G.S. 130A-310.10)
    Charlotte V. Jesneck, Head
    Inactive Hazardous Sites Branch, Superfund Section, DWM, DENR

13. Annual report on the Effectiveness of the Brownfields Property Reuse Act (G.S. 130A-310.40)
    Bruce I. Nicholson, Brownfields Program Manager
    DWM, DENR

14. Commission discussion and announcements

15. Adjourn

SCHEDULE OF FUTURE MEETINGS:

Below is a schedule of meetings of the Commission for February 2006 through May 2006. This schedule provides for two-day meetings in February, March, and April. Two days have been reserved in these months because it may be necessary or desirable to have a two-day meeting to accommodate the workload and to allow for the possible scheduling of joint meetings with other committees and commissions. This also allows for the possibility of one or more out of town meetings that could include field trips or site visits on one of the two days. This schedule is tentative and subject to adjustment.

To facilitate development of the agenda for meetings of the Commission and to receive input from interested persons regarding the future work of the Commission, the Commission Counsel holds informal planning meetings for staff and interested parties. The schedule of these public Commission staff planning meetings is also set out below.

9:30 a.m. Tuesday 14 February and 9:30 a.m. Wednesday 15 February 2006
Location: 544 LOB / To be determined
Staff Planning Meeting: 2:00 p.m. Monday 6 February 2006 – 605 LOB

9:30 a.m. Tuesday 14 March and 9:30 a.m. Wednesday 15 March 2006
Location: 544 LOB / To be determined
Staff Planning Meeting: 10:00 a.m. Thursday 2 March 2006 – 605 LOB

Tuesday 11 April and Wednesday 12 April 2006
Location: 544 LOB / To be determined
Staff Planning Meeting: 2:00 p.m. Monday 3 April 2006 – 605 LOB

Wednesday 3 May 2006
Location: 544 LOB
Staff Planning Meeting: 10:00 a.m. Thursday 27 April 2006 – 605 LOB (This meeting will also serve as the Commission staff planning meeting for the Commission meeting scheduled for 8 May 2006.)

Monday 8 May 2006
Location: 544 LOB

OTHER MEETINGS:

The Commission Counsel will hold meetings of interested parties on specific topics as indicated below:

Risk-Based/Limit Liability for Environmental Cleanups Working Group (HB 1778/HB 1099/SB 1121)

2:00 p.m. Thursday 26 January 2006 – 605 Legislative Office Building
2:00 p.m. Monday 13 February 2006 – 605 Legislative Office Building
2:00 p.m. Monday 6 March 2006 – 605 Legislative Office Building

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — January 24, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
LISA RIEGEL	DENR
Patrick Butler	DENR
DONNIE REDMOND	DENR-DAQ
Colleen Kochanek	NCGWA - Smith Moore
Michael Nelson	Conservation Council of NC
	Progress Energy
Kathy Hawkins	Progress Energy
Mitch Williams	Progress Energy
Brad Lovin	NC Manufactured Housing
Andy Ellen	NC Retail Merchants

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — January 24, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
Sharon Strovd	State Energy Office
Kim Hibbard	NCLM
Anita Watkins	NCLM
Kris Coracini	Environmental Defense
Erin Kinney	NC Conservation Network
Steve Wall	DENR
Thomas Winstead	Waste Industries
Jim Perry	Waste Industries
Phil Carter	Waste Industries
Elizabeth Saf	NC Sierra Club
Ivan Urlaub	NC Sustainable Energy Association

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — January 24, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
Anne Coan	NC Farm Bureau Federation
Michael Thompson	Dominion
Kari Johnson	Smith Anderson
Chris Frazier	DENR
Linda Culpepper	NCDENR
Cathy Akroyd	NCDENR
Karen Hawk	JMCA
Robin Smith	DENR
Dexter Matthews	DENR - Waste Management
[illegible]	Pappas & Associates
[illegible]	SARDIT

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — January 24, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
James Bennett	NCACC
Jimmie Jones	NSWMA
Richard Whisnant	UNC School of Gov't
Paul Meyer	NCASSAC, County Cmrs
Gary Hunt	DENR
Scott Mouw	DENR
B J Copeland	MFC
Paul Crissman	DENR
Ed Mussler	DENR
Tommy Stevens	NCPC
Preston Howard	MCIC

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — January 24, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
Jeri Tracy	League of Women Voters-Wake 2400 Stapford Ave Raleigh NC 27607
RAY HOFFMAN	Republic Services
Jeryll K. Covington	Cty. of Greensboro - Env. Svcs. Dept Box 3136 Greensboro, NC 27402
Gayle Wilson	Orange County Solid Waste Management Box 17177 Chapel Hill, NC 27516
Jack Butler	N.C. Superfund 1646 Mail Service Center, Ral., N.C.
Charlotte Jesneck	NC DENR - DWM 401 Oberlin Rd, Raleigh, NC
David Brown Jr	OSBM
Chris Valauri	Carolina Golf Course Superintendents
Mia Bailey	Electricities of NC
Jennifer Bumgarner	Governor's Policy Office
Mark Beason	Capitol Group

EXHIBIT D

NCDENR

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

January 23, 2006

To: Sen. Charles Albertson, co-chair
Sen. Daniel Clodfelter, co-chair
Rep. Pryor Gibson, co-chair

From: Secretary Bill Ross

Attached is the Dept. of Environment and Natural Resources' annual report to the Environmental Review Commission on the resident inspectors program at commercial hazardous waste facilities required by G.S. 130A-295.02. If you have any questions about this report, please contact Liz Cannon at 919-508-8534.

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RESIDENT INSPECTOR PROGRAM

2005 ANNUAL REPORT

Presented to

The Environmental Review Commission

September 1, 2005

NCDENR

North Carolina Department of Environment and Natural Resources

HAZARDOUS WASTE SECTION

State of North Carolina
Michael F. Easley
Governor

Department of Environment and Natural Resources
William G. Ross, Jr.
Secretary

Division of Waste Management
Dexter R. Matthews
Director

Hazardous Waste Section
Elizabeth Cannon
Chief

1646 Mail Service Center
Raleigh, North Carolina 27699-1646
(919) 508-8400
www.enr.state.nc.us

Resident Inspector Program
Michael Brailsford
Program Supervisor
(919) 508-8532
or (704) 947-9512

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RESIDENT INSPECTOR PROGRAM
2005 ANNUAL REPORT

This annual report is presented to the Joint Legislative Commission on Governmental Operations and the Environmental Review Commission pursuant to Article 9, G.S. 130A-295.02(m). The report covers the activities of the Resident Inspector Program from July 1, 2004 through June 30, 2005.

I. OVERVIEW

The Resident Inspector Program has been operating for more than 14 years in the Division of Waste Management. This program monitors all aspects of the commercial hazardous waste facilities in North Carolina and assures compliance with all laws and rules administered by the Department of Environment and Natural Resources. It may also enforce laws or rules administered by any other state agency through a memorandum of agreement.

The Resident Inspector Program was established "... to enhance the ability of the Department to protect the public health and the environment by providing the Department with the authority and resources necessary to maintain a rigorous inspection and enforcement program at commercial hazardous waste facilities" [G.S. 130A-295.02(f)].

II. PROGRAM STAFFING

For this fiscal year, the program was comprised of two resident inspectors assigned to home duty stations, one administrative assistant and a program supervisor (See Attachment 1 for the Organization Chart). The Resident Inspector Program resides within the Hazardous Waste Section's Compliance Branch.

III. THE RESIDENT INSPECTOR

Most state agencies perform their compliance monitoring inspections as required from their specific respective regulations. The Resident Inspector Program, however, is unique in that its inspections utilize a multi-media approach. This approach covers all regulatory responsibilities for which DENR is authorized, such as hazardous waste management and treatment requirements, workplace safety, air emissions requirements, wastewater treatment and discharge requirements, etc.

There are inherent overlaps of DENR's regulatory requirements with regulations administered by other departments. Two examples include the Department of Labor's Occupational Safety & Health Act and the Department of Transportation's hazardous materials transportation regulations. Deviations from these various departments' regulations could adversely affect public health and the environment, as well as a facility's compliance with air, water or hazardous waste management regulations. As part of the Resident Inspector Program's comprehensive approach to monitoring commercial hazardous waste facilities, resident inspectors also evaluate these sites for potential violations in these other regulatory areas. When necessary, they make recommendations to the facilities and/or make referrals to the authorized agency or agencies. The mandated frequency of inspection at each facility gives resident inspectors the time needed to achieve this high degree of oversight.

To prepare resident inspectors for their multimedia approach to inspections, initial training typically consists of Hazardous Waste Operations and Emergency Response (40 hours), Environmental Surveillance, RCRA Hazardous Waste Training, Hazardous Materials Transportation and the care and use of Level B / Personal Protective Equipment.

Annual training for resident inspectors includes an 8-hour Health & Safety Basic Refresher, Level B Update and Environmental Surveillance Update. Depending upon the inspector's area of expertise and responsibility, other miscellaneous training may be received, including Hazardous Waste Incineration, Ambient Air Monitoring, Air Pollution Control Devices, Chemical Safety Audit, OSHA Inspector's Course, Hazardous Materials Management and various EPA regulatory workshops.

IV. SUBJECT FACILITIES

To be subject to oversight by the Resident Inspector Program, the facility must be a commercial hazardous waste facility. The term "commercial," as it relates to a hazardous waste facility, is defined as a facility " ... that accepts hazardous waste from the general public or another person for a fee" [G.S. 130A-290(a)(3)]. Presently, 11 permitted commercial hazardous waste treatment, storage, and disposal facilities in North Carolina are under the jurisdiction of the Resident Inspector Program. In September 2004, the permitted treatment, storage and disposal facility, Giant Resource Recovery, completed RCRA closure for all hazardous waste operations at the Stanly County location. The Carolina Solite facility (owned by the Giant Resource Recovery) continues to operate the light weight aggregate kilns using "used oil" as a fuel and continues to be monitored by the Division of Air Quality. With the RCRA closure of this facility, it is no longer considered a commercial hazardous waste treatment, storage or disposal facility and therefore not inspected under the Resident Inspector Program. The permitted treatment, storage and disposal facility, Heritage Environmental Services, (one of four commercial permitted treatment, storage and disposal facilities located in Mecklenburg County),continues with suspended operations during a corporate economic evaluation. Although not currently treating, storing or disposing of hazardous waste at the Charlotte facility, Heritage Environmental Services continues to provide disposal services for their North Carolina customers, using this Charlotte facility as a transfer station. As the RCRA Part 'B' TSDF permit is still valid, this facility continues to be monitored by the Resident Inspector Program.

V. FACILITY CATEGORY RANKINGS

Each commercial hazardous waste treatment, storage and disposal facility is ranked to determine its required inspection fees and minimum inspection frequency as required under 15A NCAC 13A .0116.

The frequency of the inspections at each facility is dependent upon its qualification as a "special purpose" commercial hazardous waste facility and the category ranking assigned to it. Currently, all existing commercial hazardous waste treatment, storage and disposal facilities in North Carolina qualify as "special purpose" facilities. (See Attachment 2 for current category rankings and primary waste treatment activities for these facilities.) The designated categories of 1, 2 or 3 correspond to a minimum inspection frequency of two, four or six times per month, respectively.

VI. FUNDING & EXPENSES

The Resident Inspector Program is funded by fees collected from the commercial hazardous waste facilities. These fees are based upon each facility's category ranking and volume (tons) of hazardous waste handled. The category ranking system is designed to be an indirect measure of the costs associated with the oversight at each commercial hazardous waste facility. While the commercial hazardous waste facilities' total tonnage output has increased this year to pre "9/11" levels, yielding increased program fees, program operating expenses have increased due to transportation / fuel costs. However, program costs were reduced due to a 75% turnover in personnel, which caused a savings to the salary budget during the re-staffing period (lapse in personnel coverage). This savings was partially offset by the cost incurred for the vacancy re-staffing and training of new personnel. The turnover has been caused by the program's inability to keep and attract skilled competent staff with sufficient compensation in today's job market. Due to the periodic loss of personnel, it remains necessary for the Resident Inspector Program supervisor to conduct a greater portion of the required inspections to meet the program's minimum mandates.

For FY 2004-2005, the budget was developed using anticipated revenues from Resident Inspector Program fees of approximately $275,000. The actual hazardous waste tonnage received by two of the commercial facilities greatly increased over the previous year, while all other facilities remained relatively unchanged. (A detailed list of the individual tonnages received by each of the commercial hazardous waste facilities in FY 2004-2005 can be found in Attachment 3.) The actual Program receipts in FY 2004-2005 totaled $287,036, while Program expenses for the year were held to $247,272.

VII. INSPECTION GOALS & ACHIEVEMENT

During FY 2004-2005, for the periods when the program was fully staffed additional inspections were conducted. The 469 inspections exceeded the required minimum of 438 inspections. These inspections included routine site inspections as well as specific inspections to monitor closure activities at one facility and temporary suspension of normal operation at another facility, and to assist in improving compliance performance by other facilities. (A detailed list of the inspections performed by program staff at the commercial hazardous waste facilities in FY 2004-2005 can be found in Attachment 4.)

VIII. ENFORCEMENT & COMPLIANCE

Enforcement Activities

In general, the commercial hazardous waste facilities continue to be cooperative and have rapidly responded with corrective action in most cases when deficiencies or violations were cited or recommendations made. When either of these actions do not result in timely and consistent

compliance, a more severe enforcement action is taken, such as, a compliance order with administrative penalty.

During the past fiscal year, resident inspectors issued one Notice of Violation to a commercial facility (see Attachment 5 for current and historic enforcement tracking). This Notice of Violation, when compared to the actual number of inspections, translates to an overall compliance rate of 99.8 percent.

Compliance Assistance Activities & Homeland Security

Compliance assistance activities offered under this program are conducted routinely during the inspectors' site visits. Since the inspectors are at these facilities at least semi-monthly, they have the opportunity to become very familiar with the operations of each facility and may offer compliance assistance in several ways. Inspectors identify past trouble areas and work with the facility toward a permanent solution. They also increase scrutiny of these areas during each visit to keep the facility's compliance awareness high. Inspectors communicate frequently with facility management and front-line workers to clarify the permit and current regulatory requirements, the reasons for the requirements, and the potential risks incurred for noncompliance. Inspectors continue to develop and schedule and facilitate roundtable training workshops customized for each specific facility. These workshops cover the most frequent violations observed overall at commercial facilities, the most frequent violations observed at their particular facility, any potential areas of concern and positive facility operations.

If a facility repeats a violation, the primary inspector and program supervisor will set up an informal enforcement conference with the local facility compliance managers, the plant manager, and, if applicable, the corporate compliance officers. They discuss the facility's current compliance issues and work with the facility to find a permanent solution, which may include formal enforcement.

IX. PUBLIC MEETINGS / HEARINGS & PERMIT RENEWALS

Resident Inspector Program staff continues to observe and assist/support public meetings/hearings that involve the operation of and proposed modifications to the commercial hazardous waste facilities in this state. A continuing program goal is for the staff to be fully aware of public concerns and to be conscious of these concerns during oversight efforts at these facilities. Program staff have provided assistance in facility compliance audits by generators, consultants, other agencies and the public. Program staff work with area schools to provide information in the classroom about environmental responsibility and how the facilities help with that responsibility.

The Resident Inspector Program staff continue to work with the Facility Management Branch (the permitting arm of the Hazardous Waste Section) and each commercial hazardous waste facility during the permit renewal/application process and other compliance reviews, such as , closure of a permitted unit (storage tank, processing area, container storage area, etc.). The purpose of this joint effort is to provide clarification, address areas of concern, and assist in ensuring the permit application accurately reflects the facility as it is operated.

X. SUMMARY

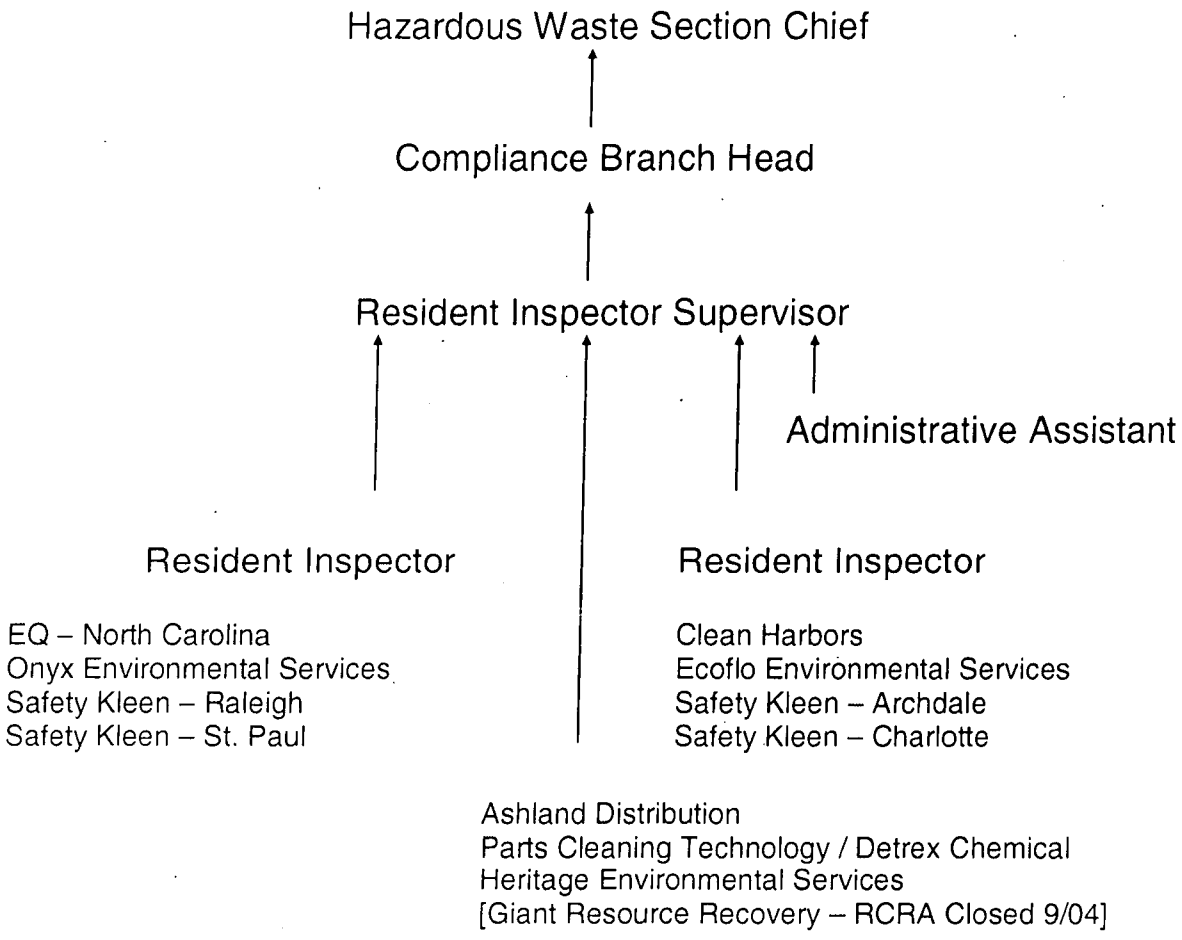
At the conclusion of the program's 14th year, Resident Inspector staff continue to provide rigorous oversight of the commercial hazardous waste facilities in this state. This is reflected in the facilities' overall compliance rate of 99.8 percent. Staff constantly seek new approaches and initiatives to

improve the department's ability to protect public health and the environment. Staff also work to ensure that new regulatory requirements are fully understood by the facilities so they can be implemented rapidly and correctly. Proactive approaches, such as workshops, program oversight and compliance assistance efforts, have clearly demonstrated a heightened level of compliance at the commercial hazardous waste facilities in North Carolina.

ATTACHMENTS

ATTACHMENT 1
RESIDENT INSPECTOR PROGRAM

ORGANIZATIONAL CHART



ATTACHMENT 2
RESIDENT INSPECTOR PROGRAM

Commercial Hazardous Waste Facilities

CATEGORY RANKINGS & PRIMARY TREATMENT

(FY 2004-2005)

FACILITY	CURRENT CATEGORY RANKING	Primary Waste Treatment
Ashland Distribution Co.	1	Container Storage
Clean Harbors	3	Hazardous Waste Consolidation, Fuels Blending, Container Storage
Detrex Chemical / Parts Cleaning Technologies	2	Chlorinated Solvent Reclamation
ECOFLO, Inc.	3	Hazardous Waste Consolidation, Fuels Blending, Container Storage
EQ – North Carolina	2	Container Storage
Giant Resource Recovery	0*	RCRA Closed September 2004
Heritage Environmental Services	1**	Operations currently suspended
ONYX Environmental Services	2	Container Storage
Safety-Kleen / Archdale	1	Mineral Spirits Reclamation
Safety-Kleen / Charlotte	1	Mineral Spirits Reclamation
Safety-Kleen / Raleigh	1	Mineral Spirits Reclamation
Safety-Kleen / St. Pauls	1	Mineral Spirits Reclamation

*Class 1 until September 2004
** Operations currently suspended by corporate to evaluate facility economics

ATTACHMENT 3
RESIDENT INSPECTOR PROGRAM

Commercial Hazardous Waste Facilities

ANNUAL HAZARDOUS WASTE TONNAGE RECEIVED REPORT

(FY 2004/2005)

COMMERCIAL FACILITY	Tons Received 2004/2005	Tons Received 2003/2004	Tons Received 2002/2003	Tons Received 2001/2002	Tons Received 2000/2001
ASHLAND	3,624.00	3,164.72	3,363.58	3,108.87	3,711.66
CLEAN HARBORS	8,593.29	4,039.98	4,199.94	5,333.92	4,788.78
DETREX	522.68	674.57	1,017.31	1,643.76	2,364.60
ECOFLO	4,938.21	6,126.56	4,916.60	4,131.37	6,221.00
EQ–North Carolina	6,626.97	3,221.14	152.52	0	176.39
HERITAGE	0.00	431.28	920.54	2,501.15	4,850.90
ONYX	1,248.24	1,297.00	1,245.00	1,325.55	1,434.29
SK-ARCHDALE	474.00	498.00	564.50	728.90	854.30
SK-CHARLOTTE	423.00	472.00	493.20	653.30	865.20
SK-RALEIGH	406.60	449.90	512.00	676.50	829.80
SK-ST PAUL	317.80	319.73	339.90	396.00	482.90
TOTAL	27,174.79	20,694.88	17,726.09	20,499.32	26,579.82

ATTACHMENT 4
RESIDENT INSPECTOR PROGRAM

Commercial Hazardous Waste Facilities

INSPECTION TOTALS

(FY 2004/2005)

FACILITY	REQUIRED INSPECTIONS	ACTUAL INSPECTIONS
Ashland Distribution Co.	24	25
Clean Harbors	72	77
Detrex Chemical / Parts Cleaning Tech.	48	48
ECOFLO, Inc.	72	78
EQ - North Carolina	48	55
Giant Resource Recovery *	6	6
Heritage Environmental Services	24	24
ONYX Environmental Services	48	50
Safety-Kleen / Archdale	24	26
Safety-Kleen / Charlotte	24	26
Safety-Kleen / Raleigh	24	26
Safety-Kleen / St. Pauls	24	28
TOTAL	438	469

* RCRA closed September, 2004

ATTACHMENT 5
RESIDENT INSPECTOR PROGRAM

ENFORCEMENT OVERVIEW at COMMERCIAL HAZARDOUS WASTE FACILITIES (7/1/91 through 6/30/05)

FACILITY	NOVs FY 04-05	NOVs To Date	Compliance Orders FY 04-05	Compliance Orders To Date
ASHLAND	1	13	0	0
CLEAN HARBORS [1]	0	15	0	0
DETREX	0	12	0	1
ECOFLO	0	9	0	0
ENVIROCHEM [2]	0	8	0	1
EQ–North Carolina[2]	0	0	0	0
HERITAGE	0	30	0	3
GIANT [3]	0	12	0	0
ONYX	0	11	0	1
SK-ARCHDALE [4]	0	14	0	0
SK-CHARLOTTE [4]	0	16	0	0
SK-RALEIGH [4]	0	11	0	0
SK-ST PAUL [4]	0	15	0	0
SOLITE [5]	0	8	0	1
TOTALS	1	174	0	7

[1] Clean Harbors (formerly owned by Safety-Kleen Technical Services; formerly owned by Laidlaw)
[2] EQ-North Carolina (formerly owned by EnviroChem Environmental Services, Inc.)
[3] Giant Resource Recovery (formerly owned by Oldover Corp.) - CLOSED September 2004
[4] SK = Safety-Kleen Corporation
[5] Solite Corporation has ceased operation as a hazardous waste burner - CLOSED January 2003

EXHIBIT E

NCDENR

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

January 23, 2006

To: Sen. Charles Albertson, co-chair
Sen. Daniel Clodfelter, co-chair
Rep. Pryor Gibson, co-chair

From: Secretary Bill Ross

Attached is the Dept. of Environment and Natural Resources' annual report to the Environmental Review Commission on the comprehensive hazardous waste management plan required by G.S. 130A-294. If you have any questions about this report, please contact Liz Cannon at 919-508-8534.

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One NorthCarolina Naturally

Annual Report to the Environmental Review Commission North Carolina General Assembly

Hazardous Waste Management

November 2005



Hazardous Waste Section
Division of Waste Management
www.wastenotnc.org

Department of Environment and Natural Resources

Michael F. Easley
Governor

William G. Ross Jr.
Secretary
NC Department of Environmental and Natural Resources

Dexter R. Matthews
Director
Division of Waste Management

DENR
Division of Waste Management
Hazardous Waste Section
1646 Mail Service Center
Raleigh, NC 27699-1646
(919) 508-8400

INTRODUCTION

The State of North Carolina requires that the Department of Environment and Natural Resources (DENR) develop a comprehensive hazardous waste management plan every two years. The first plan was completed on July 1, 1990; the latest plan was completed in 2004. Beginning October 1, 2003, N.C.G.S. 130A-294(i) required DENR to make an annual report on the hazardous waste management plan. This report includes an evaluation of hazardous waste management in North Carolina and identifies DENR's activities and recommendations in the following areas: improving waste management; cleaning up of hazardous waste; reducing the amount of waste generated; minimizing the amount of hazardous waste which must be disposed of; and maximizing resource recovery, reuse and conservation.

NORTH CAROLINA HAZARDOUS WASTE PROGRAM

The North Carolina Hazardous Waste program is administered by the Hazardous Waste Section within DENR's Division of Waste Management. A combination of federal and state resources support a staff of 55 people who implement the state's federally-authorized regulatory program, based on the federal Resource Conservation and Recovery Act (RCRA). The activities of the Hazardous Waste Section include:

- Regulating the management of hazardous waste by generators, transporters, treaters, storers, and disposers;
- Issuing and maintaining permits that specify requirements that each hazardous waste treatment, storage or disposal facility must meet;
- Conducting compliance inspections and, in cooperation with the North Carolina Attorney General's Office, taking appropriate enforcement action against violators;
- Requiring groundwater assessments, facility investigations and corrective measures at facilities where hazardous wastes have previously been released into the environment;
- Ensuring environmental protection through emergency response and site cleanup;
- Educating the public and the hazardous waste community on the requirements for managing hazardous waste by providing technical assistance through individual consultations and seminars;
- Protecting public health and the environment by encouraging waste reduction, sound recycling methods, safe management practices and proper disposal as a last resort; and
- Ensuring staff receives continuing training to implement their responsibilities.

HAZARDOUS WASTE GENERATION, MANAGEMENT AND CLEANUP

In 2003, the latest date for which complete information is available, 440 North Carolina large quantity generators (LQGs) reported that 63,615 tons of hazardous waste was generated. Of the 440 LQGs, the top 10 generating facilities produced 43,610 tons, or 69 percent, of the total quantity of hazardous waste generated in North Carolina.

In 2003, 40 North Carolina treatment, storage or disposal facilities (TSDFs) reported they managed 20,031 tons of hazardous waste through treatment, storage or disposal. Of the 40

TSDFs, the top 10 facilities managed 19,312 tons, or 96 percent, of the total hazardous waste managed in North Carolina. Common hazardous waste management methods include solvent recovery, incineration, fuel blending, energy recovery, sludge treatment, waste stabilization and metals recovery. Although only LQGs and TSDFs are required to report their hazardous waste generation and management quantities to DENR, it is important to note that there are also 1,775 small quantity generators (SQGs) and 4,374 conditionally exempt small quantity generators (CESQGs) currently known to be located in North Carolina.

Inspection and enforcement activities by the Hazardous Waste Section from October 2004 to September 2005 resulted in the prevention or mitigation of potentially significant adverse human health and environmental effects. As a direct result of these activities, more than 4,000 tons of hazardous solid wastes and 29,000 gallons of liquid hazardous wastes were either remediated or brought into compliance with management requirements. These actions have prevented more than 4,500 individuals who lived or worked in proximity to these materials from being potentially adversely affected by the mismanagement of hazardous waste.

North Carolina has 35 facilities in the hazardous waste permitting universe and 55 facilities in the post-closure monitoring universe. Approximately 99 percent of these facilities are permitted, under an administrative order or under another approved control mechanism for management and/or remediation of their hazardous waste. There are 109 facilities that are subject to site-wide Corrective Action. Progress in the Corrective Action Program is tracked through environmental indicators that address measurable environmental outcomes. Currently, 100 percent of high priority corrective action sites have human exposures to contamination under control, and 82 percent of high priority corrective action sites have migration of contaminated groundwater under control.

NORTH CAROLINA HAZARDOUS WASTE REDUCTION INITIATIVES

A. North Carolina's Commitment To Waste Minimization

The Hazardous Waste Section has taken the following actions with respect to Waste Minimization:

- Incorporated general pollution prevention training into annual generator workshops, industry meetings and enforcement settlement negotiations;
- Reviewed facility requests for alternative uses of hazardous waste (use/reuse, substitution, reclassification and delistings);
- Conducted inspections that include monitoring facility compliance with Land Ban/Land Disposal restrictions, air emission rules, universal waste requirements and used oil regulations. These regulations are all designed to reduce exposures and encourage recycling.
- Initiated a program to encourage the state's largest emitters of toxic compounds to reduce generation of wastes containing toxic materials, focusing primarily on wastes containing lead.

B. Environmental Stewardship Initiative

DENR's Environmental Stewardship Initiative, implemented by the Division of Pollution Prevention and Environmental Assistance (DPPEA) promotes and encourages superior environmental performance by North Carolina's regulated community. This voluntary program stimulates the development and implementation of programs that use pollution prevention and innovative approaches to meet and exceed regulatory requirements. There are three levels of participation. "Environmental Partners" is for organizations interested in developing a systematic approach to improving their environmental performance. The "Rising Steward" level is designed for those organizations that have a mature environmental management program. The "Environmental Steward" level is for organizations that already display a commitment to exemplary environmental performance beyond what is required by law. All participants must set environmental performance goals that include pollution prevention and are required to report annually on progress towards these goals and net pollution reductions.

This important program not only recognizes outstanding environmental performance at the "Steward" level, but provides encouragement and assistance, fostering improved environmental performance, to North Carolina organizations. Coaches (technical staff) are assigned to each participant to provide technical assistance on pollution prevention and developing an environmental management system. Networking opportunities allow participants to learn from each other and share success stories. This program seeks to reduce the impact on the environment beyond measures required by any permit or rule, producing a better environment, conserving natural resources and resulting in long-term economic benefits.

C. Other Activities

In addition to continuing its work with the U.S. Environmental Protection Agency (EPA) and other DENR agencies on waste reduction initiatives, HWS has also accomplished the following:

- Received the necessary federal authorization updates for the Hazardous Waste Section from EPA in order to continue implementation of existing laws and regulations for the comprehensive management of hazardous waste and to receive federal funding.
- Began implementation of the Mercury Switch Removal Program enacted by the General Assembly during its 2005 session.
- Continued to improve the data management program, so that information on hazardous waste generation, management and enforcement will be available to the Department, the regulated community and the public for sound decision-making and hazardous waste trend analysis.
- Conducted four generator workshops in May 2005. These workshops aid in educating generators on hazardous waste regulations, expectations of hazardous waste inspectors, and pollution prevention opportunities. Also participated in other events such as the Manufacturers and Chemical Industry Council's annual Environmental and Safety Conference.
- Continued an initiative that was started in 2002 to target the vast Small Quantity Generator (SQG) universe through the use of a SQG self-certification compliance form. Data collected has been reviewed to identify management trends and help identify educational needs of SQGs.

- Pursued funds for environmental cleanup from several companies in bankruptcy in order to ensure protection of human health and the environment.
- Re-established the pilot project on Community-Based Environmental Protection which encourages business-to-business information exchange on waste management and waste reduction focusing on SQGs and Conditionally Exempt Small Quantity Generators (CESQG)s.
- Established a committee with DPPEA to identify North Carolina waste generation trends and mutual waste management goals and objectives.
- Developed innovative regulatory strategies to allow commercial re-development of hazardous waste sites under the Brownfields program while still meeting statutory and regulatory mandates for protection of human health and the environment.

FUTURE TRENDS AND RECOMMENDATIONS

Major priorities for the Hazardous Waste Program for the coming year include moving Corrective Action sites toward selection and implementation of final remedy, which includes placing all sites under an appropriate regulatory mechanism to achieve remediation; ensuring that financial assurance for investigation and remediation is in place; and maintaining an aggressive compliance and enforcement program. The Hazardous Waste Section will also continue to implement all of the other elements of the program, which include permitting, data management, emergency response, generator cleanups, rulemaking and state authorization, technical assistance, and other activities.

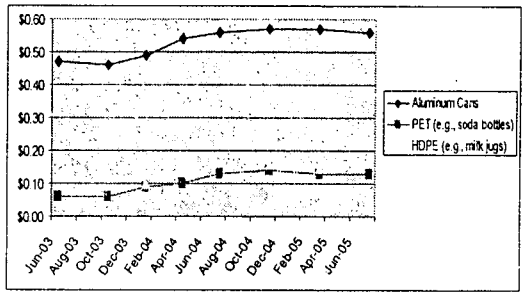
North Carolina can expect a tightening of federal resources allocated to the state for the purpose of hazardous waste management, because of high federal budget deficits and competing federal funding priorities, including hurricane recovery and homeland security. This may require that state resources contribute a more substantial share of support in order to maintain the current level of environmental and human health protection provided by the program. Alternative sources of funding will also need to be investigated, including reimbursement of enforcement investigative costs; hazardous waste generator security deposits, or generator bonds, to fund cleanup of abandoned facilities; and an increased reliance on hazardous waste activity and tonnage fees and/or state appropriations.

EXHIBIT F

Recycling Markets

- Robust demand for recyclable materials
- Export markets increasingly absorbing materials
- Prices for materials sustained at above-average rates in recent years
- Markets need more recyclables

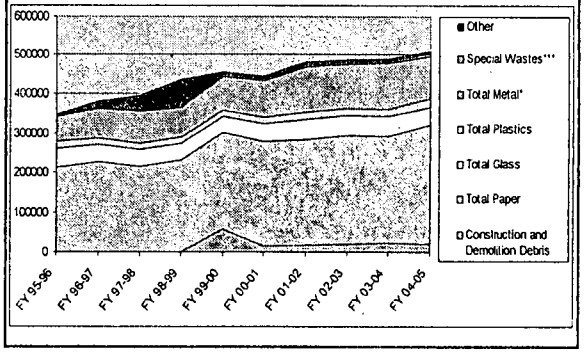
Price increases for aluminum and plastic



City and County Recycling Efforts

- Small, incremental growth each year
- Many programs outdated:
  - low participation
  - collecting only basic materials
- Local inefficiency causing a few programs to be cut.
- Best run programs show that cost-per-ton to recycle is as good or better than cost-per-ton for disposal.
- All indications are that local governments can and should collect more recyclables.

Local Recycling Efforts (in tons)



Increasing Recycling:
Example of SW Trust Fund Grant Projects

- $25,000 to increase C&D recycling in New Hanover County
- $19,400 to expand Kernersville's residential recycling program
- $10,000 to Surry County to increase cardboard recycling efforts
- $10,727 to improve Greensboro's commercial recycling program
- $15,000 to computer recycler in Charlotte to increase capacity
- $15,000 to pallet recycler in Rocky Mount to raise tonnage throughput.
- $28,000 to composter in Chatham County to process more wood, pallets, gypsum, and other organics.
- Grant requests not met in FY 05:
  - $1.5 million in requests vs. $600,000 awarded

Increasing public recycling participation:
North Carolina's outreach programs

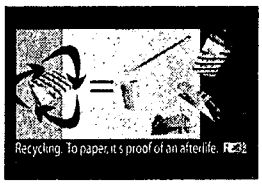
- Two main outreach efforts:



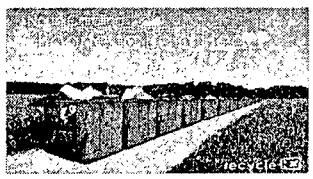


- Materials and training provided to local governments.
- Partnerships with local governments and other parties.
- TV-based campaigns with other media support: cinema ads, radio, etc.
- Programs starting to increase public commitment to recycling.

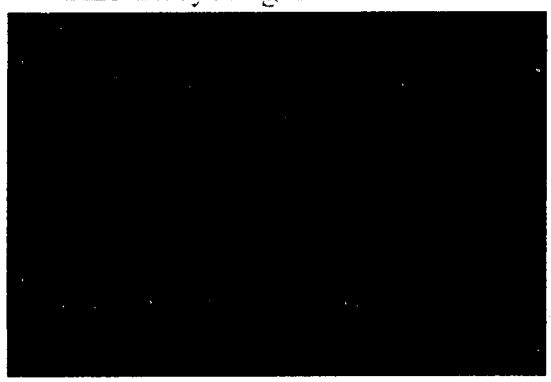
Examples of Cinema and Truck Ads



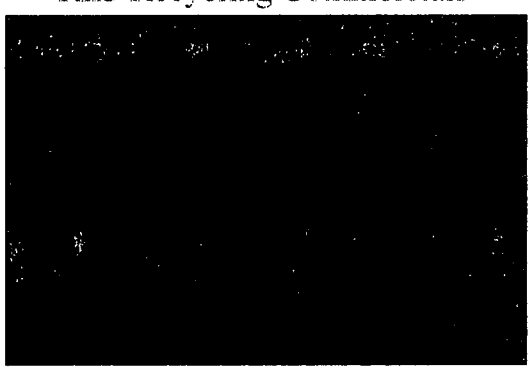




RE3 Recycling Commercials



RE3 Recycling Commercials



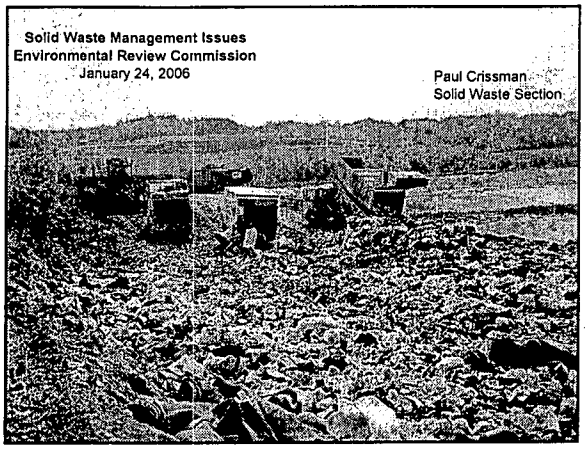
General Issues

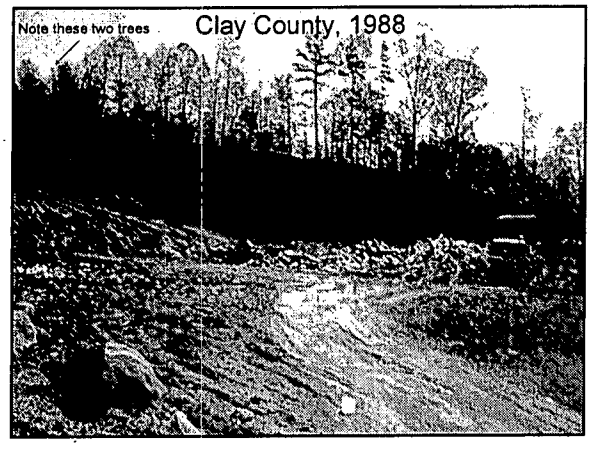
- Local governments can improve performance, but some face fiscal constraints
- Disposal bans and ABC bill passed in 2005 will increase diversion:
  - bans on pallets, oil filters, plastic bottles, and oyster shells effective October 2009
  - ABC license holders begin recycling beverage container January 2008
- Some materials are growing in volume and are in need of attention: e.g., electronics
- Recycling markets all want more materials, with opportunities for job creation and business growth.

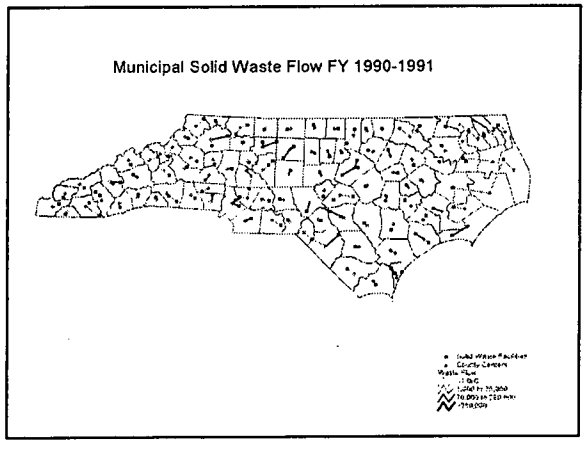
Recyclables in the Disposed Waste Stream

- 87,000 tons of plastic bottles
- 50,000 tons of electronics
- 700,000 tons of wood and pallets
- 1.5 million tons of recyclable paper
- 200,000 tons of glass bottles
- 95,000 tons of aluminum and steel cans
- 300,000 tons of wallboard
- 1.2 million tons of food waste

EXHIBIT G


Solid Waste Management Issues
Environmental Review Commission
January 24, 2006
Paul Crissman
Solid Waste Section


Note these two trees
Clay County, 1988


Municipal Solid Waste Flow FY 1990-1991

Solid Waste Management Act of 1989

Established:

- Reporting requirements
- Planning requirements
- Landfill bans
- New programs
- Set goals and policies

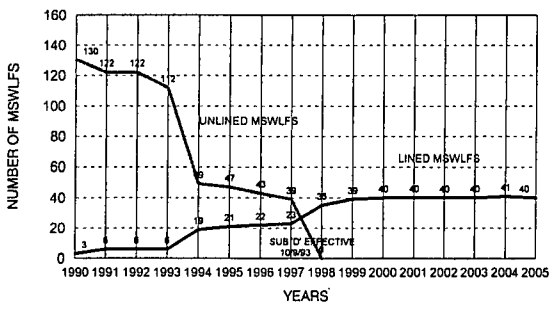


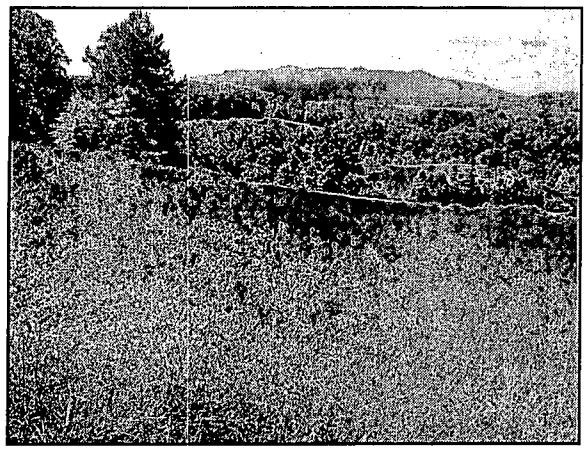
State lined landfill requirements (the 98 rule)

Federal Sub-title D Landfill requirements (RCRA)



STATUS OF MSWLFS IN NORTH CAROLINA

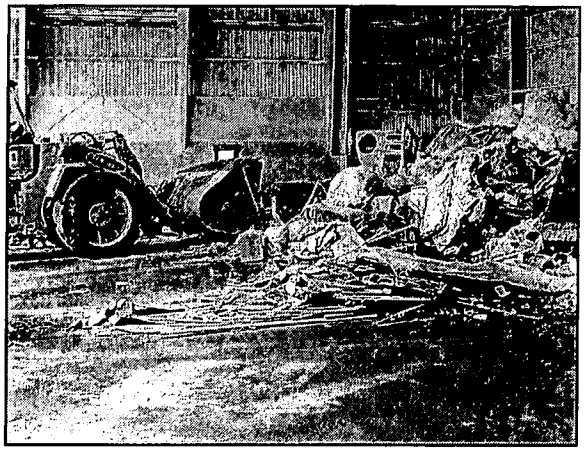


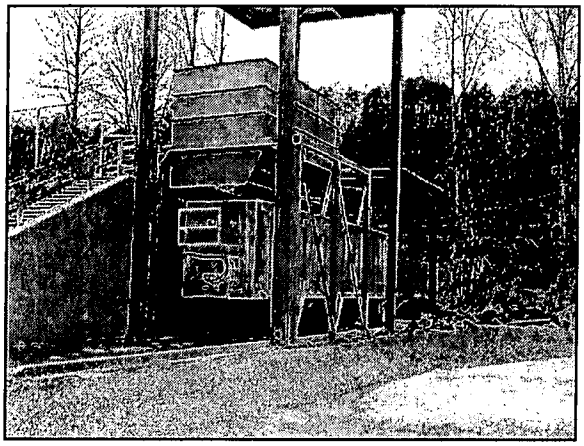


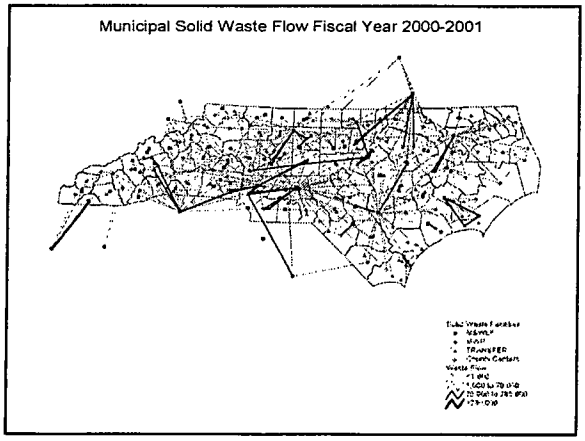
Consequences of Increased Landfill Requirements:

- Private sector landfills
- Waste imports/exports
- New and different facilities
- Tipping fees

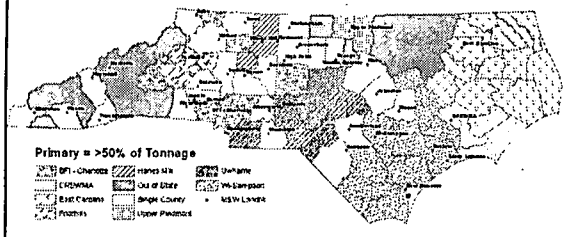


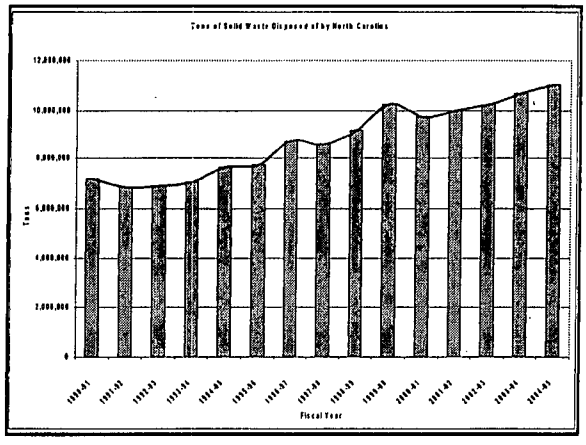


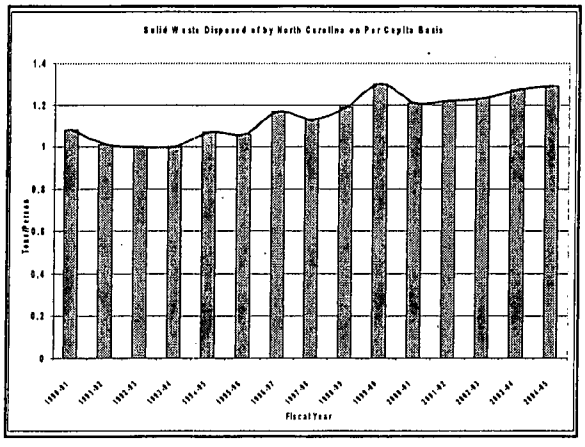



Municipal Solid Waste Flow Fiscal Year 2000-2001

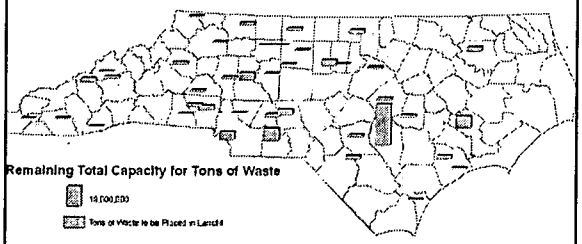
Primary MSW Landfill Used by NC Counties



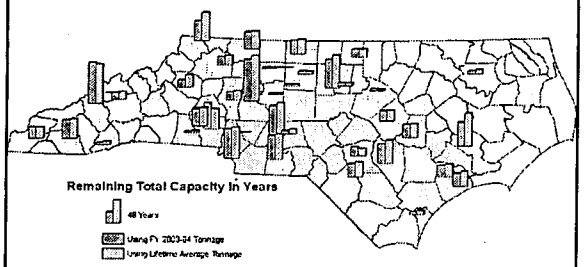


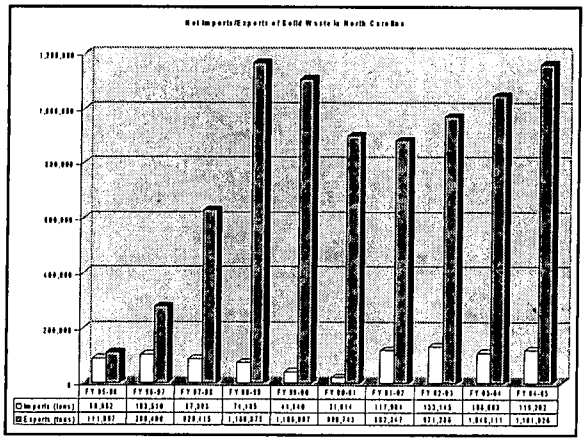


North Carolina Landfill Capacity



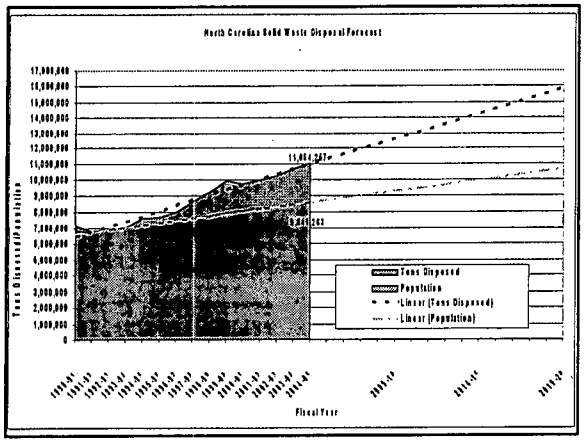
North Carolina Landfill Capacity

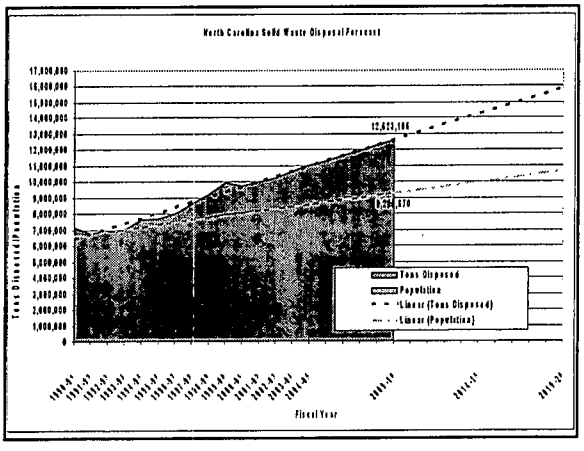


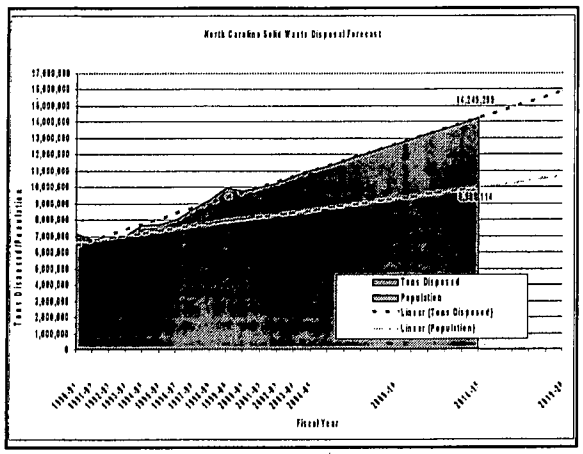


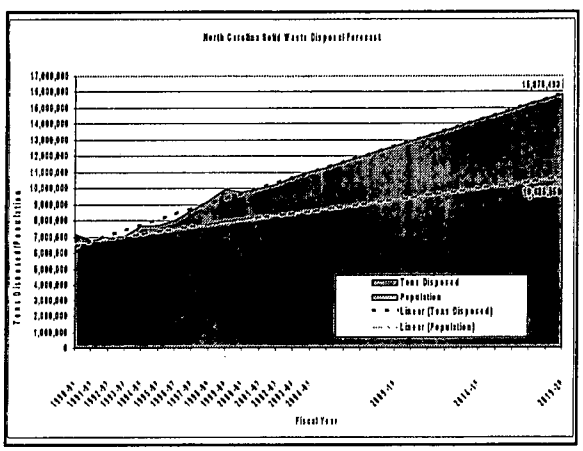
Total Landfill Capacity for North Carolina

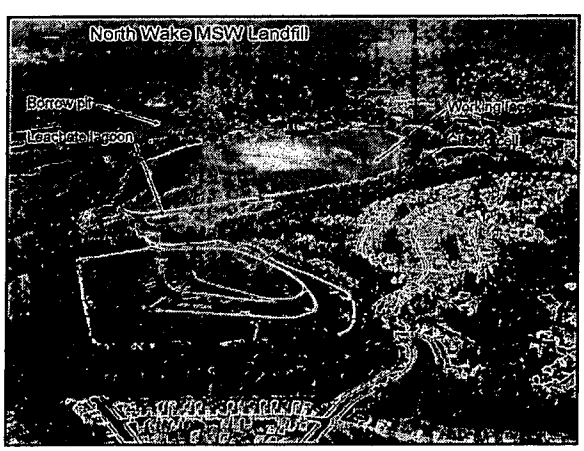
County:	All Counties		
	Opened	Surveyed	Months Open
Date	Varied	9/21/2005	9.2
	Total	Avg. Per Year	2004-2005
Total Tons Disposed	59,549,524.6	6,479,185.5	7,673,315.7
	Used	Permitted	Total
Volume Airspace (yd^3)	99,333,552.9	137,315,486.0	339,013,657.0
Remaining Airspace (yd^3)		37,981,933.1	239,680,104.1
Utilization Factor (tons/yd^3):	0.60		
		Permitted	Total
Remaining Capacity for Tons of Waste		22,769,809.3	143,685,953.4
Remaining Capacity in Years (Lifetime TPM)		3.5	22.2
Remaining Capacity in Years (2003-2004 TPM)		3.0	18.7



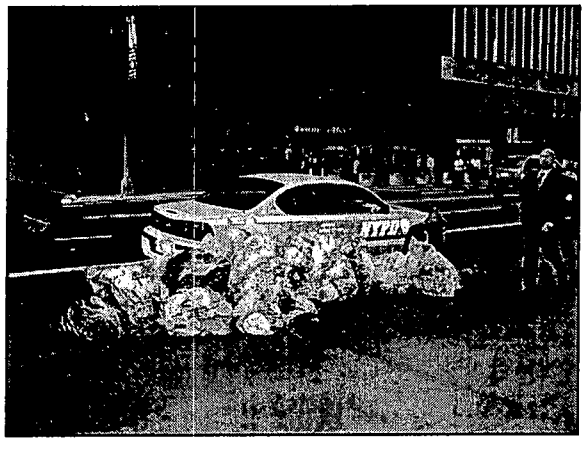


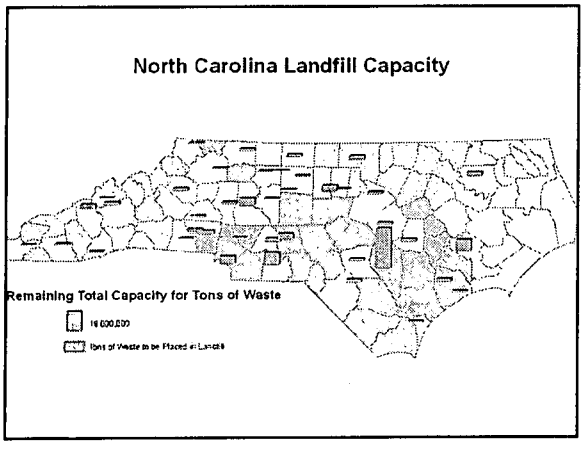

North Carolina Solid Waste Disposal Forecast
Tons Disposed/Population
Fiscal Year
Tons Disposed
Population
Linear (Tons Disposed)
Linear (Population)

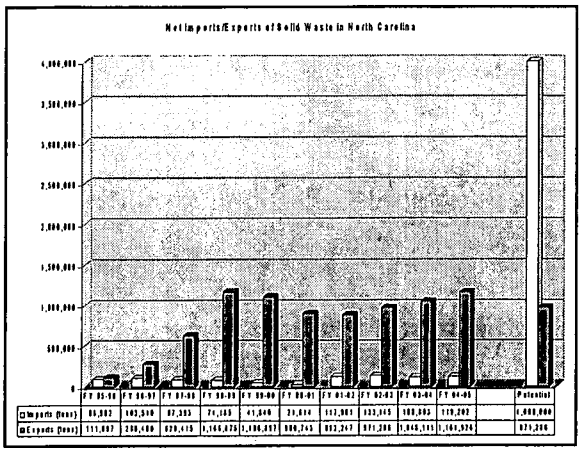

North Carolina Solid Waste Disposal Forecast
Tons Disposed/Population
Fiscal Year
Tons Disposed
Population
Linear (Tons Disposed)
Linear (Population)


North Wake MSW Landfill
Borrow pit
Leachate lagoon

- Camden County - Black Bear- MSW
  3.5 million tons/year, source- east coast
- Columbus County -Riegel Ridge- MSW
  .5 million tons/year, source - 100 mile radius
- Brunswick County-Hugo Neu-
  industrial process waste landfill
  2 million tons/year, source - national and international
- Hyde County- Alligator River Recycling
  construction and demolition waste, barge facility
  .9 million tons/year, source - east coast







Solid Waste in North Carolina
The future:

More of the same

(Probably continue to have more and more waste)

Yet very different

(Probably become one of the nation's leading importers of waste)

Options

Do Nothing

Institute a tipping fee

Ban certain materials (i.e..clean wood, cardboard)

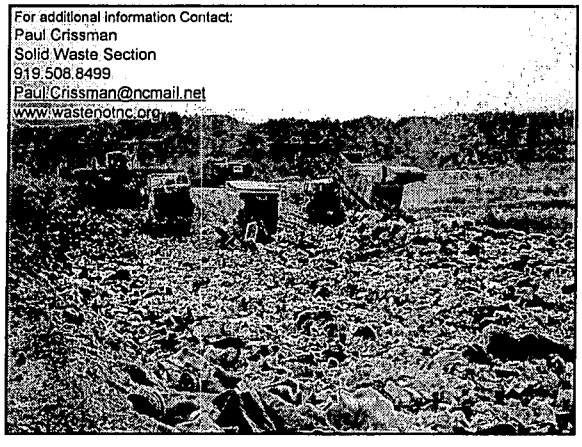
Institute advance disposal fees (i.e. electronics)

Require program activity (i.e. recovery targets)

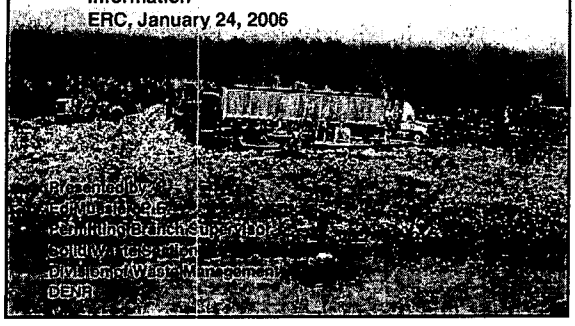
Five Goals Identified in the State Planning Process

- By 2010, **improve landfill technology** to secure long term protection of the environment
- By 2010, a **larger portion** of solid waste will be managed by **recycling and composting** than disposal in landfills.
- By 2010, **litter and illegal disposal shall be reduced** by 50% from 2000-2001 levels.
- By 2010, implement a **public participation** and public education program for new proposed solid waste management facilities, and existing and closed solid waste management facilities.
- By 2010 the State of North Carolina will have **adequate capacity** to manage solid waste that requires landfill disposal.

For additional information Contact:
Paul Crissman
Solid Waste Section
919.508.8499
Paul.Crissman@ncmail.net
www.wastenotnc.org



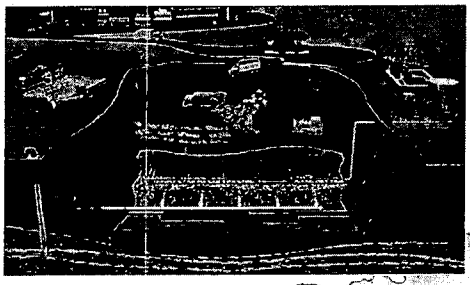
Solid Waste Management Permit Issues and Information
ERC, January 24, 2006



Presentation Objectives

- Lined Landfill Components
- Permit Process
- Update on Large Projects
- Update on proposed Construction and Demolition Debris Rules

Modern Municipal Solid Waste Landfill

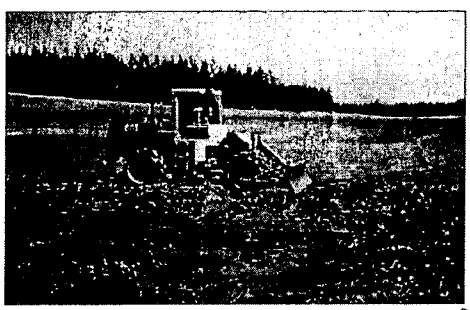


MUNICIPAL SOLID WASTE LANDFILL CONSTRUCTION

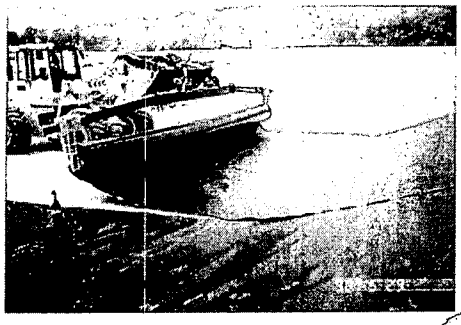




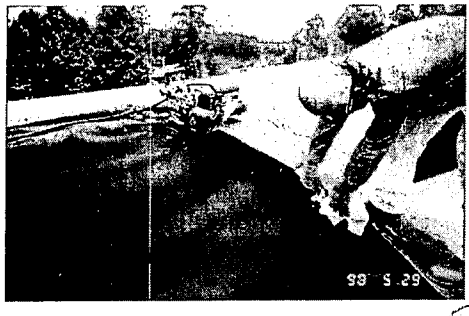
Clay Liner



Compactive Effort



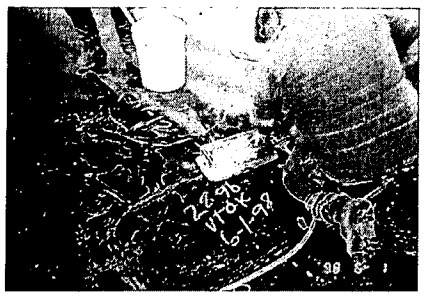
HDPE Deployment



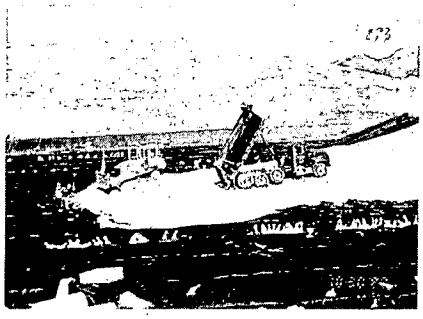
Fusion Welding



Seam Testing - Air Pressure



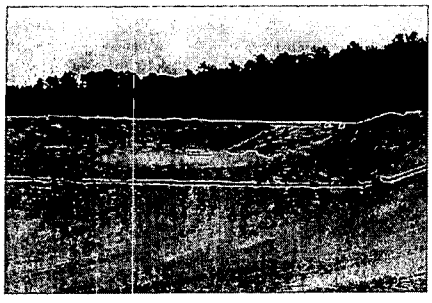
Seam Testing - Vacuum



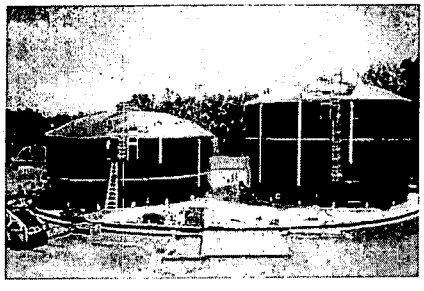
Leachate Collection - Granular Drainage and Protective Layer



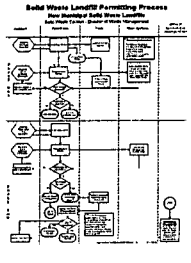
Leachate Collection Pipe Trench

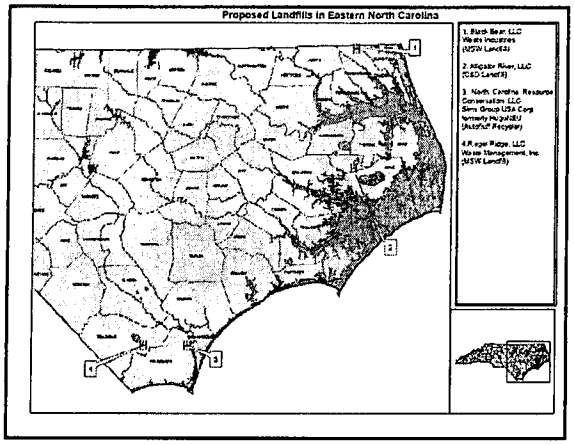


Sump and Riser



Leachate Storage Tanks



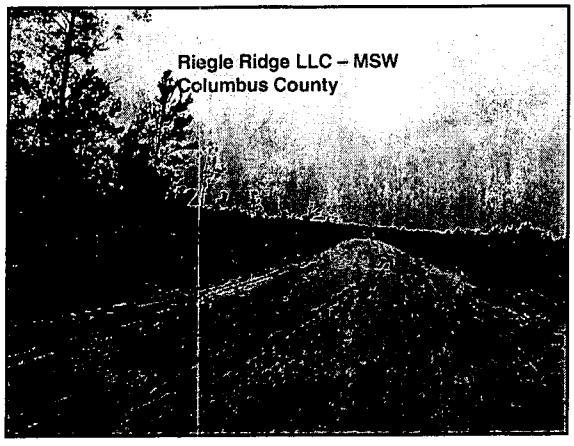


Riegel Ridge LLC- MSW

- Location- Columbus County
- Parent Company- Waste Management of the Carolinas, (Waste Management Inc.)
- 107 acre footprint, 20 year life
- 1500 tons per day
- Service area- 25 NC and 15 SC counties

Riegel Ridge Continued..

- Under Review for several years
- Section conducting compliance audit
- Awaiting wetlands permit from the Army Corps of Engineers
- Major technical and permitting issues satisfied for site study
- Site Suitability Letter to follow in the near future



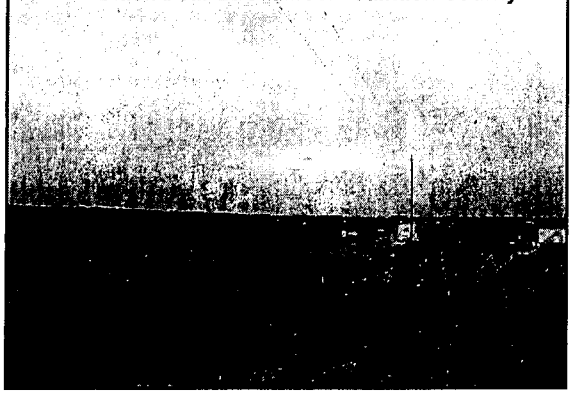
Black Bear LLC, MSW

- Location- Camden County, on US 17 south of the VA state line
- Parent- Waste Industries USA Inc.
- 490 acre footprint, 30 year life
- 10,000 tons per day
- Service area, East of I-75
- Anticipate barge waste to Norfolk and truck down US 17.

Black Bear LLC Continued

- Submitted in October of 2004
- Under Review
- Waste Industries will be a party to the permit, financial qualifications reasons
- Not yet officially on the application
- Need compliance audit
- Subject to legal action from City of Chesapeake, Va.

Black Bear LLC – MSW- Camden County



Alligator River Recycling LLC

Construction and Demolition Debris

Recycling and Treatment and Processing Facility with a Landfill

- Location- Hyde County, on the Intercoastal Waterway between the Alligator and Pungo Rivers
- 100 Acre Footprint, 3000 tons per day
- Service area- East of I-75
- Barge facility with recycling
- Company permitting barge facilities in Delaware and possibly Massachusetts.

Alligator River LLC Continued

- Currently under review
- Business structure being determined so that financial qualifications can be evaluated
- Needs compliance audit
- Barge facility undergoing Environmental Impact Assessment process for the Corps and CAMA
- Early in the permit process

North Carolina Resource Conservation and Recovery LLC

Industrial Treatment, Processing and Storage Unit for ASR (Auto Shredder Residue)

- Location- Navassa, Brunswick County
- Parent – Sims Group USA Corp, formerly Hugo Neu
- 5000 tons per day for processing
- USA service area

NCRCR LLC Continued

- Sims recently acquired Hugo Neu
- Financial Qualifications and compliance audit to be performed
- Company working on wetland permits
- Preliminary hydrogeologic investigation underway.
- Navassa has confirmed the franchise and agreed to Sims being a party to the permit



Solid Waste Rulemaking - Construction and Demolition Debris Proposed Rules

15 A NCAC 13B .0531-.0547

- Rules for Construction and Demolition Debris proposed (Feb 15, 2006 publication in NC Register)
- Currently under the old, 1980's vintage, sanitary landfill rules
- Process began in 2000, after Hurricane Floyd
- Rules were proposed in 2003, withdrawn to revise in response to comments.

C&D Rule Making continued

- Revisions address the primary concern of continued operation of C&D units on top of old, closed MSW's
- Include provisions for public participation, updated environmental protections, waste acceptance criteria, closure and post-closure plans and funding

C&D on top of MSW

- Owners may continue the use of C&D's on top of MSW's if they meet the following:
- Obtain local government approval
- Prepare an Assessment of Corrective Action Plan under Section 1600.
- Update Operations, Closure and Post-closure Plans
- Post Financial Assurance

For More Information…

- Ed Mussler P.E.
  Division of Waste Management
  Solid Waste Section
  1646 Mail Service Center
  Raleigh, NC 27699-1646
  Phone 919.508.8495
  email- ed.mussler@ncmail.net
  http://wastenotnc.org

Solid Waste Landfill Permitting Process

New Municipal Solid Waste Landfills

Solid Waste Section - Division of Waste Management

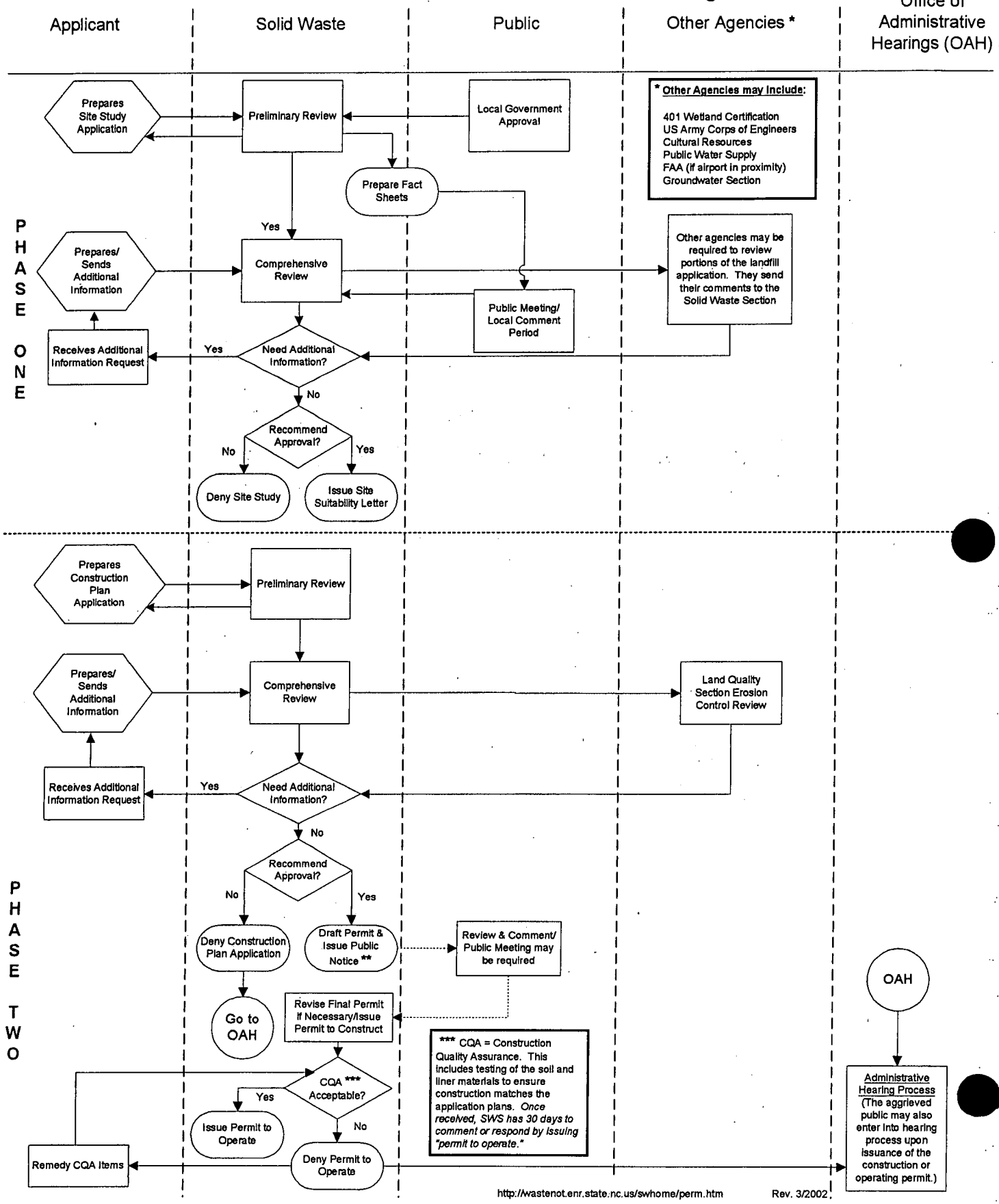


EXHIBIT I

My name is Murray Griffin and I am a consulting engineer from Atlanta, Georgia who specializes in solid waste management planning and engineering. I am here to provide you with information regarding today's requirements and costs associated with waste management disposal. I am not here advocating any particular method of waste management or disposal or the approval of any of the specific landfill projects pending before the agency. Because of my experience in the industry representing many clients in the private and public sectors, and as someone familiar with the economics of landfill development and operation costs, I have been asked to provide you with information on three specific items and to answer any questions that you might have. The three items I will discuss are 1) The initial steps, and siting criteria and costs associated with the development of a modern Subtitle D compliant municipal solid waste (MSW) landfill; 2) The costs to meet today's design construction and operational requirements; and finally; 3) The costs associated with closing today's modern landfills and performing the required annual post closure care.

I am a 1979 civil engineering graduate of Georgia Tech, a registered professional engineer in multiple states, and the president of Atlantic Coast Consulting, Inc. (ACC) which I formed in October 2005.Prior to that I worked for over 27 years for the consulting engineering firm of Jordan, Jones, and Goulding (JJG) where I ended my service with that firm as a Sr. Vice President and a National Service Leader for JJG's Site Development Service Area. JJG has multiple regional offices throughout the southeast including Charlottee. I have served on the Board of Directors of the Georgia Chapter of the Solid Waste Management Association of North America (SWANA) for the past 10 years and am a past President and current Corporate Director of the Chapter.

SWANA is a trade organization for both public and private solid waste professionals. I am also the Vice-Chairman of the Georgia Chapter of the National Solid Waste Management Association (NSWMA), a trade organization for privately owned waste companies and vendors. I have testified as an expert in the field of solid waste, spoken multiple times before similar legislative committees in Georgia, and participated on numerous solid waste committees for the Georgia Environmental Protection Division Land Protection Branch. I served for five years on the faculty of Georgia's Landfill Operators Certification School held semi-annually at the University of Georgia. I have designed, permitted, and certified the construction of numerous solid waste landfills, transfer stations, and other solid waste facilities in the Southeast and Puerto Rico. My solid waste clients have included cities, counties, authorities, contractors, private waste companies, and regulatory agencies. Finally, on a personal note, I grew up on a dirt road in Chatham County, Georgia, and spent the better part of 18 years in a house located approximately 2000 feet down wind of an old borrow pit that was turned into a "dump". If nothing else does, that in it self should qualify someone to talk about waste management. For the record, I am not being compensated for my time to do this and neither my firm nor I have any existing or pending clients or projects in North Carolina.

With the promulgation of the Federal Subtitle D regulations and subsequent adoption by North Carolina in 1993 and other states, the days of the old "dumps" like I lived near were numbered. While many of the old dumps were non-engineered and poorly regulated, today's waste management facilities are highly regulated and highly engineered and inspected. Today's facilities are designed to protect human health and the environment, our air and our water. Today's landfills require the following essential

systems: composite base liner; leachate collection, storage and treatment; groundwater and methane monitoring wells, surface water monitoring, landfill gas collection, odor control; and a composite landfill cap system. While in construction operation NC's regulations require that a "project engineer" that is defined as the official representative of the permittee who is licensed to practice engineering in North Carolina, be responsible for observing, documenting, and certifying that activities related to the quality assurance of the construction of the solid waste management facility conforms to NC's Division of Waste Management's approved plan, the permit to construct and the Division's Rules. The new regulations produced a lot of new work for the engineering community and we thank you.

The initial step in permitting a new MSW landfill in NC specified in Division's Rules is for the owner operator of the proposed facility to prepare and submit a Site Study per rule .1618. Prior to taking this initial step in the development of a new landfill a private developer generally has to invest money in the project for real estate fees, to obtain land purchase options, preliminary surveying and geotechnical work, and legal. Depending upon the size of the site and the site's potential for development, these ***pre-development costs that is costs even before a site study can range from tens of thousands to hundreds of thousands of dollars.***

The Site Study presents a characterization of the site, incorporating various investigations and requirements pertinent to the suitability of an MSW landfill. The Site Study must be prepared by qualified environmental professionals and must include a Regional characterization study of the property within two miles of the facility, amore

detailed Local Characterization Study of the property within 2000 feet of the facility, a Site Hydrogeologic Report, Documentation of Compliance with Location restrictions, local government approval and a Proposed Facility Plan, which is referred to in the Rules as a "conceptual plan for the development of the facility." The Facility Plan includes engineering drawings, calculations, and documents for the active life of the site. The applicant submits these documents along with a Site Study application to the Division for a determination of Site Suitability. The regulatory agency's "Comprehensive Review" of these documents takes many months but can take years to complete. The costs to a landfill developer (county, city or private party) to get to this point in the process will again depend upon many factors including the size of the site, the complexity of the geology, the number of regulatory agencies involved, and the level of opposition to the site. My experience has been that ***the engineering fees alone to get a letter of site suitability for a 150 acre site are at least $250,000 to $300,000. When you combine the costs associated with the initial development phase of a project the total costs to the developer can easily be a million dollars or more and that is even before you have assurance the site will be suitable.***

In NC, assuming that the facility is issued a Site Suitability letter, the applicants can now prepare a Construction Plan application and submit it to the Division. The complete application requires the submittal of the Facility Plan, Engineering Plans for the initial phase of landfill development, a construction quality assurance plan, an operation plan, a closure and post-closure plan, and a water quality monitoring plan. The Division again conducts a comprehensive review of the documents and if found approvable a Draft Permit is issued and the public is notified. The Division may require

another Public Meeting if felt necessary. This portion of the permitting process again takes many months or even years to complete. My experience has been that the engineering fees alone to get to a construction permit for a site are another $150,000 to $200,000, bringing the total engineering fees for a new landfill permit to $400,000 to $500,000. Many sites require legal action to obtain a permit or letter of site suitability. Legal fees, land costs, and other fees associated with public hearings and meetings can easily drive those costs into the millions of dollars.

The final step of the process is the actual construction of the initial phase of the project. NC limits this initial phase to no more than 5 years of operating capacity. Typically a minimum 5 to 10 acres of lined landfill will be constructed along with the associated support facilities such as entrance roads, scales and scale house, maintenance building, leachate storage monitoring wells, etc... The total cost for development of this initial phase obviously depends upon how big of a cell is built, how elaborate the landfill facilities are, how many monitoring wells ,the availability of adequate soils on site, etc... My recent experience with landfill construction indicates that today's construction costs for a MSW landfill liner system is in the $250,000 per acre range. On top of this an owner will face an additional $100,000 to $200,000 in engineering fees for construction administration engineering and construction quality assurance. With architectural fees for the facilities, the total construction cost alone for the initial phase can easily reach $3,000,000 to $ 5,000,000. These costs are in addition to the operational costs for the staff, equipment, fuel, insurance, labor, and other costs associated with properly operating today's landfill.

The cost of landfill development and operation has made many smaller counties and cities consider regional landfill options. Basic modern landfill economics dictates that the more waste handled the lower the cost of operation per ton. If a facility does not attract enough waste, their unit cost of operation will not be competitive and if the amount of waste coming to a facility is insufficient an operator or owner may find the cost per ton of disposal to be prohibitive. It is important to know that the costs of development and operation of a modern subtitle D facility is enormous and a certain minimum level of flow of waste to the facility is essential to make a facility feasible. The concept of regionalization which I understand N C encourages seems to make good economic sense and does limit exposure to environment simply because of limiting the number of sites.

If the costs to develop and operate a new MSW landfill are not enough, remember that the owners and operators must provide financial assurance that funds will be available to close the site and to conduct post closure care for a minimum of 30 years. This is of course after the landfill generates its revenue. We are just beginning to close some of our new Subtitle D Landfills, but my experience indicates that **the cost of closure today is in the $115,000 to $125,000 per acre range assuming the facility already has a landfill gas system installed. If not the landfill gas system could add another $15,000 to $20,000 per acre to the closure cost.** Post-closure costs vary from site to site depending upon the monitoring costs, leachate disposal costs, and landfill gas system operational costs. **Annual post-closure care costs in the $100,000 to $125,000 per year range are not uncommon. Remember this annual cost will be faced for at least 30 years.** Today's landfills are expensive, but it has been my experience that

at this point in time in our history, land filling is still the most feasible method of waste management and it is the only method that does not require additional disposal facilities.

I thank you for allowing me to speak to you on this subject. I hope you can tell that I am passionate about this issue as I believe our modern facilities employ every means reasonably available to protect our environment and provide safe and affordable access to disposal. I am happy to answer your questions if you have any. I will submit a copy of my remarks which has my contact information if any of you are interested. Thank you again for allowing me to speak and thank you for your attention.

Murray K. Griffin, P.E.

President / CEO

Atlantic Coast Consulting, Inc.

630 Colonial Park Drive, Suite 110

Roswell, GA 30075

770-594-5998 (O)

770-594-5967 (F)

mgriffin @atlcc.net

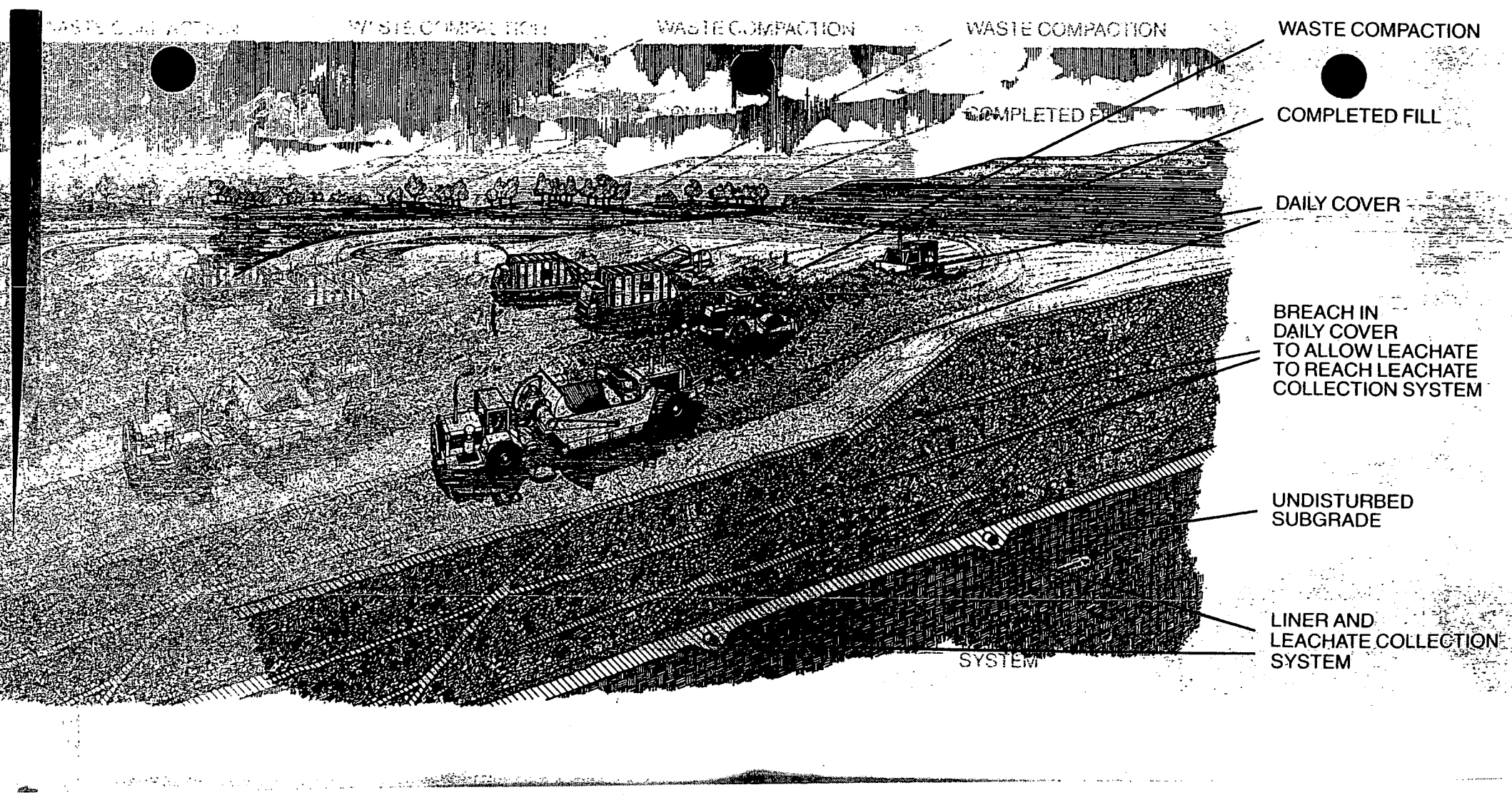

WASTE COMPACTION
COMPLETED FILL
DAILY COVER
BREACH IN
DAILY COVER
TO ALLOW LEACHATE
TO REACH LEACHATE
COLLECTION SYSTEM
UNDISTURBED
SUBGRADE
LINER AND
LEACHATE COLLECTION
SYSTEM

EXHIBIT J

EXHIBIT K

Memorandum

To: N.C. Environmental Review Commission
From: Richard Whisnant, School of Government-UNC-CH
Re: Municipal solid waste (MSW) landfill franchise issues
Date: January 24, 2006

Franchise landfill operations are a large and increasingly important component of North Carolina's MSW handling system. But the laws governing them have some problems.

1. Little citizen participation prior to franchise award

The statutes require two regular board meetings before a franchise is awarded; a DENR rule requires a public meeting, but only for "local government approval." The rule pre-dates the statutory franchise requirement and appears not to cover a franchise award. Thus 20 or 30-year exclusive franchises may be awarded with little public input.

2. Site identification after franchise award

The statutes arguably do not require a franchisee to identify a site before a franchise is awarded (The State disagrees with this interpretation). Companies understandably want local government buy-in before options or other site control is acquired, but is a long-term exclusive franchise really necessary? It results in potential for playing counties off against each other and also lock-in of the county board when a site is actually identified, which moots much of the point of local government approval of sites.

3. Can companies compel counties to create franchise ordinances?

Statutory language can be read to suggest that counties **must** adopt franchise ordinances if asked. This seems counter to the basic notion of a franchise as a legislative choice made by a local government to provide a governmental service through a public-private partnership. The statute could be clarified to make clear that the mandatory requirement is for potential private permittees to obtain a franchise, not for counties to award one.

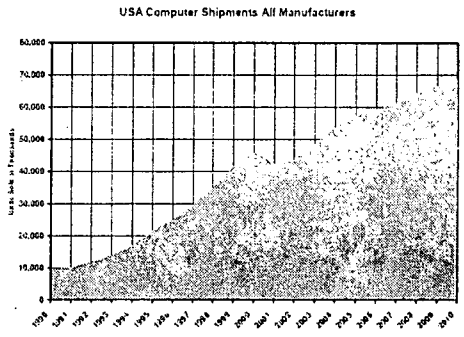
4. Who controls rates, and how?

The county solid waste franchise statute states that nothing in a franchise agreement can delegate away county regulatory control over rates at a franchised landfill. But few if any current franchise agreements acknowledge this or spell out how it should work. An unregulated exclusive franchise arguably violates the N.C. Constitution's prohibition on monopolies. There should be some system for ongoing review of reasonability of rates. There are also broader policy concerns raised by franchise rate arrangements, especially for those who wish to see more waste reduction and recycling. Most franchises align the county with private interests in maximizing the amount and rate of waste disposal.

EXHIBIT L

Electronics Use and Generation

- Amount of material growing:
  - Average household has about 25 consumer electronic products: computers, televisions, DVD players, video game systems, etc.
  - An estimated one million computers and 900,000 TVs sold in NC each year.
  - Households have an average of 3.1 televisions: Approximately 9.92 million TVs in use in NC homes.
  - An estimated 60 percent of households have at least one computer: at least 1.9 million in use in NC homes.
  - EPA estimated that 250 million computers were going to be obsolete by 2005 – NC Share = 7,150,000
  - Switch to high definition TV in 2009 could drive disposal of televisions



Current status of collection efforts

- Local government collection programs slowly growing:
  - Approximately ten permanent collection programs
  - About a dozen more with periodic collections
- Majority of counties offer no collection services – main issue is funding.
- Some of the permanent programs are limited – e.g., Gaston and Mecklenburg do not collect TVs
- Some manufacturers offer collection programs but usually at a cost and not as convenient as local drop-offs.

Options

- Three major policy approaches available on electronics:
  - Stay with the status quo: no state law or funding to drive collection.
  - Adopt a Producer Responsibility law, requiring manufacturers to take back their products.
  - Adopt an Advanced Recycling Fee to fund local government collection programs statewide.

Status Quo – Pros and Cons

- Would not require state to enact fees/taxes or major mandates.
- Many North Carolinians would have little or no access to local electronics recycling services.
- Majority of electronic discards would probably be disposed.

Producer Responsibility - Pros and Cons

- Holds manufacturers responsible for their products
- Requires no state fees or taxes
- Does not necessarily require communities to run collection programs but those who do so will have costs.
- Uncertainty as to who would be responsible for the large amount of historical and "orphan" electronic waste.
- Collection system would probably be less convenient for citizens than Advanced Recycling Fee system
- In Maine's system, citizens have to pay to recycle and municipalities have an unfunded mandate to collect materials.

Advanced Recycling Fee - Pros and Cons

- Would not hold individual manufacturers responsible for their products.
- Would result in a small increase in the purchase price of electronics.
- Should cause no disadvantage to in-state retailers.
- Generally supported by local governments, environmental groups, and majority of electronics industry.
- Like white goods and tires, funding would establish an electronics recycling program in each county.
- Collection of large volumes would increase job and business creation in North Carolina by electronics recyclers.

Inactive Hazardous Sites Program

Established by the legislature to identify, control and correct properties contaminated with hazardous substances.

1882 Total known and suspected contaminated sites cataloged

- 426 All work complete
- 1452 Sites remaining that require work

  - 758 Old unlined landfills and dumps
  - 694 Chemical spill/disposal sites

Old Unlined Landfills/Dumps

- 72% have residence, church, school, day care, or drinking water source on or within 1000 feet of the landfill
- Most expected to have groundwater contaminated with hazardous substances
- Landfill gas (methane and hazardous vapors) migrating into structures also a concern

Chemical Spill/Disposal Sites

- Many sites becoming orphaned (no financially-viable responsible party available) through bankruptcy of discharger
- Have not made a determination at all sites, but 44 sites cataloged known to not have responsible parties available

Inactive Hazardous Sites Cleanup Fund

Funds depleted

Last of funds used recently to cleanup:

- Pesticide contamination at a church
- Lead contamination at residential property due to a former battery dump
- Lead contamination at another battery dump on agricultural property where 2 years of crops had to be blocked from the market due to lead content

Orphan Site Cleanup Needs

- Texfi – Fayetteville (threatened city water supply)
- Battery dumps in residential areas
- Uncontrolled development including residential on old landfills
- Groundwater contamination near or in private wells

No continuing revenue source

Statewide Waste Disposal Tax
HB 1769 – Session 2005

- Surcharge on waste coming into landfills including waste from out of state
- Up to 80% of the funds generated would go to address old unlined landfills and orphaned chemical spill sites
- Proceeds could provide a means to characterize and control the hazards posed by old unlined landfills and convert them to a safe reuse
- May provide a means of converting many old unlined landfills into green space

EXHIBIT N

NCDENR

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

January 23, 2006

To: Sen. Charles Albertson, co-chair
Sen. Daniel Clodfelter, co-chair
Rep. Pryor Gibson, co-chair

From: Secretary Bill Ross

Attached is the Dept. of Environment and Natural Resources' annual report to the Environmental Review Commission on the inactive hazardous sites program required by G.S. 130A-310.10. If you have any questions about this report, please contact Charlotte Jesneck at 919-508-8460.

1601 Mail Service Center, Raleigh, North Carolina 27699-1601
Phone: 919-733-4984 • FAX: 919-715-3060 • Internet: www.enr.state.nc.us

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Report to the North Carolina General Assembly
On the
Inactive Hazardous Sites Program



October 2005

Superfund Section
Division of Waste Management
North Carolina Department of Environment and Natural Resources

http://www.wastenotnc.org

EXECUTIVE SUMMARY

The Inactive Hazardous Sites Program was created by the North Carolina General Assembly to identify, control and correct properties contaminated with hazardous substances.

To date, 1,882 chemical spill or disposal sites and old, unlined dumps or landfills have been catalogued. Of this number, 1,456 still require work to address their hazards. The old, unlined landfills make up about one half of the sites still requiring action. In most cases, the locations of the landfills are still being determined. The Inactive Hazardous Sites Branch has received federal funding for one full-time equivalent position to locate these landfills, collect information on property use, determine the potential for exposure and work with owners for safe final solutions. The Branch previously had a contractor conducting some of this work. The contract funds were depleted in 2003. Under this former contract, location and use determinations were completed at about one-third of the cataloged sites. The new federal funding is insufficient to conduct this work very rapidly due to the number of sites. However, state funds from hurricane relief efforts have been appropriated to continue this work in eligible counties. A contract is being initiated to continue the work. The federally-funded staff will supervise the contract work and will conduct the work directly in the counties not eligible for state-funded contract work.

Of the old dumps inspected thus far, 72 percent have a residence, school, church, day care or drinking water source on or within 1,000 feet of the landfill. Based on observations at sites investigated by the USEPA and the North Carolina Division of Waste Management, most of North Carolina's unlined landfills can be expected to have groundwater contamination.

Currently no funds remain in the Inactive Hazardous Sites Cleanup Fund to assess and remediate old unlined landfills and other orphan inactive hazardous substance or waste disposal sites. Legislation was introduced in the 2005 session (HB 1769) to initiate a solid waste tipping fee, of which up to 80% of the funds generated would address these sites. Without a source of revenue, these sites will remain a threat.

To increase the program's effectiveness, the General Assembly authorized the use of private environmental consulting firms to oversee voluntary cleanup actions. Registered Environmental Consultants (RECs) are providing supervision for cleanup work on 33 sites. State staff audit a portion of the REC's work activities. At present, 70 firms have received REC status. In addition, oversight of remedial actions at two sites is being provided by federally-funded staff and oversight of work at 35 former manufactured gas plant sites is being provided through an agreement with a consortium of utilities and municipalities that funds two staff members.

The following summarizes site cleanup activities over this past reporting year.

Sites Identified	
Chemical spill or disposal sites	1,124
Old unlined dumps and landfills	758
Total Number Sites Identified	**1,882**

Sites With All Work Complete Since last status report in 10/04	5
Total Number Sites Requiring No Further Action	**426**
Ongoing Cleanup Actions	
Ongoing REC-Supervised Site Cleanup Actions	33
Ongoing Priority Cleanup Actions Supervised by State Staff	84
Total	**117**

The Inactive Hazardous Sites Response Act requires annual reporting to the General Assembly. All of the reporting requirements specified under N.C.G.S. 130A-310.10 are met in this report.

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I. THE INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST

The Inactive Hazardous Sites Branch is part of the North Carolina Department of Environment and Natural Resources' Division of Waste Management. It implements the Inactive Hazardous Sites Response Act of 1987. This act requires DENR to maintain a catalog of inactive hazardous substance or waste disposal sites. Table 1, on the following page, provides a list of sites added to that inventory since the last program report in October 2004. Table 2, on page 3, provides a list of sites assigned "No Further Action" status. The entire inventory can be found in Appendix II. Figure 1, on page 4, shows how the inventory is distributed by category. Appendix I provides a description of each inventory category.

N.C.G.S. 130A-310.2 requires that sites catalogued in the Inactive Hazardous Sites Inventory be prioritized based on their threat to public health and the environment. After discovery, sites are first cataloged in the "Evaluations Pending" category of the Inactive Hazardous Sites Inventory until their rank is determined. Site rankings are determined using the rules found in 15A NCAC 13C .0200. Once ranked, sites are transferred to the Inactive Hazardous Waste Sites Priority List. This list is provided in Table 3, found on page 5.

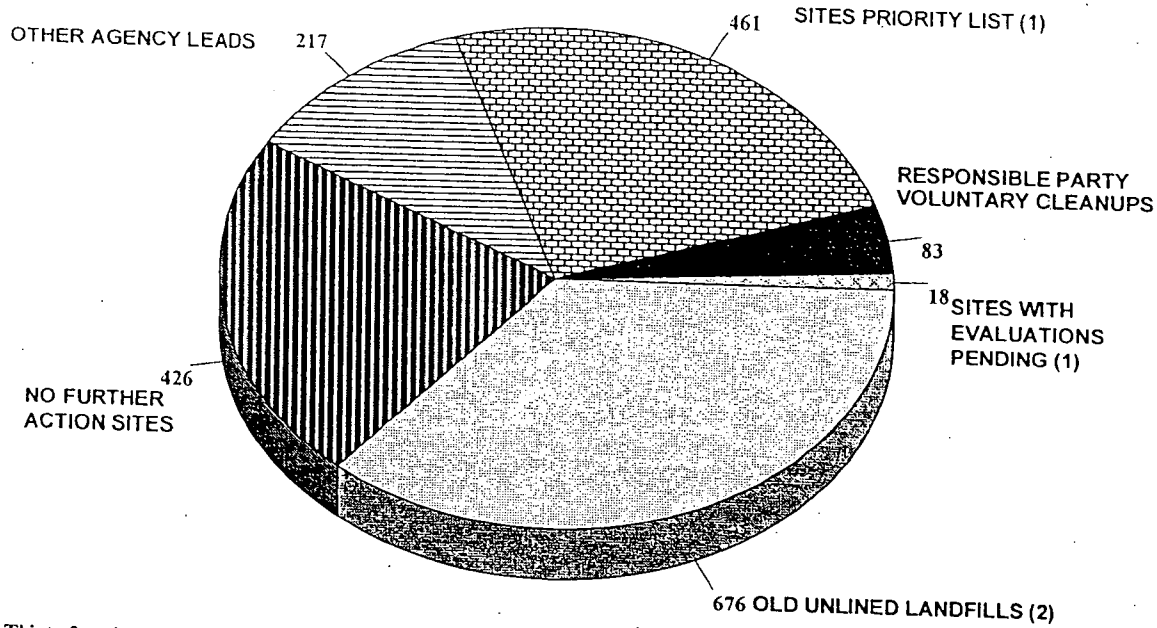
TABLE 1. INACTIVE HAZARDOUS SITES INVENTORY
LIST OF NEW SITES ADDED
OCTOBER 2004 - OCTOBER 2005

ID Number	*Site Name*	*City*	*County*
NCN000407672	BEACON MANUFACTURING	SWANNANOA	BUNCOMBE
NONCD0001122	CABARRUS ROUNDABOUT	CONCORD	CABARRUS
NCD982098774	CAL-TONE PAINTS	RALEIGH	WAKE
NCN000407830	CLOROX CHEMICAL	CHARLOTTE	CONCORD
NONCD0001114	CONOVER METAL PRODUCTS	CONOVER	CATAWBA
NONCD0001120	EATON AEROQUIP, INC (FORMER)	NORWOOD	STANLY
NONCD0001119	EDWARDS PROPERTY FOUNDRY SAND	CHARLOTTE	MECKLENBURG
NONCD0001115	HAHN DAIRY FARM	MOUNT PLEASANT	CABARRUS
NONCD0001117	HILLSIDE SHOPPING CENTER	ASHEBORO	RANDOLPH
NCN000409780	INDUSTRIAL METAL ALLOY	WINSTON-SALEM	FORSYTH
NCD081332900	INX (FORMER) FACILITY	CHARLOTTE	MECKLENBURG
NONCD0001112	OLD JOHN'S RIVER ROAD DUMP	BLOWING ROCK	WATAUGA
NCN000407491	P&B DISTRIBUTION CHEMICAL FIRE	WINSTON-SALEM	FORSYTH
NONCD0001121	R & R PLATING	WHITEVILLE	COLUMBUS
NONCD0001125	RALEIGH TTA-DILLON PARCEL A	RALEIGH	WAKE
NONCD0001126	RALEIGH TTA-DILLON PARCEL B	RALEIGH	WAKE
NONCD0001127	RALEIGH TTA-DILLON PARCEL C	RALEIGH	WAKE
NONCD0001123	RALEIGH TTA-SE PARCEL	RALEIGH	WAKE
NONCC0001124	RALEIGH TTA-WILSON PARCEL	RALEIGH	WAKE
NONCD0001116	REPUBLIC SERVICES OF NC	ROUGEMONT	PERSON
NCN000409783	ROBERTS WHITIN PLANT #2	SANFORD	LEE
NONCD0001113	SOUTHERN STATES (FORMER)	GREENVILLE	PITT
NCN000409779	WAYNE AGRICULTURAL WORKS	GOLDSBORO	WAYNE

TABLE 2. INACTIVE HAZARDOUS SITES INVENTORY
SITES RECEIVING NO FURTHER ACTION STATUS
OCTOBER 2004 - OCTOBER 2005

ID Number	*Site Name*	*City*	*County*
NONCD0001035	DUKE ENERGY-WINSTON-SALEM POWER	WINSTON-SALEM	FORSYTH
NCD980558761	GS LABORATORY EQUIPMENT	ASHEVILLE	BUNCOMBE
NCD986232163	JSC GRAPHIC ARTS	WINSTON-SALEM	FORSYTH
NCN000407301	LOFLIN GOLD MINE	TRINITY	RANDOLPH
NCD003216959	UNION CAMP CORPORATION	JAMESTOWN	GUILFORD

FIGURE 1. INACTIVE HAZARDOUS SITES
OCTOBER 2005 INVENTORY CATEGORICAL DISTRIBUTION
(1,882 Sites)



(1) Thirty foursites in either the "evaluations pending" or "sites priority list" categories are also undergoing assessment and/or cleanup with program supervision (but not under an agreement).

(2) Inventory has 758 landfills. Of that number, 82 were already included in the inventory before the addition of the larger catalog of old, unlined landfills. As a result, they fall into other categories.

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Nu	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NONCD0000022	WATTS REGULATOR-DAVIS PROPERTY	OLD BALL PARK ROAD	SPINDALE	RUTHERFORD	59.73	soil groundwater soil	metals metals organics
NCD003184710	CAROLINA CREOSOTING CORPORATION	EASTBROOK ROAD	LELAND	BRUNSWICK	57.17	groundwater soil	organics organics
NCD062552153	SAYLES-BILTMORE BLEACHERIES	SWANNANOA RD	ASHEVILLE	BUNCOMBE	57.04	groundwater	organics
NONCD0001100	SIMPSON WELL CONTAMINATION	8 EASTWOOD DRIVE	BELMONT	GASTON	56.35	groundwater	organics
NCD981864614	ULAH BATTERY/BATTERY PILES	SR 1219	ASHEBORO	RANDOLPH	55.64	soil soil	metals acids
NONCD0001056	LITTLE MOUNTAIN LANDFILL	(SR 1522) LITTLE MNT RD	TRYON	POLK	53.17	groundwater groundwater	organics metals
NCD003229358	SCM PROCTOR-SILEX/WEAREVER	HAY ST	MOUNT AIRY	SURRY	53.02	surface water sediment sediment groundwater soil	metals organics metals metals metals
NCN000407584	SOUTHERN METALS RECYCLING, INC	1002 SOUTH FRONT STREET	WILMINGTON	NEW HANOVER	52.56	groundwater soil	metals metals
NCD980729677	KNOB CREEK FLYASH DISPOSAL	SR 1540	BREVARD	TRANSYLVANIA	52.53	soil	metals
NCD986166692	HARWELL ROAD SEPTIC PIT	HARWELL ROAD	GASTONIA	GASTON	52.37	groundwater	organics

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Number	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NCD003167780	SPRAGUE ELECTRIC COMPANY	HWY 194	LANSING	ASHE	52.33	groundwater soil groundwater	metals metals organics
NCD088563242	MONSANTO COMPANY/ROHM & HAAS	CEDAR CREEK RD	FAYETTEVILLE	CUMBERLAND	51.78	sediment groundwater	metals organics
NCN000407333	TRIAD USED AUTO SALES	1520 ALAMANCE CHURCH RD	GREENSBORO	GUILFORD	51.53	groundwater soil soil groundwater	organics organics metals metals
NCD980558035	HOMINY CREEK LANDFILL	RHODODENDRON PK	ASHEVILLE	BUNCOMBE	51.23	known/suspected	
NONCD0001025	TOOMEY PROPERTY	1020 HICKORY GROVE ROAD	SPRINGWOOD	GASTON	51.23	groundwater soil	organics organics
NCD982117590	CUSTOM PROCESSING AND MANUF.	1110 SURRETT DRIVE	HIGH POINT	GUILFORD	51.04	soil groundwater groundwater	organics organics metals
NONCD0000016	CMC LANDFILL	EAST MAIN STREET	ELKIN	SURRY	51.02	groundwater soil	organics organics
NCD986178226	TEXFI INDUSTRIES, INC	601 HOFFER DRIVE	FAYETTEVILLE	CUMBERLAND	50.55	groundwater soil	organics organics
NCD093338119	SCM CORP. GLIDDEN COATINGS & RESINS	3926 GLENWOOD DRIVE	CHARLOTTE	MECKLENBURG	50.29	groundwater	organics
NCD986172518	OLD MOUNT HOLLY ROAD PCE SITE	OLD MT HOLLY RD & FREEDOM DR	CHARLOTTE	MECKLENBURG	50.26	groundwater	organics

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Nu	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NCD980839716	RIVERDALE HOMES/EARL GETTS	404 RIVERDALE DRIVE	DURHAM	DURHAM	50.10	groundwater	pesticides
NCN000407480	HORTON IRON & METAL	2216 US HWY 421 N	WILMINGTON	NEW HANOVER	49.83	surface water sediment surface water groundwater sediment soil groundwater	metals metals pesticides metals pesticides metals pesticides
NCD981750425	BUXTON DUMP	.5 MILES WEST OF BACK RD	BUXTON	DARE	49.81	groundwater soil	organics organics
NCD980558027	POND ROAD LANDFILL 2	POND ROAD	ASHEVILLE	BUNCOMBE	49.79	known/suspected	
NCD003231545	SHERWOOD TREATING CO., INC.	1660 SILAS CREEK PKWAY	WINSTON-SALEM	FORSYTH	49.78	soil groundwater	metals metals
NCD003220969	WHITE FURNITURE CO.	201 EAST CORNER ST	MEBANE	ALAMANCE	49.76	groundwater soil soil	metals metals organics
NONCD0000679	STURGEON CITY PROPERTY	4 COURT STREET	JACKSONVILLE	ONSLOW	49.67	sediment groundwater	metals organics
NCD980558761	GS LABORATORY EQUIPMENT	275 AIKEN RD	ASHEVILLE	BUNCOMBE	49.57	soil groundwater surface water sediment sediment	metals organics organics metals organics

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Number	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NCD000813592	GA-PACIFIC CORP/HDWD SAW	PLYWOOD DR	PLYMOUTH	WASHINGTON	49.53		
						groundwater	metals
						soil	metals
						sediment	organics
						soil	pesticides
						soil	organics
						sediment	metals
						groundwater	organics
						groundwater	pesticides
NCD003221462	GARDNER MIRROR CORPORATION	HWY 268 E	NORTH WILKESBORO	WILKES	49.45		
NCD980502991	JACKSONVILLE LANDFILLS	(SEVERAL LOCATIONS)	JACKSONVILLE	ONSLOW	49.36	known/suspected	
NC0001279710	WOODY WILSON BATTERY/ASHLEY HTS	HWY 211	ASHLEY HEIGHTS	HOKE	49.02	groundwater	organics
						groundwater	metals
NCD986171379	NEW HAVEN DRIVE TCE	NEW HAVEN DRIVE	GASTONIA	GASTON	48.98	soil	organics
						soil	metals
NCD980557987	SWANNANOA LANDFILL	HWY 70 E	SWANNANOA	BUNCOMBE	48.93	groundwater	organics
NCD000770487	JOHNSON CONTROLS GLOBE BATTERY	OLD GREENSBORO ROAD	WINSTON-SALEM	FORSYTH	48.85	soil	organics
						groundwater	organics
NCSFN0407074	NC MARITIME MUSEUM	310 FRONT ST	BEAUFORT	CARTERET	48.84	soil	organics
						surface water	metals
						sediment	metals
NCD986175636	ASHE PATTERN SHOP (FORMER)	4411 BEATY ROAD	GASTONIA	GASTON	48.82	sediment	organics
						sediment	metals
						sediment	pesticides
						groundwater	organics

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Nu	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NCD980729412	CAROLINA TANK CLEANING COMPANY	HWY 68-4 MI N OF I-40	GREENSBORO	GUILFORD	48.53		
						soil	organics
						soil	metals
NONCD0000085	JONES & PRESNELL STUDIO	433 LAWTON ROAD	CHARLOTTE	MECKLENBURG	48.48		
						groundwater	organics
NCD986175628	LEE'S MOTOR WORKS	BEATY ROAD	GASTONIA	GASTON	48.48		
						soil	organics
						surface water	organics
						groundwater	organics
NCD000623223	MARTIN MANUFACTURING PROPERTIES	E MAIN ST US 17	WILLIAMSTON	MARTIN	48.40		
						groundwater	organics
						groundwater	metals
NCD986186518	OLD ATC REFINERY	801 SURRY STREET	WILMINGTON	NEW HANOVER	48.40		
						groundwater	metals
						soil	organics
						soil	metals
						sediment	metals
NCD042269134	SOUTHERN SCREW/FARLEY METALS	1225 BARKLEY RD	STATESVILLE	IREDELL	48.40		
						groundwater	metals
						groundwater	cyanide
						groundwater	organics
						soil	bases
						soil	metals
NCD981474158	SWEETEN CREEK DRUM SITE	115 SWEETEN CREEK ROAD	ASHEVILLE	BUNCOMBE	48.40		
						soil	metals
NCD041230418	AMP INCORPORATED	3900 REIDSVILLE ROAD	WINSTON-SALEM	FORSYTH	48.35		
						sediment	cyanide
						soil	organics
						surface water	metals
						sediment	metals
						soil	cyanide
						soil	metals

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Number	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NCD003216959	UNION CAMP CORPORATION	RAGSDALE RD	JAMESTOWN	GUILFORD	48.27	groundwater sediment surface water	organics metals organics
NCD986188027	CHAMPION LANDFILL #3	SR 1550 I40	CANTON	HAYWOOD	48.25	soil	metals
NCD980600449	SED, INC. RADAR ROAD	500 RADAR ROAD	GREENSBORO	GUILFORD	48.18	soil	organics
NCD003163888	HENREDON FURNITURE	HENREDON RD	MORGANTON	BURKE	48.17	groundwater soil	organics organics
NCD041414780	FIELDCREST MILLS INC./NC FINISHING	US 29/70 N	SPENCER	ROWAN	48.07	groundwater groundwater soil soil	metals organics organics metals
NCD980558019	ELK MOUNTAIN LANDFILL	ELK MOUNTAIN ROAD	ASHEVILLE	BUNCOMBE	47.96	soil soil soil	organics metals pesticides
NCD024477556	WINSTON CONTAINER COMPANY	4732 MORRIS FIELD RD	CHARLOTTE	MECKLENBURG	47.89	soil	organics
NONCD0001094	ALLISON MANUFACTURING CO	930 OLD CHARLOTTE ROAD	ALBEMARLE	STANLY	47.87	groundwater soil	organics organics
NCD008839276	MONEY-WORTH, INC.	US 70 E	SWANNANOA	BUNCOMBE	47.87	known/suspected	
NONCD0000023	CAROLINA P&L CO. FAYETTEVILLE	CUMBERLAND RD & OWEN DR	FAYETTEVILLE	CUMBERLAND	47.78	surface water groundwater soil	organics organics organics

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID N	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NONCD0001081	ALCOA-NARROWS POWERHOUSE	PINE STREET	BADIN	MONTGOMERY	47.77	soil soil	metals organics
NCD980848840	SCOTT'S CREEK BATTERY SITE	402 HOWELL ROAD	NEW BERN	CRAVEN	47.75	soil	metals
NCD980557870	CALDWELL COUNTY ABANDONED WASTE	NC HWY 90	LENOIR	CALDWELL	47.69	groundwater groundwater	metals organics
NCD990883001	MONARCH FURNITURE CORPORATION	300 SCIENTIFIC ST	JAMESTOWN	GUILFORD	47.40	soil groundwater	metals metals
NCD986180917	SPANN PROPERTY	US HIGHWAY 25	HENDERSONVILLE	HENDERSON	47.26	known/suspected	
NONCD0001029	R & D LAMINATORS INC	HOLLOMAN ROAD (SR 1187)	AHOSKIE	HERTFORD	47.21	groundwater	organics
NCD024895864	STEWART-WARNER CORP/BASSICK-SACK	2941 INDIANA AVE	WINSTON-SALEM	FORSYTH	47.19	soil	organics
NCD980557557	ASHEBORO LANDFILL	OFF OF OLD US 64	ASHEBORO	RANDOLPH	47.10	soil	metals
NCD986176030	RHODERIA DRIVE WELLS	LAKEWOOD & RHODERA DRIVE	STALLINGS	UNION	46.98	soil groundwater	metals organics
NCD044444735	CROMPTON & KNOWLES CORP.	SPENCER MT RD	LOWELL	GASTON	46.97	soil soil	metals organics
NCD986231967	TOM SADLER ROAD WELLS	TOM SADLER RD	CHARLOTTE	MECKLENBURG	46.92	soil groundwater groundwater	metals organics metals
NCD003183571	WINTERVILLE MACHINE WORKS, INC.	209 S MILL ST	WINTERVILLE	PITT	46.90	soil	metals

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Number	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NCN000407188	US 1-15/501 ABERDEEN	US 1 - US 15/501	ABERDEEN	MOORE	46.88		
						soil	metals
						groundwater	organics
NONCD0000081	TRITON, INC	1610 SOUTH WARD BLVD	WILSON	WILSON	46.84		
						groundwater	metals
						groundwater	organics
NCD000830653	CAROLINA P&L CO. ROXBORO STEAM	SR 1377	ROXBORO	PERSON	46.79		
						known/suspected	
NONCD0001001	CLOSED CITY OF HENDERSON LDFL	NC 39 & ST. ANDREWS CHURCH RD	HENDERSON	VANCE	46.74		
						groundwater	metals
						groundwater	organics
NCD003233673	HOOVER REPAIR SHOP	461 N SOUTH STREET SR1669	MT AIRY	SURRY	46.69		
						soil	metals
						groundwater	cyanide
						soil	cyanide
						groundwater	metals
NCD980518211	IRT/IBM CORPORATION	4101 S I-85	CHARLOTTE	MECKLENBURG	46.67		
						groundwater	metals
NCD072012354	SINGER CO/FURNITURE DIV WASHINGTON	STATE ROAD 1175	CHOCOWINITY	BEAUFORT	46.57		
						groundwater	metals
						groundwater	organics
						groundwater	pesticides
						soil	organics
						sediment	organics
NCD041519364	TEXASGULF CHEMICALS COMPANY	HWY 306 NORTH	AURORA	BEAUFORT	46.56		
						sediment	metals
						groundwater	organics
						groundwater	pesticides
						soil	organics
						soil	pesticides
						surface water	metals
						sediment	organics

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Nu	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NCD003184249	UNION CARBIDE CORP/EVEREADY	264 BYPASS-EVANS ST EXTN	GREENVILLE	PITT	46.52	groundwater groundwater	metals organics
NC5210022906	USA RESERVE XVIII AIRBORNE CORPS	405 FISHER ST	MOREHEAD CITY	CARTERET	46.51	known/suspected	
NONCD0001049	LEXINGTON FURNITURE IND. PLNT #7	178 LFI COMPLEX LANE	LEXINGTON	DAVIDSON	46.43	groundwater groundwater	organics metals
NCD980844336	UNION CARBIDE BATTERY	5400 HOVIS ROAD	CHARLOTTE	MECKLENBURG	46.30	surface water soil	organics metals
NCSFN0406906	OLD STAKE ROAD	OLD STAKE ROAD	CHADBOURNE	COLUMBUS	46.17	soil groundwater	metals metals
NCD003149663	RADIATOR SPECIALTY COMPANY	1900 WILKINSON BLVD	CHARLOTTE	MECKLENBURG	46.16	sediment groundwater sediment soil soil	metals organics organics organics metals
NCD049772023	H & S PROCESSORS, INC.	NC HIGHWAY 150 WEST	LINCOLNTON	LINCOLN	46.11	groundwater	organics
NCD003216462	UNION CARBIDE CORP/EVEREADY	800 ALBEMARLE RD	ASHEBORO	RANDOLPH	45.97	groundwater soil	organics organics
NCD003467099	CONE MILLS CORP/GRANITE FINISHING	OLD HWY 70	HAW RIVER	ALAMANCE	45.72	groundwater soil	organics metals
NCD003213030	DOUGLAS BATTERY MANUFACTURING CO.	500 BATTERY DR	WINSTON-SALEM	FORSYTH	45.69	groundwater	metals
NCD144192606	PARKER-ZENITH	TAYLOR STREET	ABERDEEN	MOORE	45.67	groundwater	organics

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Number	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NONCD0001074	OLD FORD BLDG	FIFTH ST	TABOR CITY	COLUMBUS	45.62		
						soil	organics
						soil	metals
NCD981015746	CAROLINA ALUMINUM/HERBERT TAYLOR	SR 1125	ROPER	WASHINGTON	45.33	groundwater	metals
NCD003167988	MARANTZ PIANO CO INC/ANEVKA, INC	HWY 64/70 E	MORGANTON	BURKE	45.30	soil	organics
						soil	metals
						groundwater	organics
NCD024600579	SUPERIOR PRODUCTS COMPANY	HWY 70A	GREENSBORO	GUILFORD	45.25	groundwater	metals
						soil	organics
NCD981473150	CHERRY MT STREET DRUM	602 CHERRY MOUNTAIN	FOREST CITY	RUTHERFORD	45.07	soil	metals
NONCD0001022	GIBBS ELECTROPLATING - OLD LOCATION	2229 N DAVIDSON	CHARLOTTE	MECKLENBURG	45.07	soil	metals
						groundwater	organics
						soil	organics
NCD980728745	OSHIELDS FLY ASH	SR 1510	BREVARD	TRANSYLVANIA	44.80	soil	metals
						groundwater	metals
NCD000813600	GA-PACIFIC CORP CHIP-N-SAW	HIGHWAY 74 WEST	WHITEVILLE	COLUMBUS	44.79	known/suspected	
NCD066327313	FINETEX, INC.	I85 HACKETT ST EXIT	SPENCER	ROWAN	44.77	known/suspected	
						soil	organics
NONCD0001011	JUNG CORPORATION	718 INDUSTRIAL PARK AVE	ASHEBORO	RANDOLPH	44.77	groundwater	organics
						groundwater	organics
NCD986228054	KANNAPOLIS PCE SPILL	ENOCHVILLE ROAD	KANNAPOLIS	CABARRUS	44.71	groundwater	organics

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Nu	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NCD980502983	HOPE MILLS LANDFILL	SR 1003/WIRE ROAD	HOPE MILLS	CUMBERLAND	44.50	groundwater	metals
NCD981468622	FORK SWAMP/GRADY WHITE BOAT	SR 1725	AYDEN	PITT	44.49	soil	organics
NCD093334969	S & S METALS RECYCLING COMPANY	SHORTCUT ROAD/SR 2455	GOLD HILL	CABARRUS	44.49	surface water soil	metals metals
NONCD0000060	WATTS REGULATOR-GENERAL AIDES SITE	WITHROW ROAD	FOREST CITY	RUTHERFORD	44.49	soil	metals
NONCD0001079	LES MYERS PARK	LAWNDALE AVENUE EXT.	CONCORD	CABARRUS	44.42	soil	metals
NCD981928088	TEXFI INDUSTRIES, INC/NEW BERN	SR 1317/BOSCH STREET	NEW BERN	CRAVEN	44.30	groundwater	organics
NC0000195743	JIMMY GREEN METALS	BARN HILL CHURCH ROAD	NASHVILLE	NASH	44.29	soil	metals
NCD042891663	MITCHELL ENGR CO/CECO BLDG. DIV.	BYPASS 301	ROCKY MOUNT	NASH	44.27	groundwater soil	organics metals
NCD084167444	STANADYNE, INC/DIESEL SYSTEMS	405 WHITE ST	JACKSONVILLE	ONSLOW	44.22	soil soil	organics metals
NONCD0001034	GEORGE STREET PESTICIDE	SOUTH GEORGE STREET	GOLDSBORO	WAYNE	44.16	groundwater soil	pesticides pesticides
NONCD0000038	AYCOCK PROPERTY	SR 1162 & 1103	WILSON	WILSON	43.92	groundwater	organics
NCN000407206	SHULIMSON BROTHERS SCRAP YARD	MEADOW ROAD	ASHEVILLE	BUNCOMBE	43.79	groundwater soil groundwater	metals metals organics

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ID Number	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NCD003164464	UNIROYAL INC/UNIROYAL CHEMICAL	214 W RUBY AVE	GASTONIA	GASTON	43.79	soil	organics
NCD003149556	CTS OF ASHEVILLE, INC.	MILLS GAP RD	SKYLAND	BUNCOMBE	43.44	soil surface water surface water soil	organics metals organics metals
NCN000407447	ABERDEEN CONTAMINATED GROUNDWTR	SR 211	ABERDEEN	MOORE	43.39	groundwater	organics
NCD053487765	STRATFORD METAL FINISHINGS, INC.	807 S MARSHALL ST	WINSTON-SALEM	FORSYTH	43.38	soil	metals
NONCD0000043	GREAT LAKES CARBON CORPORATION	307 JAMESTOWN ROAD	MORGANTON	BURKE	43.36	groundwater groundwater	organics metals
NCD082363102	HELENA CHEMICAL COMPANY	HARRY MALLEY RD	LAURINBURG	SCOTLAND	43.32	soil groundwater	metals pesticides
NCD060306727	RICHARDS WC COMPANY, INC.	101 EAST MAPLE STREET	ABERDEEN	MOORE	43.31	soil soil	organics metals
NCD986211274	STONEY FORK CREEK DRUM DUMP SITE	MT. ZION ROAD	DEEP GAP	WILKES	43.31	known/suspected	
NCD980557946	FAIRVIEW LANDFILL	FAIRVIEW ROAD	FAIRVIEW	BUNCOMBE	43.19	known/suspected	
NONCD0001095	MOSES CONE MEMORIAL PARK	BLUE RIDGE PKWY	BLOWING ROCK	WATAUGA	43.19	soil	metals
NCD981022072	BETTIS PROPERTY	1/2 MI. E OF BETTIS RD &	EARL	CLEVELAND	43.16	known/suspected	
NCD980557805	KERR MCGEE CORPORATION	NAVASSA RD	NAVASSA	BRUNSWICK	43.11	soil	organics

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Nu	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NCD986197374	OLD RANDLEMAN TOWN DUMP	WALKER MILL ROAD /SR 1961	RANDLEMAN	RANDOLPH	43.05		
						soil	organics
						groundwater	metals
NCSFN0406953	G&B/FARMER PROPERTY	DOUG HILL FARM RD (SR 1100)	SCOTLAND NECK	HALIFAX	43.04		
						soil	organics
						soil	metals
NONCD0000027	MEADOWVIEW ROAD	MEADOWVIEW ROAD	GREENSBORO	GUILFORD	43.04		
						groundwater	organics
NCD986172617	FORBES ROAD WELLS	501 FORBES ROAD	GASTONIA	GASTON	43.02		
						groundwater	organics
						surface water	organics
NCD048401087	HOOKER FURNITURE	1212 THROWER ROAD	PLEASANT GARDEN	GUILFORD	43.00		
						soil	organics
						groundwater	organics
						groundwater	metals
NONCD0001102	ENQUIRER JOURNAL	500 W JEFFERSON ST	MONROE	UNION	42.99		
						groundwater	organics
NCD003230836	DUKE REFINING CORPORATION	2020 JARRELL STREET	HIGH POINT	GUILFORD	42.87		
						groundwater	organics
						soil	organics
						sediment	organics
NONCD0000025	RANGE ROAD BURN SITE	RANGE ROAD	BUTNER	GRANVILLE	42.80		
						soil	organics
						soil	metals
NONCD0001090	OLD MILL BLDG	301 FOURTH AVE EAST	HENDERSONVILLE	HENDERSON	42.75		
						groundwater	organics
NCN000407197	LEARY BROTHERS STORAGE (FORMER)	VIRGINIA & BROAD STREET	EDENTON	CHOWAN	42.74		
						groundwater	organics
						soil	organics
						soil	metals
						groundwater	metals

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Number	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NONCD0001016	ROYSTER-CLARK FERTILIZER PLANT	SR 1321	OAK CITY	MARTIN	42.74	soil groundwater groundwater	organics pesticides inorganics
NCD000615872	AMP INCORPORATED	1260 SHANNON-BRADLEY RD	GASTONIA	GASTON	42.72	groundwater soil soil	metals metals organics
NONCD0001105	WETSIG YACHTS	4022 MARKET STREET	WILMINGTON	NEW HANOVER	42.60	soil groundwater	metals metals
NCD130708126	CONSOLIDATED WAREHOUSE	8300 MOORES CHAPEL RD	CHARLOTTE	MECKLENBURG	42.58	surface water soil groundwater	organics organics organics
NCD003198967	GENERAL ELECTRIC CO/CAROLINA	900 N GEORGE ST	GOLDSBORO	WAYNE	42.53	groundwater	metals
NCD045924339	ACME UNITED CORPORATION	HWY 117	FREMONT	WAYNE	42.36	groundwater	metals
NCSFN0407140	CARDINAL CONTAINER SERVICES	138 WALSER ROAD	LEXINGTON	DAVIDSON	42.30	groundwater groundwater	organics metals
NCD000830612	CAROLINA P&L CO. MAYO STEAM	HWY 501	ROXBORO	PERSON	42.13	soil	metals
NC0002374445	GASTONIA INDUSTRIAL TRUCK	HEMPHILL ROAD	GASTONIA	GASTON	42.08	groundwater	organics
NCD043711977	CHEMICAL LEAMAN TANK LINES, INC.	6600 WEST MARKET STREET	GREENSBORO	GUILFORD	42.05	groundwater	organics
NONCD0001072	J & C DYEING	1000 WEST GROVER STREET	SHELBY	CLEVELAND	41.98	groundwater soil groundwater	metals metals organics

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Nu	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NCD002571438	ABC ENGRAVERS	724 NORTH I-85	CHARLOTTE	MECKLENBURG	41.91	groundwater groundwater soil	organics metals metals
NCD980557698	GREENVILLE CITY LANDFILL	FIFTH STREET & CEMETERY RD	GREENVILLE	PITT	41.86	soil	metals
NCD981932023	TARBORO-EDGECOMBE AIRPORT	HWY 44	TARBORO	EDGECOMBE	41.81	soil	organics
NCD003155587	SCOTT AVIATION OF MONROE/TOOL SERV	309 W. CROWELL ST	MONROE	UNION	41.73	soil groundwater	metals organics
NCD981031578	RAINBOW DRIVE BATTERY	SR 1646	KANNAPOLIS	CABARRUS	41.66	soil	metals
NCD991278730	SQUIBB E R & SONS	FLOWERS RD	KENLY	JOHNSTON	41.61	groundwater	organics
NCD986166734	OLD BEAUFORT CO. LANDFILL	FLANDERS FILTERS ROAD	WASHINGTON	BEAUFORT	41.57	groundwater	metals
NCD000830620	CAROLINA P&L CO: WEATHERSPOON STM	74 EAST	LUMBERTON	ROBESON	41.55	known/suspected	
NONCD0000073	H. M. WADE FURNITURE	SOUTH GRAHAM STREET	CHARLOTTE	MECKLENBURG	41.50	groundwater	organics
NCD002972966	REA MAGNET WIRE COMPANY	OLD LAUREL HILL CHURCH RD	LAURINBURG	SCOTLAND	41.49	surface water soil	organics organics
NCD982124646	GREGSON FUNITURE INDUSTRIES	206 E FRAIZER AVENUE	LIBERTY	RANDOLPH	41.48	soil soil surface water groundwater	organics metals metals metals
NCD003195161	CORNING GLASS WORKS	3900 ELECTRONICS DRIVE	RALEIGH	WAKE	41.47	known/suspected	

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Number	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NC0002178580	VC CHEMICAL-ALMONT WORKS	US 421 NORTH	WILMINGTON	NEW HANOVER	41.47	soil	metals
NCD980557854	FMC/NIAGARA PESTICIDES	OLD ST HWY 11 NORTH	AYDEN	PITT	41.44	soil soil	pesticides organics
NCD055165609	PANTASOTE INC. FILM/COMPOUND DIV.	1508 S CENTER ST	HICKORY	CATAWBA	41.38	groundwater soil groundwater	metals metals organics
NCD980557771	CHARLOTTE CITY DUMP	HWY 49 - YORK ROAD	CHARLOTTE	MECKLENBURG	41.34	groundwater	metals
NCD991278755	MARTIN'S BATTERY SALVAGE, INC.	ASHLAND RD	KANNAPOLIS	CABARRUS	41.22	soil	metals
NONCD0000047	MEADS AIRFIELD PESTICIDES	SR 1100	WEEKSVILLE	PASQUOTANK	41.22	soil	pesticides
NCN000407241	CHADBOURN BATTERY	US 76/74 & NC 410	CHADBOURN	COLUMBUS	41.21	soil	metals
NCD986171445	BENFIELD CHEMICALS	OLD CANTON CLYDE HWY	CANTON	HAYWOOD	41.20	soil soil soil	organics pesticides metals
NONCD0001099	C & L SURPLUS	1868 HWY 64 W	HAYESVILLE	CLAY	41.20	sediment	metals
NCD980848782	MADISON COUNTY CYANIDE SITE	RT 2/HWY 63	LEICESTER	MADISON	41.20	known/suspected	
NCD062664883	REINCO CHEMICAL COMPANY	EAST 11 ST	ROANOKE RAPIDS	HALIFAX	41.20	soil groundwater	organics organics
NCD024817827	HENREDON FURNITURE	ALTAPASS ROAD	SPRUCE PINE	MITCHELL	41.19	soil soil	metals organics

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Nu	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NCD981016280	DURHAM ANIMAL CLINIC	4306 ROXBORO ROAD	DURHAM	DURHAM	41.13	groundwater	organics
NCD054283189	HOQVER MACHINE SHOP	RATCHFORD ROAD	GASTONIA	GASTON	41.09	groundwater	organics
NCD001704980	WILMINGTON BRANCH/BORDEN/SMITH	NAVASSA ROAD	NAVASSA	BRUNSWICK	40.81	soil groundwater	organics organics
NCD062566047	FASCO CONTROLS CORPORATION	SR 1926	SHELBY	CLEVELAND	40.78	soil soil	metals organics
NONCD0001077	CATAWISSA LUMBER CO	301 LOCUST ST	WEST JEFFERSON	ASHE	40.72	groundwater	organics
NONCD0001040	DOMESTIC LAUNDRY/WASHBURN GRPHS	801 S MCDOWELL STREET	CHARLOTTE	MECKLENBURG	40.71	groundwater	organics
NCD075570820	PLYMOUTH WOOD TREATING COMPANY	N HWY 45	PLYMOUTH	WASHINGTON	40.68	groundwater	metals
NCD000605097	STATESVILLE ROAD LANDFILL	HWY 21 STATESVILLE ROAD	CHARLOTTE	MECKLENBURG	40.61	soil	metals
NCD982119463	DAYCO LANDFILL CRYME COVE ROAD	SR 1134	WAYNESVILLE	HAYWOOD	40.52	soil	organics
NCD981927908	KIDD LANE BATTERY DISPOSAL	3607 KIDD LANE	CHARLOTTE	MECKLENBURG	40.49	soil	metals
NCD024462327	ACADEMY STEEL DRUM	3213 RIDGE RD	MATTHEWS	MECKLENBURG	40.48	surface water soil soil surface water	metals organics metals organics
NC0000998344	HICKORY GROVE ROAD TCE	HICKORY GROVE ROAD	MCADENVILLE	GASTON	40.46	groundwater	organics
NCD003235066	NEW AGE FURNITURE CO/MILLER TOOL	PROSPECT STREET	LEXINGTON	DAVIDSON	40.42	known/suspected	

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Number	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NCD082362989	TUNGSTEN QUEEN MINE/ATLAS MINE	SR 1348	TOWNSVILLE	VANCE	40.34	soil	metals
NONCD0000031	INDEPENDENCE MALL OUTPARCEL	OLEANDER & FORDHAM RDS	WILMINGTON	NEW HANOVER	40.19	groundwater	organics
NONCD0001068	GENCORP PRINTWORLD INC	2011 ROCKY RIVER ROAD	MONROE	UNION	40.18	groundwater groundwater soil	organics metals metals
NCD980838379	ROWE CORP PROPERTY/BOULIGNY SITE	433 W MOREHEAD ST	CHARLOTTE	MECKLENBURG	40.18	groundwater soil	metals metals
NCD986172492	CRESTLINE CONTAMINATED WELLS	ROUTE 211	ABERDEEN	MOORE	40.12	groundwater groundwater	metals organics
NC0000183103	CHEMICAL CARTAGE COMPANY	141 OLD FAYETTEVILLE RD.	LELAND	BRUNSWICK	40.11	soil	organics
NCD093334894	BURLINGTON INDUSTRIES, INC.	PHOENIX STREET	STATESVILLE	IREDELL	40.03	groundwater soil	organics metals
NCD003158094	GLEN RAVEN MILLS	EAST MAIN STREET	BURNSVILLE	YANCEY	40.02	soil	metals
NCD986166379	PILOT MOUNTAIN TIRE FIRE	DAVENPORT ROAD	PILOT MOUNTAIN	SURRY	39.94	known/suspected	
NCSFN0406911	CAROLINA ASSOCIATED MILL	766 HWY 10 W	NEWTON	CATAWBA	39.88	soil	metals
NCN000407700	SPRINGS ROAD GO CART TRACK	4254 SPRINGS RD	CONOVER	CATAWBA	39.86	sediment surface water	organics organics
NONCD0000012	WHITE'S GRAVEL PIT	1515 HWY 49 SOUTH	CONCORD	CABARRUS	39.83	soil	metals

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ID Nu	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NCD986223170	MCBESS INDUSTRIES	OLD HWY 321	HIGH SHOALS	GASTON	39.75	sediment soil	metals organics
NCD980839757	INDIAN GRAVE GAP DRUM DISPOSAL	APPROX 2 MLS N OF SR 1513	LENOIR	CALDWELL	39.69	surface water	metals
NCD986172500	MCLEAN BROTHERS FARM	SR 1415	WAGRAM	SCOTLAND	39.67	soil soil	pesticides organics
NCD048958615	KELLY-SPRINGFIELD TIRE CO/GOODYEAR	NAVASSA RD	FAYETTEVILLE	CUMBERLAND	39.64	soil	organics
NCD986170694	POULOS GROUNDWATER CONTAMINATION	SOUTH BOULEVARD	CHARLOTTE	MECKLENBURG	39.63	groundwater	organics
NCD986188498	DURA-BUILT ENGINES CO	OFF HWY 55	COATS	HARNETT	39.57	sediment sediment	organics metals
NONCD0001041	MITCHELL & BECKER	1928 SOUTH BOULEVARD	CHARLOTTE	MECKLENBURG	39.56	groundwater groundwater soil	organics metals metals
NCD003466919	AXTON-CROSS COMPANY/VAN WATER	3001 HOLTS CHAPEL RD	GREENSBORO	GUILFORD	39.55	soil groundwater	organics organics
NC0001402213	ELLIS JUNK YARD	NEEDMORE DRIVE	HAYESVILLE	CLAY	39.52	soil soil	organics metals
NCD980502827	BROWN #1	SR 1504 VANDERBILT RD	PISGAH FOREST	TRANSYLVANIA	39.30	soil	metals
NCD079066833	LENOIR REFINING COMPANY	263 PENNTON AVE NW	LENOIR	CALDWELL	39.26	soil	organics
NCD003216397	HIGHLAND INDUSTRIES/BURLINGTON IND.	215 DRUMMOND ST/SR 2089	KERNERSVILLE	FORSYTH	39.25	groundwater soil	organics organics

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ID Number	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NCD003154960	FLEMING LABORATORIES	2205 THRIFT ROAD	CHARLOTTE	MECKLENBURG	39.24	groundwater soil	organics organics
NCD119168813	ANILOX ROLL COMPANY	4840 WALLACE NEAL RD	CHARLOTTE	MECKLENBURG	39.13	soil	metals
NCD980557649	GOLDSBORO MUNICIPAL LANDFILL	117 BYPASS	GOLDSBORO	WAYNE	39.01	known/suspected	
NCD033978396	ATEC INDUSTRIES	PERKINS DRIVE	ROXBORO	PERSON	38.92	groundwater soil groundwater soil	metals metals organics organics
NCD980557607	GLASS, EH COUNTY LANDFILL	1103 NEALTOWN ROAD	GREENSBORO	GUILFORD	38.91	known/suspected	
NCN000407686	CARALEIGH PHOSPHATE AND FERTILIZER	1601 LAKE WHEELER ROAD	RALEIGH	WAKE	38.87	soil	metals
NCD089914311	MILLER BREWING CO/CONT DIV	1900 BARNES ST	REIDSVILLE	ROCKINGHAM	38.85	groundwater soil	pesticides pesticides
NONCD0000079	OLD PINEHURST HOTEL CLEANERS	MCCASKILL ROAD	PINEHURST	MOORE	38.79	groundwater	organics
NONCD0000001	STANLY NEWS & PRESS	237 W NORTH STREET	ALBEMARLE	STANLY	38.78	soil	metals
NCD003520301	OVERCASH MACHINE SHOP, INC.	865 CONNOR STREET	STATESVILLE	IREDELL	38.69	known/suspected	
NCD083678631	SINCLAIR AND VALENTINE CO.	515 S TURNER AVE	CHARLOTTE	MECKLENBURG	38.69	soil soil	organics metals
NONCD0000083	CHEESMAN PROPERTY	3251 GREGORY ROAD	ROCKWELL	CABARRUS	38.68	known/suspected	

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ID Nu	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NCD105797922	TECHNIBILT/DIV OF WHITTAKER	EAST PEACE ST	NEWTON	CATAWBA	38.61		
NONCD0001018	HWY 49 BATTERY DUMP	NC HIGHWAY 49	CHARLOTTE	MECKLENBURG	38.47	soil soil	organics metals
NCD980557623	UNIVERSITY OF NC/ARPT WASTE DISP	AIRPORT RD	CHAPEL HILL	ORANGE	38.47	groundwater soil	metals metals
NONCD0000015	CENTRAL TRANSPORT COMPANY	215 SAMPSON ST	WILMINGTON	NEW HANOVER	38.45	soil groundwater	organics organics
NONCD0000044	CHEMICAL AND SOLVENTS, INC.	2804 PATTERSON STREET	GREENSBORO	GUILFORD	38.45	surface water	metals
NCD986190239	CHEROKEE OIL	925 SOUTH SUMMIT AVE	CHARLOTTE	MECKLENBURG	38.45	soil	organics
NCD081428104	SUN CHEM CORPORATION/GPI DIV	2400 OLD LEXINGTON ROAD	WINSTON-SALEM	FORSYTH	38.41	soil	metals
NCD052553641	WEYERHAEUSER CO/LEWISTON	HWY 308 W	LEWISTON	BERTIE	38.38	soil soil	metals organics
NCD980557615	UNIVERSITY OF NC/OLD SANITARY LDFL	AIRPORT ROAD	CHAPEL HILL	ORANGE	38.25	soil	metals
NCD004520136	EATON CORPORATION	ROUTE 501 SOUTH	ROXBORO	PERSON	38.14	groundwater	organics
NCD001871854	FRUEHAUF TRAILER CORPORATION	310 DALTON	CHARLOTTE	MECKLENBURG	38.12	groundwater	organics
NONCD0000055	GLISSON ENTERPRISES	HWY 903	GREENVILLE	PITT	38.12	groundwater known/suspected	organics

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NONCD0001076	SOUTHSIDE INVESTMENTS LLC	2222 SOUTH BLVD	CHARLOTTE	MECKLENBURG	38.05	soil soil groundwater groundwater	organics metals organics metals
NONCD0000003	VAN WATERS & ROGERS	ATANDO INDUSTRIAL PARK	CHARLOTTE	MECKLENBURG	38.05	soil groundwater	organics organics
NONCD0000030	COLLINS AND AIKMAN	327 EAST ELM ST.	GRAHAM	ALAMANCE	38.04	groundwater	organics
NCD980844732	CLAYTON BALL FIELD	SR 1709	CLAYTON	JOHNSTON	37.98	soil	pesticides
NCD980557953	FISHBURNE LANDFILL	AIRPORT ROAD	FLETCHER	BUNCOMBE	37.98	groundwater	organics
NCD980503148	SOUTHCHEM LANDFILL	750 EAST MARKHAM AVE	DURHAM	DURHAM	37.98	sediment surface water soil surface water	pesticides organics pesticides pesticides
NONCD0001064	GUILFORD MILLS PLANT	200 DICKENS ROAD	FUQUAY-VARINA	WAKE	37.89	groundwater	organics
NCD980559983	PPG IND., INC./WKS 52	WASHBURN SWITCH ROAD	SHELBY	CLEVELAND	37.89	known/suspected	
NCD003148889	CHAMPION INTERNATIONAL/CANTON MILL	NEWFOUND STREET	CANTON	HAYWOOD	37.79	groundwater	organics
NCD053010724	ICI - AMERICAS, INC.	2130 N TRYON	CHARLOTTE	MECKLENBURG	37.67	known/suspected	
NCD052813250	AMERICAN ENKA COMPANY/BASF	US 19 & 23 WEST	ENKA	BUNCOMBE	37.65	soil soil	metals organics
NONCD0001091	WEST MOREHEAD ST PESTICIDE	147 W MOREHEAD ST	CHARLOTTE	MECKLENBURG	37.62	groundwater	pesticides

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ID Nu	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NCD986171270	HESTA CARILLON PROJECT	WEST TRADE STREET	CHARLOTTE	MECKLENBURG	37.61	groundwater	organics
NONCD0000074	TEXTILE CHEMICAL FACILITY	GRAHAM STREET	CHARLOTTE	MECKLENBURG	37.60	groundwater	organics
NCN000407564	WATHA FIRING RANGE	3311 SHILOH RD	WATHA	PENDER	37.54	groundwater	metals
NONCD0000024	GAITHER TRANSOU PROPERTY	1202 GUILFORD COLLEGE RD	GREENSBORO	GUILFORD	37.52	soil soil	metals organics
NCD062548995	QUORUM KNITTING	REEMS CREEK RD	WEAVERVILLE	BUNCOMBE	37.35	soil	organics
NCD981928021	HOLLINGSWORTH PROPERTY	BROADFOOT AVE & CLARK ST	FAYETTEVILLE	CUMBERLAND	37.34	soil	pesticides
NCD986171338	PEELE CO. PESTICIDE DISPOSAL	NC 42 EAST	CLAYTON	JOHNSTON	37.13	soil soil	metals pesticides
NONCD0000057	WATTS, LEVI PROPERTY	103 FAIRBLUFF ROAD	TABOR CITY	COLUMBUS	37.09	known/suspected	
NCD101750305	INDUSTRIAL PLASTICS, INC.	CLOVER & MCONNELL ROAD	GREENSBORO	GUILFORD	36.97	groundwater	metals
NCD980503098	PFIZER INC/SKATE STADIUM	4500 BLOCK OF HIGH POINT	GREENSBORO	GUILFORD	36.93	known/suspected	
NCD986166759	WILSON SEPTIC PITS	SR 1131	HICKORY	CATAWBA	36.90	soil soil	organics metals
NCD067428821	SIEMENS-ALLIS, INC/SWITCHGEAR DIV	5000 WOMACK ROAD	SANFORD	LEE	36.86	groundwater sediment	metals organics
NCD981022288	C&T REFINERY	4800 SOUTH BOULEVARD	CHARLOTTE	MECKLENBURG	36.80	soil	organics

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Number	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NCD980557789	RICHMOND COUNTY LANDFILL	MIZDAH ROAD SR 1992	ROCKINGHAM	RICHMOND	36.64	known/suspected	
NCD003196847	NATIONAL SPINNING COMPANY	WEST 3RD STREET	WASHINGTON	BEAUFORT	36.61	groundwater	organics
NCD981929813	CARBONTON ROAD DRUM SITE	2816 CARBONTON ROAD	SANFORD	LEE	36.60	soil	metals
NCD044447639	CROWN CENTRAL PETROLEUM CORP.	7720 MOUNT HOLLY ROAD	PAW CREEK	MECKLENBURG	36.59	soil groundwater	organics organics
NCD024577421	NORTH CAROLINA SALVAGE CO.	HWY 117 SOUTH	GOLDSBORO	WAYNE	36.38	soil	metals
NCD986188001	CHAMPION INTERNATIONAL LANDFILL #1	SR 1571 & 1573	CANTON	HAYWOOD	36.35	soil	organics
NCD000830919	CAROLINA P&L CO. CAPE FEAR STM	SR 1916	MONCURE	CHATHAM	36.33	groundwater	metals
NCD980712038	SED, INC. SWING COURT	SWING COURT	GREENSBORO	GUILFORD	36.30	known/suspected	
NCD991279118	MEREDITH/BURDA, INC.	ST JAMES CHURCH RD	NEWTON	CATAWBA	36.12	soil	metals
NONCD0001009	SINGER PLANT #2	VIRGINIA STREET	LENOIR	CALDWELL	36.09	soil	organics
NCD986188019	CHAMPION LANDFILL #2	SR 1539	CANTON	HAYWOOD	36.04	soil	organics
NCD981015886	CAROLINA PRODUCTION FINISHING	105 FAIRVIEW RD	ASHEVILLE	BUNCOMBE	35.86	groundwater	organics
NCD981021702	CAMP, LEONARD PROPERTY	SR 2226	EARL	CLEVELAND	35.79	sediment	organics
NCD980557912	GROVE STONE LANDFILL	GROVE STONE ROAD	BLACK MOUNTAIN	BUNCOMBE	35.55	known/suspected	

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Nu	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NCD070619911	TELEDYNE ALLVAC MONROE PLANT	ASHECRAFT AVE	MONROE	UNION	35.37	soil	metals
NONCD0001028	GURLEY DRIVE LANDFILL	292 GURLEY DRIVE	CONCORD	CABARRUS	35.30	known/suspected	
NCD067437400	GULF OIL CORPORATION	SR 2813	MCLEANSVILLE	GUILFORD	35.22	surface water	metals
NCD003216413	RALEIGH ROAD FURNITURE CORP. STANLEY	802 WEST CENTER ROAD	LEXINGTON	DAVIDSON	35.22	known/suspected	
NCD044515211	HAYES-ALBION CORP/BRIGGS-SHAFFNER	3760 KIMWELL DR	WINSTON-SALEM	FORSYTH	35.17	soil	metals
NONCD0000006	LITTLEFIELD LANDFILL	NC 11 SOUTH	AYDEN	PITT	35.16	known/suspected	
NCD072028251	TORPEDO WIRE & STRIP, INC.	INSTRUMENT DR	ROCKY MOUNT	NASH	35.10	soil	metals
NCN000407364	QUARTER MASTER AUTO DETAIL	1239 OLD SALEM RD	KERNERSVILLE	FORSYTH	35.09	soil	metals
NCD980559389	TARBORO LANDFILL	BAKER STREET EXTN-SR 1518	TARBORO	EDGECOMBE	35.04	known/suspected	
NCD108702606	HARTSOE BATTERY	2513 LINA AVE	KANNAPOLIS	ROWAN	35.01	soil	metals
NCD003183480	UNION CAMP CORPORATION	524 BROGDEN RD	SMITHFIELD	JOHNSTON	35.01	known/suspected	
NCD024459471	GUYTON BATTERY SERVICE	HWY 401 S	CHADBOURN	COLUMBUS	34.92	soil	metals
NCN000407205	TRI-COUNTY AIRPORT	NC 561	AULANDER	HERTFORD	34.92	soil	pesticides
NCD061795696	UNITEX CHEMICALS	520 BROOME RD	GREENSBORO	GUILFORD	34.91	groundwater	organics

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Number	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NCD084171545	HALIFAX COUNTY LANDFILL	SR 1103		HALIFAX	34.81	known/suspected	
NCD981023732	NEUVILLE SOCK PROPERTY	US 64/70 I-40 ACCESS ROAD	HILDEBRAN	BURKE	34.80	soil	metals
NCD986227965	STOLLER CHEMICAL - SEVERN	HIGHWAY 35	SEVERN	NORTHAMPTON	34.73	soil soil	organics pesticides
NONCD0000028	CAROLINA P&L CO. SPRUCE PINE	MOUNTAIN LAUREL DR	SPRUCE PINE	MITCHELL	34.62	known/suspected	
NONCD0001038	BRYANT FARM DRUM DUMP	W OF NC 86 400 FT S OF VA LINE	GATEWOOD	CASWELL	34.61	known/suspected	
NCD000616219	GA-PACIFIC CORP	HWY 1775	HAMLET	RICHMOND	34.61	known/suspected	
NONCD0001048	LEXINGTON FURNITURE IND. PLNT #2	3979 OLD LINWOOD ROAD	LEXINGTON	DAVIDSON	34.53	soil groundwater	organics organics
NONCD0000075	FOAMEX/REEVES BROTHERS	HWY 115	CORNELIUS	MECKLENBURG	34.50	soil	organics
NCD980557672	PITT COUNTY UTILITY LANDFILL	PORT TERMINAL RD	GREENVILLE	PITT	34.38	known/suspected	
NC0001206473	GLEN RAVEN MILLS	TUCKER STREET C	BURLINGTON	ALAMANCE	34.27	groundwater	organics
NCD040042426	AEROQUIP/FAWN PLASTICS	HIGHWAY 264 ALT.	MIDDLESEX	NASH	34.22	groundwater	organics
NCD093132207	VOICE OF AMERICA RELAY STATION	COUNTY ROAD 1212	GREENVILLE	PITT	34.21	known/suspected	
NCD098765506	SINGER CO/FURNITURE DIV BRYSON	GIBBONS AVE	BRYSON CITY	SWAIN	34.16	groundwater	organics
NONCD0001109	FRIENDLY CLEANERS	605 S. PENDER ST	WILSON	WILSON	34.14	soil	organics

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Number	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NCD083673616	REEVES BROTHERS	RAILROAD AVE	RUTHERFORDTON	RUTHERFORD	34.10	soil	organics
NONCD0000042	SOUTHMET, INC.	NORTH GREENE STREET	GREENVILLE	PITT	34.04	known/suspected	
NCD000006361	SUPERIOR ELECTRO FINISHES	115 EAST POLO ROAD	WINSTON SALEM	FORSYTH	34.04	soil	metals
NONCD0000041	CIBA-GEIGY	WESTINGHOUSE BLVD	CHARLOTTE	MECKLENBURG	34.01	soil groundwater	organics organics
NCD986209575	CARDINAL CHEMICAL WAREHOUSE FIRE	NC 211 & NC 72	LUMBERTON	ROBESON	33.96	soil	pesticides
NONCD0000078	CAROLINA METAL AND ALLOYS	1016 E. SPRINGFIELD AVENUE	HIGH POINT	GUILFORD	33.72	soil	metals
NCD097361018	KIN PROPERTIES ABANDONED DRUMS	920 EASTWAY DRIVE	CHARLOTTE	MECKLENBURG	33.72	soil	organics
NCD990715658	SOUTHERN MANUFACTURING, INC.	1000 SEABOARD ST	CHARLOTTE	MECKLENBURG	33.72	soil	inorganics
NCD003196193	PIPER INDUSTRIES, INC.	2210 E PETTIGREW ST	DURHAM	DURHAM	33.67	known/suspected	
NONCD0001071	DOE-SPUN	ROUTE 1002	HOLLISTER	HALIFAX	33.63	groundwater	metals
NCD003162500	CONSOLIDATED ENGRAVERS CORP.	311 E 12TH ST	CHARLOTTE	MECKLENBURG	33.51	soil soil surface water surface water sediment sediment groundwater groundwater	organics metals organics metals organics metals organics metals
NCD065295495	TEXFI IMPRESSIONS	PALETOWN RD	GOLDSBORO	WAYNE	33.41	soil	organics

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Number	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NONCD0000054	MOORES COMPANY	US 1 BUSINESS & SR 1001	HENDERSON	VANCE	33.35	soil	organics
NCD055550560	GULF ADHESIVES & RESINS/PERKINS	1717 WARD STREET	HIGH POINT	GUILFORD	33.33	soil groundwater	organics organics
NCD000281832	SANFORD PLATING COMPANY	SR 1466	SANFORD	LEE	33.32	soil soil	organics metals
NONCD0000097	MORRIS, NORMAN	HIGHWAY 87 NORTH	ELON COLLEGE	ALAMANCE	33.23	soil	metals
NCD054417308	COASTAL CHEMICAL CORP.	NC 42	CLAYTON	JOHNSTON	33.11	soil	pesticides
NONCD0000096	MASON DRUM STORAGE	42 FIBERVILLE STREET	CANTON	HAYWOOD	32.99	known/suspected	
NCD981928385	JOHN DEERE TRACTOR	HWY 601 AND SR 1413	MOCKSVILLE	DAVIE	32.95	known/suspected	
NCD072018252	GENERAL ELECTRIC CO/MED STEAM TURBIN		OLD RALEIGH RD	DURHAM	DURHAM 32.88	groundwater	organics
NCD093783876	VANIER GRAPHICS CORPORATION	655 MEADOW RD	EDEN	ROCKINGHAM	32.86	groundwater soil	organics organics
NCD980729479	CAROLAWN COMPANY	1426 W MOUNTAIN ST	KERNERSVILLE	FORSYTH	32.81	soil	organics
NCD000623199	TEXACO INC/FAYETTEVILLE	992 SHAW MILL RD	FAYETTEVILLE	CUMBERLAND	32.56	groundwater	organics
NCD002388965	LACKAWANNA LEATHER CO., INC.	HWY 70A WEST	CONOVER	CATAWBA	32.48	groundwater	metals
NCD981472624	US 70 DRUM DUMP	US 70	MORGANTON	BURKE	32.41	soil	organics

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Num	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NONCD0001036	JOYCETON WATER WORKS WELL #2	300 FT N OF SWANSON RD	LENOIR	CALDWELL	32.38	groundwater	organics
NONCD0001037	JOYCETON WATER WORKS WELL #9	600 FT N OF SWANSON RD	LENOIR	CALDWELL	32.38	groundwater	organics
NCD980502892	CREEK BRIDGE/BORDEN CHEMICAL	US HWY 24-87 (GROVE ST)	FAYETTEVILLE	CUMBERLAND	32.35	known/suspected	
NCD095470332	THONIT A SIMMONS COMPANY	11900 STEELE CREEK ROAD	CHARLOTTE	MECKLENBURG	32.33	soil soil	metals organics
NCD080885551	DAUGHERTY CHEMICAL COMPANY	307 WALKER STREET	DURHAM	DURHAM	32.27	soil	metals
NCD980848766	GIBBS ELECTROPLATING	5210 HOVIS ROAD	CHARLOTTE	MECKLENBURG	32.27	soil	metals
NCD980847123	HURT RESIDENCE	HWY 64	MORGANTON	BURKE	32.27	soil	organics
NCD980502793	APEX SANITARY LANDFILL	HIGHWAY 55	APEX	WAKE	32.16	known/suspected	
NONCD0001006	WESTINGHOUSE TURBINE	WESTINGHOUSE ROAD	CHARLOTTE	MECKLENBURG	31.94	soil	organics
NCD003221868	CENTURY FURNITURE COMPANY	401 11TH ST NW	HICKORY	CATAWBA	31.90	soil	metals
NONCD0000084	THERMO PRODUCTS, INC.	800 JONES STREET	DENTON	DAVIDSON	31.77	soil soil	metals organics
NCD980799019	CHEROKEE OIL	1201 BERRYHILL ROAD	CHARLOTTE	MECKLENBURG	31.76	soil surface water soil	metals metals organics
NCD980559330	NASH COUNTY LANDFILL/SR 1524	SR 1524	RED OAK	NASH	31.76	known/suspected	

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Number	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NCD083669952	STORY BURIAL AREAS/UNION CHEMICAL	6101 ORR ROAD	CHARLOTTE	MECKLENBURG	31.76	groundwater	organics
NONCD0000059	DAYCO COCHRAN LANDFILL	RT 1 HYATT CREEK ROAD	WAYNESVILLE	HAYWOOD	31.71	soil	organics
NCSFN0407143	AMERICAN ELEMENTS	500 WALLACE ST	FARMVILLE	PITT	31.68	soil	metals
NCD986180883	CCFC PESTICIDE DISPOSAL	607 HILLSBOROUGH STREET	OXFORD	GRANVILLE	31.67	known/suspected	
NCD980557847	KAISER ACME FARMARKET	SR 1870	RIEGELWOOD	COLUMBUS	31.60	groundwater soil	organics pesticides
NCD980845119	BUCKHORN PESTICIDES	NC 581 & NC 42	WILSON	WILSON	31.36	soil soil	pesticides organics
NCD003229762	STRUCTURAL WOODS PRESERVING CO.	HWY 22	COLERIDGE	RANDOLPH	31.34	soil groundwater	metals metals
NCSFN0406924	VC CHEMICAL	STAMBACK FERRY RD	WADESBORO	ANSON	31.34	soil	metals
NCD000828566	TARTAN MARINE PROPERTY	NC HIGHWAY 77 & SR 2032	HAMLET	RICHMOND	31.33	soil	metals
NCD981863814	LANCASTER PLATING	802 EDWARDS ROAD	LILLINGTON	HARNETT	31.32	soil	metals
NONCD0001015	MARY CIRCLE BATTERY	ZION CHURCH & MARY CRL	CONCORD	CABARRUS	31.18	soil	metals
NCD045451473	ACE CHEMICAL CORPORATION	9801 YORK ROAD	CHARLOTTE	MECKLENBURG	31.05	soil groundwater	organics organics
NCD049845266	STANLEY CASE GOODS (FORMER)	HWY 211	WEST END	MOORE	31.01	groundwater	organics

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Nu	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NONCD0000019	SIR WALTER GUN CLUB	US 64	RALEIGH	WAKE	30.96	soil	metals
NONCD0000070	BENFIELD SANITATION SERVICE	1809 W FRONT ST	STATESVILLE	IREDELL	30.87	known/suspected	
NCD980843460	GRANT CREEK WWTP	CRUSE ROAD	SALISBURY	ROWAN	30.66	soil	organics
NCD003195963	WESTINGHOUSE ELEC METER & LIGHT	US 1 N	RALEIGH	WAKE	30.57	soil soil	organics metals
NCD024740433	EC MANUFACTURING	413 N. POLK STREET	PINEVILLE	MECKLENBURG	30.45	soil	metals
NONCD0001033	AMERICAN CONTRACT COATINGS	HWY 55	APEX	WAKE	30.43	known/suspected	
NONCD0001067	CC DICKSON	1524 SOUTH BOULEVARD	CHARLOTTE	MECKLENBURG	30.43	soil groundwater	organics organics
NCD003938586	CORNING GLASS WORKS	310 NORTH COLLEGE ROAD	WILMINGTON	NEW HANOVER	30.37	known/suspected	
NCD981031693	KEENER LANDFILL	SR 1820	CLINTON	SAMPSON	30.30	soil	organics
NCSFN0406962	VINEGAR HILL LEAD SITE	HWY 701 N	TABOR CITY	COLUMBUS	30.30	soil	metals
NONCD0001065	OLD CHARLOTTE LDFL/VANGUARD CNTR	SEVENTY SEVEN CENTER DRIVE	CHARLOTTE	MECKLENBURG	30.26	groundwater	organics
NC0000998336	CP PROPERTIES	2350 BROWN ROAD	SANFORD	LEE	30.23	sediment soil soil	metals metals organics
NCD000616516	SCOVILL INC/SECURITY PRODUCTS	HWY 74 E	MONROE	UNION	30.21	soil soil	organics metals

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Number	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NCD003186004	INTERNATIONAL PAPER RICHMOND	2215 S. WILMINGTON STREET	RALEIGH	WAKE	30.10	groundwater soil	organics organics
NCD024762668	BUSH BROTHERS PLATING INC/GREER	107 NE MARKET ST	REIDSVILLE	ROCKINGHAM	30.05	known/suspected	
NONCD0000035	CHAPEL STREET BATTERY DUMP	CHAPEL STREET	KANNAPOLIS	ROWAN	30.00	known/suspected	
NCD980557722	HARRISBURG BATTERY	HIGHWAY 49	HARRISBURG	CABARRUS	30.00	soil	metals
NCD067392175	TRAMCO, INC.	SR 1611	CONNELLY SPRINGS	BURKE	29.87	soil	organics
NCD057248759	PATCH RUBBER POND	GRACE BOULEVARD	ROANOKE RAPIDS	HALIFAX	29.82	soil	organics
NCD003213568	LIBERTY FURNITURE CORP/CHROMCRAFT	HWY 421	LIBERTY	RANDOLPH	29.60	soil	organics
NCD986170678	WOOD ROAD DRUM BURIAL	WOOD ROAD/CR 2641	GASTONIA	GASTON	29.44	known/suspected	
NCD049845548	REICHHOLD CHEMICAL, INC.	SR 1916	MONCURE	CHATHAM	29.33	soil	organics
NCD003218161	CORNELL-DUBILIER ELECTRONICS	2652 DALYRUMPLE STREET	SANFORD	LEE	29.02	soil groundwater	organics organics
NONCD0001106	MICROTON ABRASIVES, INC	10242 RODNEY BLVD	PINEVILLE	MECKLENBURG	28.94	soil groundwater	organics organics
NCD991278714	CAROCHEM, INC.	540 GULF ST	DURHAM	DURHAM	28.72	soil	organics
NONCD0001050	LEXINGTON FURNITURE IND. PLNT #12	3301 COTTON GROVE LANE	LEXINGTON	DAVIDSON	28.59	soil	organics

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Num	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NCD980843528	TOWN CREEK REGIONAL WWTP	HEILIGTOWN ROAD	SALISBURY	ROWAN	28.50	known/suspected	
NCD048184451	BURLINGTON HOME CHAIR	HIGHWAY 268	RONDA	WILKES	28.49	known/suspected	
NCD000828616	USS AGRI-CHEMICALS FARM SERVICE	HWY 701	WHITEVILLE	COLUMBUS	28.45	known/suspected	
NCD003186178	COASTAL CHEMICAL CORP.	EVANS ST EXT	GREENVILLE	PITT	28.33	soil	pesticides
NCD991278581	BURLINGTON FURNITURE/LUMBER PL	US 64 EAST	LEXINGTON	DAVIDSON	28.12	known/suspected	
NCD980483275	HELENA CHEMICAL COMPANY	DENNIS STREET EXTENSION	ENFIELD	HALIFAX	28.04	soil soil soil	metals organics pesticides
NCD003151651	WILLARD SMELTING CO.	101 NEWBERN ST	CHARLOTTE	MECKLENBURG	27.86	soil	metals
NCD991278839	NORTH STATE CHEMICALS	3301 SPRING GARDEN ST	GREENSBORO	GUILFORD	27.60	soil soil	organics metals
NCD990867855	FAWN PLASTICS CO., INC.	317 JEFFREYS ROAD	ROCKY MOUNT	NASH	27.52	known/suspected	
NONCD0001030	BLR	2911 LEE AVENUE	SANFORD	LEE	27.50	soil groundwater	organics organics
NONCD0000013	CAROLINA HARDWOODS	158 FACTORY STREET	WILLIAMSTON	MARTIN	27.49	surface water	metals
NCD024770125	BURLINGTON FURNITURE	ATOAH STREET	ROBBINSVILLE	GRAHAM	27.10	soil	organics
NONCD0000091	DUKE POWER/WALNUT COVE	POWER HOUSE ROAD	WALNUT COVE	STOKES	26.95	known/suspected	

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Number	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NCD980557664	BURLINGTON INDUSTRIES, INC.	US 1 NORTH	RALEIGH	WAKE	26.86	soil	organics
NCD024468597	CHARLOTTE STEEL DRUM	2900 WEST TRADE STREET	CHARLOTTE	MECKLENBURG	26.67	known/suspected	
NCD003213881	BENDIX CORPORATION	I-85 INNES ST EXIT	SALISBURY	ROWAN	26.36	soil	metals
NCD986166288	WOODY'S TIRE FIRE	HIGHWAY 321	GASTONIA	GASTON	26.35	known/suspected	
NCD990868168	INMONT CORP/BASF CORPORATION	1701 W WESTINGHOUSE BLVD	CHARLOTTE	MECKLENBURG	26.22	soil groundwater	organics organics
NCD003218492	CAROLINA RUBBER HOSE COMPANY	1801 SOUTH RAILROAD	SALISBURY	ROWAN	26.04	soil soil	organics metals
NCD003464765	VAUGHAN-BASSETT FURNITURE CO.	ROUTE 268 EAST	ELKIN	SURRY	25.93	soil	organics
NONCD0001039	OVERCASH GRAVEL & GRADING CO. INC.	1150 SHELTON ROAD	CONCORD	CABARRUS	25.71	known/suspected	
NCD980602791	SALVAGE OIL OF AMERICA	1227 MCLEOD STREET	ROCKINGHAN	RICHMOND	25.68	soil	organics
NCD000822130	HARRELSON RUBBER COMPANY	HWY 220 SOUTH	ASHEBORO	RANDOLPH	25.45	known/suspected	
NCD990715070	NEW HANOVER CY & CAROLINA LDFL	SR 1534/DOW RD	CAROLINA BEACH	NEW HANOVER	25.42	known/suspected	
NCD003200656	FEATHER PROCESSORS, INC	HWY 117 NORTH	ROSE HILL	DUPLIN	25.30	soil	metals
NCD980503031	MILAN YARD LANDFILL	NORTH ST. EXT. MILAN ROAD	FAYETTEVILLE	CUMBERLAND	25.25	soil	organics

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Number	Site Name	Site Address	City	County	Score	Medium	Contaminants
NCD000609974	UNION OIL CO. SE TERM	6801 W MARKET ST	GREENSBORO	GUILFORD	24.94	soil groundwater	organics organics
NCSFN0406894	STALLINGS SALVAGE	SECREST AVE	MONROE	UNION	24.89	known/suspected	
NCD981003957	HENSON LANDFILL	US HIGHWAY 221 SOUTH	FOREST CITY	RUTHERFORD	24.35	soil	organics
NCD980559355	NASH COUNTY LANDFILL/SR 1145	STATE RD 1145	SPRING HOPE	NASH	24.18	known/suspected	
NONCD0000048	WALKER DRUM DISPOSAL	WYATTS CHURCH GROVE ROAD	GOLD HILL	ROWAN	23.80	soil soil	organics metals
NCD077821296	SOUTHERN RESIN/US INDUSTRIES INC	1510 DENTON ROAD	THOMASVILLE	DAVIDSON	23.62	groundwater	organics
NCD003189024	BORDEN CHEMICAL FAYETTEVILLE PLANT	1411 INDUSTRIAL DR	FAYETTEVILLE	CUMBERLAND	23.51	groundwater groundwater	organics metals
NCD982174492	NATIONAL PIN	SR 1572	SARATOGA	WILSON	23.37	known/suspected	
NCD077838589	THOMASVILLE FOREST PRODUCTS	CLARKSBURY CHRUCH ROAD	THOMASVILLE	DAVIDSON	23.10	soil	metals
NCD980838551	MCDOWELL FIREMAN ASSOCIATION SITE	SR 1214 GREENLEE ROAD	MARION	MCDOWELL	23.09	known/suspected	
NONCD0000087	HARPER CRAWFORD BAG CO.	401 PARKWOOD AVE	CHARLOTTE	MECKLENBURG	22.93	soil soil soil	metals pesticides organics
NCD096158696	BURLINGTON INDUSTRIES, INC.	6008 HIGH POINT RD	GREENSBORO	GUILFORD	22.43	soil groundwater soil groundwater	organics metals bases organics

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Number	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NCD980557888	LENOIR CITY LANDFILL	904 VIRGINIA STREET	LENOIR	CALDWELL	22.42	soil	organics
NCD024583288	AIR PRODUCTS AND CHEMICALS, INC.	115 SOUTHERN OXYGEN RD	GREENSBORO	GUILFORD	22.39	soil	organics
NCD980502934	FAYETTEVILLE LANDFILL	GRAY STREET	FAYETTEVILLE	CUMBERLAND	21.97	known/suspected	
NCD071579528	FORBUSH METAL	SPEER BRIDGE ROAD	YADKINVILLE	YADKIN	21.90	soil soil soil	cyanide metals organics
NCD980503106	SANITATION SERV LAND	SR 1743	SAINT PAULS	ROBESON	21.66	known/suspected	
NONCD0001027	CROWDERS MOUNTAIN STATE PARK	CROWDERS MOUNTAIN STATE PK	GASTONIA	GASTON	21.57	known/suspected	
NCD003236841	WARLICK PAINT COMPANY	945 MONROE ST	STATESVILLE	IREDELL	21.47	known/suspected	
NCD986232213	SUMMIT RESOURCE MANAGEMENT	3501 GRIBBLE ROAD	STALLINGS	UNION	21.45	soil soil surface water	organics inorganics organics
NCD000776732	SAFETY-KLEEN CORP 3-031-02	HWY 41W	WALLACE	DUPLIN	21.26	known/suspected	
NCD003223799	CLAYTON-MARCUS CO., INC.	HWY 127 N	BETHLEHEM	ALEXANDER	21.11	soil soil soil	organics cyanide metals
NCD054284518	STANDARD PACKAGING CORPORATION	HWY 73 W	MT GILEAD	MONTGOMERY	21.07	known/suspected	
NCD003214574	SPRUANCE SOUTHERN, INC.	HWY 8	WINSTON-SALEM	FORSYTH	20.81	known/suspected	

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Number	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NCD046149019	HISTRAND CHEMICAL, INC.	HWY 9	LENOIR	CALDWELL	20.72	known/suspected	
NONCD0001062	SWAIM'S TRUCK PARTS & SERVICE	WELCOME AVENUE	HENDERSON	VANCE	20.15	soil	organics
						soil	metals
NCD980559637	BEAUNIT CORP./DYING & FINISHING	LINEBERGER STREET	LOWELL	GASTON	19.99	known/suspected	
NCD980502850	CABARRUS DISPOSAL COMPANY, INC.	SR 1152	CONCORD	CABARRUS	19.86	known/suspected	
NONCD0001005	TRANSEASTERN CORP.	509 S LODGE ST	WILSON	WILSON	19.56	known/suspected	
NCD048462881	ARMOLOY CO OF NC/HI-TECH	1603 SALISBURY ROAD	STATESVILLE	IREDELL	19.37	known/suspected	
NCD003152659	REICHHOLD CHEMICAL, INC.	161 BUFFALO RD	CONCORD	CABARRUS	19.32	known/suspected	
NCD003162666	CANNON MILLS COMPANY/FIELDCREST	HWY 29 & 601	KANNAPOLIS	CABARRUS	19.31	known/suspected	
NCD053528170	LAURENS GLASS/BALL-INCON GLASS PACK	US 1 SOUTH	HENDERSON	VANCE	19.23	groundwater	organics
NCD981921083	SWIFT ADHESIVES	9724 INDUSTRIAL DRIVE	PINEVILLE	MECKLENBURG	19.19	known/suspected	
NCD003225620	HIGH POINT FURNITURE INDUSTRIES	CORPORATION DRIVE	HIGH POINT	GUILFORD	19.14	soil	organics
NONCD0000014	BOISE CASCADE	SR 1916	MONCURE	CHATHAM	18.86	known/suspected	
NONCD0000092	FUNDER AMERICA	200 FUNDER RD	MOCKSVILLE	DAVIE	18.33	known/suspected	
NCD067178707	FAWN PLASTICS CO., INC.	RT 264 BUSINESS	MIDDLESEX	NASH	17.34	soil	organics

TABLE 3. INACTIVE HAZARDOUS WASTE SITES PRIORITY LIST (In Order By Score)

ID Number	*Site Name*	*Site Address*	*City*	*County*	*Score*	*Medium*	*Contaminants*
NONCD0000034	ASHEVILLE INDUSTRIES	20 GLEN BRIDGE RD(SR3495)	ARDEN	BUNCOMBE	16.30	soil	organics
NCD071567259	WEYERHAEUSER CO/MONCURE	STATE ROAD 1916	MONCURE	CHATHAM	16.04	known/suspected	
NONCD0000053	CAROLINA MARBLE CO.	INDIAN MOUND ROAD	ALBEMARLE	STANLY	15.28	surface water	
NONCD0000099	PARTON'S MOTOR COMPANY	2800 SOUTH YORK ROAD	GASTONIA	GASTON	15.22	known/suspected	
NCD085082311	AMERICAN COLORS INCORPORATED	831 MORETZ AVE	CHARLOTTE	MECKLENBURG	14.85	known/suspected	
NONCD0000082	CAPE FEAR CHEMICALS/HL BRICE	HWY 701 S	ELIZABETHTOWN	BLADEN	11.48	soil	pesticides
NCD081333858	HOLSTON ENERGY INC/HOLSTON FUEL	HWY 19A/235 BYPASS	WAYNESVILLE	HAYWOOD	7.70	soil	organics

II. SITES THAT MAY OR ARE KNOWN TO REQUIRE USE OF THE INACTIVE HAZARDOUS SITES CLEANUP FUND

Purpose of the Fund

The Inactive Hazardous Sites Cleanup Fund is used to: (1) address imminent hazard sites; (2) pay for assessment and cleanup when responsible parties do not comply with orders to clean up sites; (3) pay for assessment and cleanup of sites that do not have financially-viable responsible parties (orphan sites); and (4) pay for state-contracted survey and legal assistance necessary to prepare notices of Inactive Hazardous Substance or Waste Disposal Sites where owners do not comply with orders to conduct such work. The state must attempt to recover its expenditures from responsible parties in the first, second and fourth cases.

The Inactive Hazardous Waste Sites Priority List helps determine priorities for cleanup. Responsible parties for top priority sites are encouraged to voluntarily clean up their sites. When a responsible party does not comply with a request and subsequent order to clean up a site, the State must perform the cleanup using the Inactive Hazardous Sites Cleanup Fund. The demand for state funds to conduct site cleanups depends on two factors: 1. how often responsible parties refuse to comply with orders to conduct cleanup; 2. the number of sites that lack financially-viable responsible parties. To date, the program has been successful in obtaining cleanup by responsible parties. Funds are mainly needed for orphan sites where the responsible party either cannot be located or has no financial resources.

The statute requires that the program report the list of sites known to require funds and the list of sites suspected to require funds for cleanup. Determining if responsible parties exist (and thus, if funds are needed) is often a complex and lengthy process. This information can become dated as owners and operators of the facilities change over time. To avoid the need to update the information several times, responsible party research is not done until a site is next in priority for action. For this reason, the total number of orphan sites on the SPL requiring state funds is not presently known.

Orphan Chemical Sites

In the last two years, the Inactive Hazardous Sites Cleanup Fund has been used to clean up two sites (Bone Farm Pesticide Site in Nashville and Cartrette Field in Chadbourn), remove the majority of waste at a third (Mary Circle Battery in Concord), and conduct sampling at three other sites (Gaither Transou in Greensboro, Bryant Farm in Gatewood and Texfi in Fayetteville). There are now 44 sites identified that have no financially-viable responsible parties that require action. Six of these are former Burlington Industry properties. The Inactive Hazardous Sites Branch was able to recover approximately $450,000 through a bankruptcy claim to help address the contamination. While the amount of funds is limited, the funds will be used to remove sources of contamination, thereby reducing the further spread of groundwater contamination and encouraging natural attenuation processes. The branch has also recovered approximately $420,000 in funds through a bankruptcy claim against Texfi, Inc. that will be used to remove sources of contamination at the Fayetteville property. The remaining few thousand dollars in the Inactive Hazardous Sites Fund, not committed to addressing the Texfi, Inc. site described below, will be used to address one more site this year.

Inactive Hazardous Sites Cleanup funds have also been used to conduct an interim cleanup measure at the Texfi site in Fayetteville, Cumberland County. Groundwater contaminated with hazardous substances migrated from Texfi to the adjoining City of Fayetteville's Hoffer Water Plant property. The contaminated groundwater was in contact with the city's primary finished drinking water holding tank. This concrete tank sits, in part, below the groundwater table. In addition, the city's drinking water intakes on the Cape Fear River, 450 feet downstream from the Texfi property, and a city park adjoining the Texfi property, are also concerns. The interim measure involved construction of a subsurface barrier wall in 2001 to prevent additional flow of contaminated water toward the tank. Extraction wells were installed to remove contaminated water that had already passed on to the water plant property around the tank. Groundwater contaminant concentrations on the tank side of the wall have been reduced approximately 95% as a result of this action. Thus far, analyses indicate the drinking water has not been affected. The construction of the barrier wall, the removal of contaminated groundwater from between the wall and the tank and monitoring of the city's drinking water are being conducted as immediate protective measures. These activities will not clean up the larger groundwater contaminant plume or its sources at the Texfi site. Funds were appropriated in 04-05 and 05-06 to continue the monitoring and maintenance of the interim measure. This amount of funding along with the residual funds previously set aside for this purpose will allow continued monitoring through about September of 2007.

There is a risk that the barrier wall will fail overtime. Thus, it is important to remove the source of the groundwater contamination on the Texfi property. The sources are solvents in the subsurface.

Settlement of North Carolina's bankruptcy claim against the Texfi estate mandated that a portion of the proceeds from the estate's law suits and property sales are to be placed in a trust fund to conduct the removal of contaminant sources. On July 1, 2005 a total of $420,000 in funds became available. This amount is now sufficient to initiate a contract to conduct the contaminant source removal. There is a possibility that additional bankruptcy recoveries will provide further removal funds down the road. After removing the sources contributing to groundwater contamination, it could take many years before significant reductions in groundwater contaminant concentrations occur.

Unlined Landfills

Hundreds of old unlined landfills have been cataloged in the state. Based on information from landfills across the country, most will likely have groundwater contaminated with hazardous substances. The branch had previously received state and federal funds to determine the location and current use of these sites. This work was completed in a total of 38 of the 100 counties. We continue to conduct location work in the other counties with some additional limited federal funding. In total, we have completed field surveys of 314 old landfills. Of the landfills inspected, 204 are considered priorities. This is due to a drinking water source, a residence, a school, a church, or a daycare on the property or within 1,000 feet of the landfill.

We can estimate the number of old, unlined landfills that pose the greatest hazard by using the following equation:

Number of landfills with exposure concerns (204) ÷ number of landfills surveyed thus far (314) X total number of landfills in inventory (758) = estimated 492 landfills with potential exposure concerns.

Almost without exception, these landfills were operated either by private individuals with limited financial resources or by counties and municipalities that operated in the public interest and did not make a profit. Thus, these sites may be considered to have no responsible parties available to pay for any corrective measures required.

Cleanup Funds Needed

There are a total of 802 orphan chemical sites and old unlined landfills that remain to be addressed. Of these, 225 are considered higher priorities due to exposure potential (21of the 44 currently identified orphan chemical sites and 204 old landfills that have greater exposure potential). Not all of the landfills have yet been inspected to know whether they also pose a greater concern. As these landfills are located and inspected, others may be identified as being higher priorities as the above estimate would indicate. Based on the average cost expended per site for the recent orphan cleanups conducted, another $177,913 per site or $3,736,173 for 21 or $40,030,425 for 225 higher priority sites will be needed.

The Texfi, Inc. site has no other responsible parties. The federal government has already indicated the site is not a candidate for a cleanup under Superfund. Drinking water for the entire population of the City of Fayetteville is threatened. The legislature has provided up to $50,000 in each of the 04-05 and 05-06 budget cycles to continue operation of the interim protective remedy (the operation of the groundwater extraction well system and sampling) while bankruptcy funds accrue to a level that can support a source area removal. Approximately $420,000 in bankruptcy proceeds have accrued. The branch is initiating a contract to begin the first phase of the contaminant source removal at the site. Additional funds may be received through the bankruptcy over the next several years. It is very possible that no additional funds will be obtainable. Once the removal action is complete, it may be several years before groundwater contaminant concentrations drop as a result of any removal. State funds are currently available to continue the operation of the interim remedy and sampling through September 2007.

As of July 1, 2005, the balance of the Inactive Hazardous Sites Cleanup Fund totaled $115,360. Of this, $100,321 is committed to continue the operation of the Texfi interim remedy through September of 2007. The remaining $15,039 will be used to address another priority site over the next several months.

The branch will also be using the proceeds from the state's bankruptcy claim against Burlington Industries to address six former Burlington sites. Thus far, $413,082 has been received, with an additional payment of approximately $40,000 expected in June of 2006.

III. NATIONAL PRIORITIES LIST SITES REQUIRING A STATE COST SHARE

National Priorities List sites are those hazardous substance or waste disposal sites that are priorities for cleanup under the federal Comprehensive Environmental Response, Compensation and Liability Act, more commonly known as Superfund. North Carolina has 30 NPL sites.

The NPL includes both sites with financially-viable responsible parties and orphan sites. Cleanup costs are financed either by responsible parties or by a federal trust fund with a state cost share. When the federal trust fund is used, CERCLA requires North Carolina to pay 10 percent of the cleanup cost plus 100 percent of the cost to operate and maintain the remediation system.

Table 4, found on page 47, provides a list of the North Carolina NPL sites, their locations, investigation/cleanup status, estimated costs, and projected start dates for cleanup. Part I, found on page 47, includes those sites where the Federal Trust Fund/North Carolina cost share is required. A summary of North Carolina's cost share obligations is provided at the end of this part. Part II, found on page 49, includes the status of responsible party funded cleanups.

TABLE 4. NORTH CAROLINA NATIONAL PRIORITIES LIST SITES
PART 1 – SITES WHERE FEDERAL TRUST FUND, NORTH CAROLINA COST SHARE IS REQUIRED

NPL Site	*City/County*	*Operable Unit*	*Cleanup Status*	*Estimated Cost*	*Cleanup Start Date***
ABC One Hour Cleaners	Jacksonville, Onslow	OU1-Groundwater	RA	$3,760,000	In Progress
		OU2-Soil	RA	$750,000	In Progress
Barber Orchard	Waynesville, Haywood	Entire Site	RD	$24,300,000	2005
Benfield Industries	Waynesville, Haywood	Entire Site		$6,729,200	
		Soil	RA		Complete
		Groundwater	RA		In Progress
Cape Fear Wood Preserving	Fayetteville, Cumberland	Entire Site		$24,407,574	
		Soil	Complete		Complete
		Groundwater	RA		In Progress
Carolina Transformer	Fayetteville, Cumberland	Entire Site		$22,000,000	
		Soil/Sediment	RA		In Progress
		Groundwater	RD		2005
Davis Park Road TCE	Gastonia, Gaston	Groundwater	RA	$3,873,299	In Progress
FCX, Inc.-Statesville	Statesville, Iredell	OU1-Groundwater	RA	$4,161,525	In Progress
		OU2-Soil	Complete	$6,000,000	Complete
FCX, Inc.-Washington	Washington, Beaufort	OU1-Groundwater	RI	$31,000	2005
		OU2-Soil/Surface Water/Sediment	Complete	No Cost Share	Complete
North Belmont PCE	Belmont, Gaston	Groundwater	RA	$7,535,000	In Progress
Potter's Septic Tank Service	Maco, Brunswick	Soil	Complete	$8,350,000	Complete
		Groundwater	RA		In Progress
Ram Leather	Mint Hill, Mecklenburg	Soil	RD	$926,000	2004
		Groundwater	RD	Not Determined	Not Determined

TABLE 4. NORTH CAROLINA NATIONAL PRIORITIES LIST SITES
PART 1 – SITES WHERE FEDERAL TRUST FUND/NORTH CAROLINA COST SHARE IS REQUIRED

Reasor Chemical	Castle Hayne, New Hanover	Entire Site	RD/RA	$1,204,807	2005
Sigmon's Septic Tank	Statesville, Iredell	Entire Site	FS	$2,300,000	2007
Ward Transformer	Raleigh, Wake	Entire Site	FS	$20,000,000	2005

SUMMARY OF NORTH CAROLINA COST SHARE REQUIREMENTS
As of July 1, 2005

Estimated total cost of pending/ongoing federal trust fund/N.C. cost share cleanups: $111,866,598*

N.C.'s 10 percent cost share for pending/ongoing cleanups: $11,186,660*

Fund disbursements for cost share payments: $6,012,560

Current fund balance: $5,642,519

Encumbered amount of the fund balance for cost share payments: $5,174,099

* This number will increase due to remedial action cost estimates not being available for all sites. Also, other sites may be added to the National Priorities List which will require a state cost share.

** Date applies to eithe r entire site or operable unit.

OU - Operable Unit
RA - Remedial Action
RD - Remedial Design
RI - Remedial Investigation
FS - Feasibility Study

TABLE 4. NORTH CAROLINA NATIONAL PRIORITIES LIST SITES
PART II - RESPONSIBLE PARTY FUNDED CLEANUPS

NPL Site	*City/County*	*Operable Unit*	*Cleanup Status*
Aberdeen Pesticides	Aberdeen, Moore	OU1 & OU4 - Soils-All Sites	Complete
		OU3-Groundwater for FC, TS, F6	RA In Progress
		OU5-Groundwater for Rt 211 & McIver	RA In Progress
Bypass 601/Martin Scrap	Concord, Cabarrus	OU1-Soil/Sediment at Martin Scrap	O & M
		OU2-Off-Site Soil/Sediment	Complete
		OU3-Groundwater	O & M
Charles Macon Lagoon and Drum	Cordova, Richmond	Soil	Complete
		Groundwater	O & M
Celanese Corporation	Shelby, Cleveland	OU1-Groundwater	O & M
		OU2-Soil	Complete
		Surface Water	Complete
Chemtronics, Inc.	Swannanoa, Buncombe	Soil	O & M
		Groundwater	O & M
FCX, Inc.	Statesville, Iredell	OU3-Burlington Industries Site	RA In Progress
Geigy Chemical	Aberdeen, Moore	Soil	Complete
		Groundwater	RA In Progress
General Electric/ Shepherd Farm	East Flat Rock, Henderson	Soil	O & M
		Groundwater	O & M
		Surface Water/Sediment	Complete
Jadco-Hughes	Belmont, Gaston	Soil/Sediment	RA In Progress
		Groundwater	RA In Progress
JFD Electronics/ Channel Master	Oxford, Granville	Soil	Complete
		Groundwater	O & M

TABLE 4. NORTH CAROLINA NATIONAL PRIORITIES LIST SITES
PART II - RESPONSIBLE PARTY FUNDED CLEANUPS

NPL Site	*City/County*	*Operable Unit*	*Cleanup Status*
Koppers Company, Inc.	Morrisville, Wake	Soil	Complete
		Groundwater	O & M
		Surface Water	Complete
Martin Marietta/Sodyeco	Charlotte, Mecklenburg	Soil	RA In Progress
		Groundwater	RA In Progress
National Starch & Chemical	Salisbury, Rowan	OU1-Groundwater in Western Part of Site	O & M
		OU2-Trench Area Soil/Surface Water	Complete
		OU3-Area 2 Groundwater/Wastewater Treatment Area/Surface Water/ Sediments in NE Tributary	O & M
		OU4-Area 2 Soil/Wastewater Treatment Lagoon Area	O & M
New Hanover County Airport	Wilmington, New Hanover	Groundwater	RA In Progress
NCSU	Raleigh, Wake	Soil	Complete
		Groundwater	Start 2006
USMC Camp LeJeune	Jacksonville, Onslow	Multiple Units	Various Stages
Cherry Point	Cherry Point, Craven	Multiple Units	Various Stages

RA – Remedial Action
O & M - Operation and Maintenance
OU – Operable Unit

IV. RESPONSIBLE PARTY VOLUNTARY SITE REMEDIAL ACTION

When the Inactive Hazardous Sites Branch solicits the cooperation of responsible parties in taking action at a priority site, most parties agree to voluntarily conduct a cleanup with branch approval. In addition to these voluntary actions, responsible parties and owners often come forward on their own to initiate an approved assessment and/or remedial action. Due to the number of volunteers and very limited staff resources, the branch was authorized by the General Assembly to privatize its oversight role at lower priority, voluntary site remedial actions. Sites with more severe public health threats or concerns are still reviewed by state staff.

The privatized portion of the voluntary cleanup program is called the Registered Environmental Consultant, or REC Program. Under this program a responsible party hires an REC to both conduct, and to certify the regulatory compliance of, a site's assessment and cleanup. In order for a firm to qualify as an REC, it must demonstrate it meets certain regulatory qualifications criteria. The REC certification replaces state oversight. The state audits a portion of the REC projects to ensure the integrity of the program. The state sanctions RECs where necessary. A state staff auditor is funded through fees collected from the voluntary participants.

A current list of sites which have parties conducting assessments and cleanups in accordance with consent agreements with the state is provided in Table 5 on the following page. Table 6, found on page 54, is a list of additional, ongoing, Branch-directed priority actions not under consent agreements.

TABLE 5. SITES UNDERGOING VOLUNTARY REMEDIAL ACTION BY RESPONSIBLE PARTIES

ID Number	*Site Name*	*City*	*County*
NONCD0000040	ABBOTT LABORATORIES	LAURINBURG	SCOTLAND
NONCD0000039	ABITIBI-PRICE CORPORATION	ROARING RIVER	WILKES
NCD047257472	APPLIED RESEARCH GROUP, INC.	CHARLOTTE	MECKLENBURG
NCD074511361	AQUAIR CORPORATION	CHARLOTTE	MECKLENBURG
NCD986188787	ASHEVILLE COAL GAS PLANT #1	ASHEVILLE	BUNCOMBE
NONCD0000032	ASHEVILLE COAL GAS PLANT #2	ASHEVILLE	BUNCOMBE
NCD072003635	ATHOL MANUFACTURING COMPANY	BUTNER	GRANVILLE
NCD003193588	BARBOUR BOAT WORKS, INC.	NEW BERN	CRAVEN
NONCD0000002	BURLINGTON COAL GAS PLANT	BURLINGTON	ALAMANCE
NCD986171965	CARO-KNIT	WILMINGTON	NEW HANOVER
NCD000830646	CAROLINA P&L CO. SUTTON STEAM	WILMINGTON	NEW HANOVER
NCD000608117	CELANESE CORPORATION/FIBERS TECH	CHARLOTTE	MECKLENBURG
NCD986188803	CHARLOTTE COAL GAS PLANT NO. 2	CHARLOTTE	MECKLENBURG
NONCD0001082	CMI FLYASH DISPOSAL (PARCEL 2)	ELKIN	SURRY
NONCD0001092	CMI WWTP (PARCEL1)	ELKIN	SURRY
NCD986197333	CONCORD COAL GAS PLANT	CONCORD	CABARRUS
NONCD0001097	COPES-VULCAN, INC	CHARLOTTE	MECKLENBURG
NONCD0001061	CP&L NORTHERN DIVISION COMPLEX	GARNER	WAKE
NCD062567623	DIAMOND SHAMROCK CORP/HENKEL PROCES	CHARLOTTE	MECKLENBURG
NCD981861743	DUKE POWER/GREENSBORO GAS PLANT	GREENSBORO	GUILFORD
NCD000813519	DUKE UNIVERSITY	DURHAM	DURHAM
NCD986173938	DURHAM GAS PLANT	DURHAM	DURHAM
NONCD0001058	ELECTRONICS COMPONENT CORPORATION	BURGAW	PENDER
NCD986197267	ELIZABETH CITY COAL GAS	ELIZABETH CITY	PASQUOTANK
NCD986197341	FAYETTEVILLE COAL GAS/RAY AVE	FAYETTEVILLE	CUMBERLAND
NONCD0000017	FLAKT PRODUCTS	WINSTON-SALEM	FORSYTH
NONCD0000029	FLEET AEROSPACE CORP./AERONCA	CHARLOTTE	MECKLENBURG
NCD986188829	GASTONIA COAL GAS PLANT	GASTONIA	GASTON
NCD051322980	GENERAL ELECTRIC CO.	CHARLOTTE	MECKLENBURG
NCD003163730	GENERAL INSTRUMENT CORP.	FAIRVIEW	BUNCOMBE
NONCD0001069	GENERAL MARBLE COMPANY	LINCOLNTON	LINCOLN
NCD986197309	GOLDSBORO COAL GAS PLANT #1	GOLDSBORO	WAYNE
NONCD0001083	GOLDSBORO COAL GAS PLANT #2	GOLDSBORO	WAYNE
NONCD0001089	GREENSBORO COAL GAS PLANT #1	GREENSBORO	GUILFORD
NCD986188886	GREENVILLE COAL GAS PLANT	GREENVILLE	PITT
NCD981922362	GREIF, INC	BLADENBORO	BLADEN
NCD986232379	GRESHAMS LAKE INDUSTRIAL PARK	RALEIGH	WAKE

TABLE 5. SITES UNDERGOING VOLUNTARY REMEDIAL ACTION BY RESPONSIBLE PARTIES

ID	*Site Name*	*City*	*Count*
NCD051739209	HARRELSON RUBBER COMPANY	ASHEBORO	RANDOLPH
NONCD0001084	HENDERSON COAL GAS PLANT	HENDERSON	VANCE
NCD990734055	HERCOFINA/CAPE INDUSTRIES	WILMINGTON	NEW HANOVER
NCD039102959	HEVI-DUTY ELECTRIC/GENERAL SIG	GOLDSBORO	WAYNE
NONCD0001085	HICKORY COAL GAS PLANT	HICKORY	CATAWBA
NCD986188837	HIGH POINT COAL GAS PLANT	HIGH POINT	GUILFORD
NCD051745685	HOLDING POND FOR WASTE/USS	GREENSBORO	GUILFORD
NCD003215696	HUNT MANUFACTURING	STATESVILLE	IREDELL
NONCD0000050	HWY 268 MIRROR WASTE DUMP	NORTH WILKESBORO	WILKES
NONCD0001111	IDEAL CLEANERS	RALEIGH	WAKE
NONCD0000056	JAMES LANDFILL	LAURINBURG	SCOTLAND
NCD986197366	KINSTON COAL GAS PLANT	KINSTON	LENOIR
NCD986197358	LEXINGTON COAL GAS PLANT	LEXINGTON	DAVIDSON
NCD003183167	LONG MANUFACTURING	TARBORO	EDGECOMBE
NCD055359079	MASONITE CORP. FIBERBOARD DIV.	SPRING HOPE	NASH
NONCD0001086	MT AIRY COAL GAS PLANT	MT AIRY	SURRY
NCD986197259	NEW BERN COAL GAS PLANT	NEW BERN	CRAVEN
NCD055162069	PELTON & CRANE PLANT (FORMER)	CHARLOTTE	MECKLENBURG
NONCD0001020	PRECISION FABRICS GROUP, INC	GREENSBORO	GUILFORD
NCD986188894	RALEIGH COAL GAS PLANT NO. 1	RALEIGH	WAKE
NCD986188902	RALEIGH COAL GAS PLANT NO. 2	RALEIGH	WAKE
NONCD0001087	REIDSVILLE COAL GAS PLANT	REIDSVILLE	ROCKINGHAM
NCD053009510	RELIANCE UNIVERSAL OF KENTUCKY	LENOIR	CALDWELL
NONCD0001108	RENTAL UNIFORM SERVICE	ASHEVILLE	BUNCOMBE
NCD986197325	ROCKY MOUNT COAL GAS PLANT NO. 1	ROCKY MOUNT	NASH
NCD986197317	ROCKY MOUNT COAL GAS PLANT NO. 2	ROCKY MOUNT	NASH
NCD981933096	ROCKY MOUNT, OLD AIRPORT	ROCKY MOUNT	NASH
NCD986197283	SALISBURY COAL GAS PLANT #1	SALISBURY	ROWAN
NONCD0001088	SALISBURY COAL GAS PLANT #2	SALISBURY	ROWAN
NCD062552153	SAYLES-BILTMORE BLEACHERIES	ASHEVILLE	BUNCOMBE
NCD003234549	SCM PROCTOR SILEX/WEAREVER	SOUTHERN PINES	MOORE
NCD003229358	SCM PROCTOR-SILEX/WEAREVER	MOUNT AIRY	SURRY
NCD083678631	SINCLAIR AND VALENTINE CO.	CHARLOTTE	MECKLENBURG
NCD053488557	SOUTHERN WOOD PIEDMONT COMPANY	GULF	CHATHAM
NCD058517467	SOUTHERN WOOD PIEDMONT COMPANY	WILMINGTON	NEW HANOVER
NCD986197291	STATESVILLE COAL GAS PLANT	STATESVILLE	IREDELL
NCD986176444	STROH/CHITTY FARM	WINSTON-SALEM	FORSYTH
NONCD0001101	STRONGHAVEN WAREHOUSE	MATTHEWS	MECKLENBURG
NCD986166700	TOISNOT SWAMP	WILSON	WILSON
NCD053485991	VARCO-PRUDEN BUILDINGS	KERNERSVILLE	FORSYTH
NCD986197275	WASHINGTON COAL GAS PLANT	WASHINGTON	BEAUFORT
NCD986188910	WILMINGTON COAL GAS PLANT	WILMINGTON	NEW HANOVER
NCN000407302	WILMINGTON GUN CLUB (FORMER)	WILMINGTON	NEW HANOVER
NCD986188845	WINSTON-SALEM COAL GAS PLANT NO. 1	WINSTON-SALEM	FORSYTH
NCD986188852	WINSTON-SALEM COAL GAS PLANT NO. 2	WINSTON-SALEM	FORSYTH

TABLE 6. ADDITIONAL, ONGOING, STATE-DIRECTED PRIORITY ACTIONS NOT UNDER VOLUNTARY ADMINISTRATIVE AGREEMENTS

ID Number	*Site Name*	*City*	*County*
NCD024462327	ACADEMY STEEL DRUM	MATTHEWS	MECKLENBURG
NCD003193588	BARBOUR BOAT WORKS	NEW BERN	CRAVEN
NCD003213881	BENDIX HEAVY METAL SYSTEMS	SALISBURY	ROWAN
NOT YET ASSIGNED	BULL MOUNTAIN RD	BLUE RIDGE PKWY	BUNCOMBE
NCD981750425	BUXTON DUMP	BUXTON	DARE
NONCD0000016	CMC HOLDING	ELKIN	SURRY
NOT YET ASSIGNED	CRABTREE MEADOWS	BLUE RIDGE PKWY	MCDOWELL
NCD982117590	CUSTOM PROCESSING	HIGH POINT	GUILFORD
NCD000773515	GA-PACIFIC	BOWDENS	DUPLIN
NCD000773507	GA-PACIFIC	ENFIELD	HALIFAX
NCD000813600	GA-PACIFIC	WHITEVILLE	COLUMBUS
NCD000813592	GA-PACIFIC	PLYMOUTH	WASHINGTON
NCD003221462	GARDNER MIRROR	N WILKESBORO	WILKES
NONCD0001068	GENCORP PRINTWORLD	MONROE	UNION
NCD003158094	GLEN RAVEN MILLS	BURNSVILLE	YANCEY
NONCD0001064	GUILFORD MILLS	FUQUAY-VARINA	WAKE
NCD980558035	HOMINY CREEK LANDFILL	ASHEVILLE	BUNCOMBE
NCD101750305	INDUSTRIAL PLASTICS	GREENSBORO	GUILFORD
NCD982095093	JAY'S CLEANERS	KANNAPOLIS	ROWAN
NCD980729677	KNOB CREEK FLYASH	BREVARD	TRANSYLVANIA
NONCD0001056	LITTLE MOUNTAIN LANDFILL	TRYON	POLK
NONCD0001112	OLD JOHNS RIVER RD DUMP	BLUE RIDGE PKWY	WATAGUA
NCD144192606	PARKER-ZENITH	ABERDEEN	MOORE
NCD980839716	RIVERDALE HOMES	DURHAM	DURHAM
NONCD0001016	ROYSTER CLARK	OAK CITY	MARTIN
NCD093338119	SCM CORP/GLIDDEN COATINGS	CHARLOTTE	MECKLENBURG
NCD990715658	SOUTHERN MANUFACTURING	CHARLOTTE	MECKLENBURG
NONCD0000022	SPINDALE REFUSE DISPOSAL	SPINDALE	RUTHERFORD
NCD003167780	SPRAGUE ELECTRIC	LANSING	ASHE
NONCD0000679	STURGEON CITY	JACKSONVILLE	ONSLOW
NONCD0001062	SWAIM'S TRUCK PARTS	HENDERSON	VANCE
NONCD0001075	TEXFI INDUSTRIES	FAYETTEVILLE	CUMBERLAND
NCD082362989	TUNGSTEN QUEEN MINE	TUNGSTEN	VANCE
NONCD0001110	WOODSON-TENET LAB	GOLDSTON	CHATHAM

Note: There are 20 additional sites with active ongoing bankruptcy claims, new site screenings or requests for "no further action reviews."

V. IMMINENT HAZARD SITES

The N.C. Department of Environment and Natural Resources and the USEPA are committed to addressing imminent hazard sites when identified. Table 7 provides a list of sites where imminent hazards have been discovered, or where abatement activities have continued, in fiscal year 04-05. Their location, a site description, status and funding source are also provided.

TABLE 7. SUMMARY OF IMMINENT HAZARD SITES

Site	*City/ County*	*Site Description*	*Status*	*Funding Source*
Holtra Chem/Honeywell	Riegelwood/ Columbus	Tanks, lagoons, ponds, soils, materials and a building contaminated with mercury.	Bulk waste removal completed this year. USEPA/State continue to oversee assessment and cleanup of contaminated media being conducted by owner.	Owner
Loflin Gold Mine	Trinity/ Randolph	Arsenic laden soils in a residential area.	USEPA removed all soil containing arsenic above naturally occurring concentrations.	USEPA
Rhodera Drive Wells	Stallings/ Union	Buried drums in a residential area. USEPA previously connected residents to city water.	USEPA completed removal of buried drums and is working on a soil cleanup.	USEPA
Spectra Designs	Farmville/Pitt	Abandoned drums containing corrosives in an open parking lot near residences.	USEPA completed a removal of the drums.	USEPA
Texfi Industries	Fayetteville/ Cumberland	Chlorinated solvent groundwater contaminant plume has migrated from a former textile mill to the City of Fayetteville's water plant property. The city's finished drinking water holding tank sits in contact with contaminated groundwater. The city's drinking water intakes on the Cape Fear River are 450 feet downstream from the Texfi property line.	The State constructed a barrier wall to prevent further contaminant migration to the holding tank area and installed extraction wells to remove contamination in the area of the tank. Concentrations have been reduced. The State has been provided additional appropriated funds to operate the extraction wells and monitor the groundwater. Funds are sufficient to continue this work through November 2007. Funds, through a bankruptcy settlement, have sufficiently accrued to where the State is initiating a contract to conduct a source removal.	State

VI. SUMMARY OF THE INACTIVE HAZARDOUS SITES CLEANUP FUND AND NATIONAL PRIORITIES LIST COST SHARE FUND

Inactive Hazardous Sites Cleanup Fund
As of July 1, 2005

Deposits (04-05)	
Interest	$3,855
No further action review fees	$1,000
Transfer from NPL Cost Share Account for Texfi Monitoring for 05-06	$50,000
Total Deposits	**$54,855**
Withdrawals (04-05)	
Texfi Industries-Fayetteville emergency abatement contract	$40,250
Reversion of unspent 04-05 funds to NPL Cost Share Account	$9,750
Orphan priority site sampling/removal contract	$30,092
Total Withdrawals	**$80,092**
Current Balance	**$115,360**
Obligations	
Texfi emergency abatement contract	$100,321
Orphan priority site sampling/removal contract	$15,039
Total Current Obligations	**$115,360**
Effective Balance	**$0**
Orphan Cleanup Cost Requirements (see Chapter II for more details)	
Funds needed for 31 additional priority orphan sites	$3,736,173
Funds needed to address 204 old landfills with exposure concerns	$36,294,252
Priority Orphan Site Cleanup Costs	**$40,030,425**

National Priorities List Cost Share Fund
As of July 1, 2005

Estimated cost of federal trust fund/N.C. cost share cleanups	$111,866,598
N.C.'s 10 percent cost share for pending/ongoing cleanups	$11,186,660*
Fund disbursements for cost share payments	$6,012,560
Current balance	$5,642,519
Encumbered amount of the fund balance for cost share payments	$5,174,099
Effective Balance	**$468,420***

* Cleanup cost estimates are not yet available for all sites. The cost share figure will increase as cost estimates become available. Also, other sites may be added to the National Priorities List that will require a state cost share. This account will also be required to pay for the state's operation and maintenance obligations which will begin in the next few years at some sites. Aside from interest, the fund has no continuing source of income. A $950,000 05-06 appropriation is not reflected in the balance.

APPENDIX I

INACTIVE HAZARDOUS SITES INVENTORY
Description of Categories

The Department of Environment and Natural Resources is required by North Carolina General Statute 130A-310.1(a) to maintain an inventory of inactive hazardous substance or waste disposal sites. The Inactive Hazardous Sites Inventory accounts for all of the sites in the EPA's Comprehensive Environmental Response, Compensation and Liability Act inventory of potential contaminated sites called CERCLIS. The intent is to address those sites determined not to be federal priorities. Many sites in the CERCLIS inventory, and therefore also the Inactive Hazardous Sites Inventory, are regulated by other state and federal laws. Thus, they are not priorities for the Inactive Hazardous Sites Branch. The Inactive Hazardous Sites Inventory (Appendix II) is organized in the categories described below. To avoid duplication of work, sites being addressed by other agencies are tracked in separate categories. Ten of the inventory sites appear in multiple other agency lead categories (4 through 10).

1. **Sites Priority List (pgs 60-70)**
   The SPL includes sites with confirmed contamination or known disposal of hazardous substances that have been ranked using the Prioritization System rules (15A NCAC Subchapter 13C .0200).

2. **Responsible Party Voluntary Remedial Action Sites (pgs 71-72)**
   In accordance with North Carolina General Statute 130A-310.9(b), voluntary cleanups or "remedial actions" conducted by responsible parties under agreements with the state must be listed in a separate category.

3. **Sites with Evaluations Pending (pg 73)**
   This category includes those sites that require evaluation before site priority can be determined. Each site with evidence of contamination will be ranked and transferred to the SPL. Those sites where no further action is required will also be transferred to that category.

4. **National Priorities List (pg 74)**
   The NPL consists of sites the federal government has determined to be the most serious, uncontrolled hazardous waste disposal sites in the nation. Either federal and state dollars or responsible parties will fund these cleanups. This list only includes North Carolina NPL sites.

5. **Non-NPL Federal Superfund Cleanups (pg 75)**
   NPL-caliber sites where the USEPA has entered into agreements with responsible parties to conduct remedial action are supervised by the USEPA. This list includes only the USEPA non-NPL remedial action sites located in North Carolina.

6. **RCRA Permitted or Interim Status Facilities* (pgs 76-77)**
   Facilities that are permitted or have interim status under the Resource Conservation and Recovery Act are tracked in this category. These sites are exempt pursuant to G.S. 130A-310(3) and come under the jurisdiction of the North Carolina Hazardous Waste Section.

7. **RCRA Non-Permitted Corrective Action Sites* (pg 78)**
   The inventory includes some non-permitted sites that are currently undergoing Resource Conservation and Recovery Act corrective action under the direction of the North Carolina Hazardous Waste Section.

8. **Sites Under the Jurisdiction of the Solid Waste Section* (pg 79)**
   Permitted solid waste landfills being monitored and controlled by the North Carolina Solid Waste Section, including those subject to post-closure care requirements, are tracked in this category.

9. **Sites Under the Jurisdiction of the Division of Water Quality * (pgs 80-81)**
   Sites in this category include those where the North Carolina Division of Water Quality has been specified as the lead agency to oversee assessment and/or cleanup.

10. **Sites Under the Jurisdiction of the Division of Environmental Health's Radiation Protection Section* (pg 82)**
    Sites conducting assessment and cleanup under the direction of the North Carolina North Carolina Radiation Protection Section are tracked in this category.

11. **Old Unlined Landfills (pgs 83-99)**
    This is a list of all the old unlined landfills catalogued by the branch. Some of the landfills were already included in the inventory before the addition of the larger catalog of old landfills. As a result, they also appear in other categories.

* **Additional sites, not included in the Inactive Hazardous Sites Inventory, may be managed by these regulatory agencies. A few sites have multiple agency jurisdiction.**

APPENDIX II
N.C. INACTIVE HAZARDOUS SITES INVENTORY BY CATEGORY
OCTOBER 2005

1. SITES PRIORITY LIST

ID Number	Site Name	City	County
NCD002571438	ABC ENGRAVERS	CHARLOTTE	MECKLENBURG
NCN000407447	ABERDEEN CONTAMINATED GROUNDWATER	ABERDEEN	MOORE
NCD045451473	ACE CHEMICAL CORPORATION	CHARLOTTE	MECKLENBURG
NCD045924339	ACME UNITED CORPORATION	FREMONT	WAYNE
NCD040042426	AEROQUIP/FAWN PLASTICS	MIDDLESEX	NASH
NCD024583288	AIR PRODUCTS AND CHEMICALS, INC.	GREENSBORO	GUILFORD
NONCD0001081	ALCOA-NARROWS POWERHOUSE	BADIN	MONTGOMERY
NONCD0001094	ALLISON MANUFACTURING CO	ALBEMARLE	STANLY
NCD085082311	AMERICAN COLORS INCORPORATED	CHARLOTTE	MECKLENBURG
NONCD0001033	AMERICAN CONTRACT COATINGS	APEX	WAKE
NCSFN0407143	AMERICAN ELEMENTS	FARMVILLE	PITT
NCD052813250	AMERICAN ENKA COMPANY/BASF	ENKA	BUNCOMBE
NCD000615872	AMP INCORPORATED	GASTONIA	GASTON
NCD041230418	AMP INCORPORATED	WINSTON-SALEM	FORSYTH
NCD119168813	ANILOX ROLL COMPANY	CHARLOTTE	MECKLENBURG
NCD980502793	APEX SANITARY LANDFILL	APEX	WAKE
NCD048462881	ARMOLOY CO OF NC/HI-TECH	STATESVILLE	IREDELL
NCD986175636	ASHE PATTERN SHOP (FORMER)	GASTONIA	GASTON
NCD980557557	ASHEBORO LANDFILL	ASHEBORO	RANDOLPH
NONCD0000034	ASHEVILLE INDUSTRIES	ARDEN	BUNCOMBE
NCD033978396	ATEC INDUSTRIES	ROXBORO	PERSON
NCD003466919	AXTON-CROSS COMPANY/VAN WATER	GREENSBORO	GUILFORD
NONCD0000038	AYCOCK PROPERTY	WILSON	WILSON
NCN000407672	BEACON MANUFACTURING	SWANNANOA	BUNCOMBE
NCD980559637	BEAUNIT CORP./DYING & FINISHING	LOWELL	GASTON
NCD003213881	BENDIX CORPORATION	SALISBURY	ROWAN
NCD986171445	BENFIELD CHEMICALS	CANTON	HAYWOOD
NONCD0000070	BENFIELD SANITATION SERVICE	STATESVILLE	IREDELL
NCD981022072	BETTIS PROPERTY	EARL	CLEVELAND
NONCD0001030	BLR	SANFORD	LEE
NONCD0000014	BOISE CASCADE	MONCURE	CHATHAM
NCD003189024	BORDEN CHEMICAL FAYETTEVILLE PLANT	FAYETTEVILLE	CUMBERLAND
NCD980502827	BROWN #1	PISGAH FOREST	TRANSYLVANIA
NONCD0001038	BRYANT FARM DRUM DUMP	GATEWOOD	CASWELL
NCD980845119	BUCKHORN PESTICIDES	WILSON	WILSON
NCD024770125	BURLINGTON FURNITURE	ROBBINSVILLE	GRAHAM
NCD991278581	BURLINGTON FURNITURE/LUMBER PL	LEXINGTON	DAVIDSON
NCD048184451	BURLINGTON HOME CHAIR	RONDA	WILKES
NCD096158696	BURLINGTON INDUSTRIES, INC.	GREENSBORO	GUILFORD
NCD980557664	BURLINGTON INDUSTRIES, INC.	RALEIGH	WAKE
NCD093334894	BURLINGTON INDUSTRIES, INC.	STATESVILLE	IREDELL
NCD024762668	BUSH BROTHERS PLATING INC/GREER	REIDSVILLE	ROCKINGHAM

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N.C. INACTIVE HAZARDOUS SITES INVENTORY BY CATEGORY
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1. SITES PRIORITY LIST

ID Number	*Site Name*	*City*	*County*
NCD981750425	BUXTON DUMP	BUXTON	DARE
NONCD0001099	C & L SURPLUS	HAYESVILLE	CLAY
NCD981022288	C&T REFINERY	CHARLOTTE	MECKLENBURG
NCD980502850	CABARRUS DISPOSAL COMPANY, INC.	CONCORD	CABARRUS
NONCD0001122	CABARRUS ROUNDABOUT	CONCORD	CABARRUS
NCD980557870	CALDWELL COUNTY ABANDONED WASTE	LENOIR	CALDWELL
NCD982098774	CAL-TONE PAINTS	RALEIGH	WAKE
NCD981021702	CAMP, LEONARD PROPERTY	EARL	CLEVELAND
NCD003162666	CANNON MILLS COMPANY/FIELDCREST	KANNAPOLIS	CABARRUS
NONCD0000082	CAPE FEAR CHEMICALS/HL BRICE	ELIZABETHTOWN	BLADEN
NCN000407686	CARALEIGH PHOSPHATE AND FERTILIZER	RALEIGH	WAKE
NCD981929813	CARBONTON ROAD DRUM SITE	SANFORD	LEE
NCD986209575	CARDINAL CHEMICAL WAREHOUSE FIRE	LUMBERTON	ROBESON
NCSFN0407140	CARDINAL CONTAINER SERVICES	LEXINGTON	DAVIDSON
NCD991278714	CAROCHEM, INC.	DURHAM	DURHAM
NCD980729479	CAROLAWN COMPANY	KERNERSVILLE	FORSYTH
NCD981015746	CAROLINA ALUMINUM/HERBERT TAYLOR	ROPER	WASHINGTON
NCSFN0406911	CAROLINA ASSOCIATED MILL	NEWTON	CATAWBA
NCD003184710	CAROLINA CREOSOTING CORPORATION	LELAND	BRUNSWICK
NONCD0000013	CAROLINA HARDWOODS	WILLIAMSTON	MARTIN
NONCD0000053	CAROLINA MARBLE CO.	ALBEMARLE	STANLY
NONCD0000078	CAROLINA METAL AND ALLOYS	HIGH POINT	GUILFORD
NCD000830919	CAROLINA P&L CO. CAPE FEAR STM	MONCURE	CHATHAM
NONCD0000023	CAROLINA P&L CO. FAYETTEVILLE	FAYETTEVILLE	CUMBERLAND
NCD000830612	CAROLINA P&L CO. MAYO STEAM	ROXBORO	PERSON
NCD000830653	CAROLINA P&L CO. ROXBORO STEAM	ROXBORO	PERSON
NONCD0000028	CAROLINA P&L CO. SPRUCE PINE	SPRUCE PINE	MITCHELL
NCD000830620	CAROLINA P&L CO. WEATHERSPOON STEAM	LUMBERTON	ROBESON
NCD981015886	CAROLINA PRODUCTION FINISHING	ASHEVILLE	BUNCOMBE
NCD003218492	CAROLINA RUBBER HOSE COMPANY	SALISBURY	ROWAN
NCD980729412	CAROLINA TANK CLEANING COMPANY	GREENSBORO	GUILFORD
NONCD0001077	CATAWISSA LUMBER CO	WEST JEFFERSON	ASHE
NONCD0001067	CC DICKSON	CHARLOTTE	MECKLENBURG
NCD986180883	CCFC PESTICIDE DISPOSAL	OXFORD	GRANVILLE
NONCD0000015	CENTRAL TRANSPORT COMPANY	WILMINGTON	NEW HANOVER
NCD003221868	CENTURY FURNITURE COMPANY	HICKORY	CATAWBA
NCN000407241	CHADBOURN BATTERY	CHADBOURN	COLUMBUS
NCD986188001	CHAMPION INTERNATIONAL LANDFILL #1	CANTON	HAYWOOD
NCD003148889	CHAMPION INTERNATIONAL/CANTON MILL	CANTON	HAYWOOD
NCD986188019	CHAMPION LANDFILL #2	CANTON	HAYWOOD
NCD986188027	CHAMPION LANDFILL #3	CANTON	HAYWOOD
NONCD0000035	CHAPEL STREET BATTERY DUMP	KANNAPOLIS	ROWAN

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N.C. INACTIVE HAZARDOUS SITES INVENTORY BY CATEGORY
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1. SITES PRIORITY LIST

ID Number	Site Name	City	County
NCD980557771	CHARLOTTE CITY DUMP	CHARLOTTE	MECKLENBURG
NCD024468597	CHARLOTTE STEEL DRUM	CHARLOTTE	MECKLENBURG
NONCD0000083	CHEESMAN PROPERTY	ROCKWELL	CABARRUS
NONCD0000044	CHEMICAL AND SOLVENTS, INC.	GREENSBORO	GUILFORD
NC0000183103	CHEMICAL CARTAGE COMPANY	LELAND	BRUNSWICK
NCD043711977	CHEMICAL LEAMAN TANK LINES, INC.	GREENSBORO	GUILFORD
NCD986190239	CHEROKEE OIL	CHARLOTTE	MECKLENBURG
NCD980799019	CHEROKEE OIL	CHARLOTTE	MECKLENBURG
NCD981473150	CHERRY MT STREET DRUM	FOREST CITY	RUTHERFORD
NONCD0000041	CIBA-GEIGY	CHARLOTTE	MECKLENBURG
NCD980844732	CLAYTON BALL FIELD	CLAYTON	JOHNSTON
NCD003223799	CLAYTON-MARCUS CO., INC.	BETHLEHEM	ALEXANDER
NONCD0001001	CLOSED CITY OF HENDERSON LDFL	HENDERSON	VANCE
NONCD0000016	CMC LANDFILL	ELKIN	SURRY
NONCD0000065	CMI INDUSTRIES	ELKIN	SURRY
NCD054417308	COASTAL CHEMICAL CORP.	CLAYTON	JOHNSTON
NCD003186178	COASTAL CHEMICAL CORP.	GREENVILLE	PITT
NONCD0000030	COLLINS AND AIKMAN	GRAHAM	ALAMANCE
NONCD0001107	CONE MILLS - FLORENCE PLANT	FOREST CITY	RUTHERFORD
NCD003467099	CONE MILLS CORP/GRANITE FINISHING	HAW RIVER	ALAMANCE
NONCD0001114	CONOVER METAL PRODUCTS	CONOVER	CATAWBA
NCD003162500	CONSOLIDATED ENGRAVERS CORP.	CHARLOTTE	MECKLENBURG
NCD130708126	CONSOLIDATED WAREHOUSE	CHARLOTTE	MECKLENBURG
NCD003218161	CORNELL-DUBILIER ELECTRONICS	SANFORD	LEE
NCD003195161	CORNING GLASS WORKS	RALEIGH	WAKE
NCD003938586	CORNING GLASS WORKS	WILMINGTON	NEW HANOVER
NC0000998336	CP PROPERTIES	SANFORD	LEE
NCD980502892	CREEK BRIDGE/BORDEN CHEMICAL	FAYETTEVILLE	CUMBERLAND
NCD986172492	CRESTLINE CONTAMINATED WELLS	ABERDEEN	MOORE
NC0001606250	CRISTEX DRUM	OXFORD	GRANVILLE
NCD044444735	CROMPTON & KNOWLES CORP.	LOWELL	GASTON
NONCD0001027	CROWDERS MOUNTAIN STATE PARK	GASTONIA	GASTON
NCD044447639	CROWN CENTRAL PETROLEUM CORP.	PAW CREEK	MECKLENBURG
NCD003149556	CTS OF ASHEVILLE, INC.	SKYLAND	BUNCOMBE
NCD982117590	CUSTOM PROCESSING AND MANUFACTURING	HIGH POINT	GUILFORD
NCD080885551	DAUGHERTY CHEMICAL COMPANY	DURHAM	DURHAM
NONCD0000059	DAYCO COCHRAN LANDFILL	WAYNESVILLE	HAYWOOD
NCD982119463	DAYCO LANDFILL CRYME COVE ROAD	WAYNESVILLE	HAYWOOD
NONCD0001071	DOE-SPUN	HOLLISTER	HALIFAX
NONCD0001040	DOMESTIC LAUNDRY/WASHBURN GRAPHICS	CHARLOTTE	MECKLENBURG
NCD003213030	DOUGLAS BATTERY MANUFACTURING CO.	WINSTON-SALEM	FORSYTH
NONCD0000091	DUKE POWER/WALNUT COVE	WALNUT COVE	STOKES

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1. SITES PRIORITY LIST

ID Number	*Site Name*	*City*	*County*
NCD003230836	DUKE REFINING CORPORATION	HIGH POINT	GUILFORD
NCD986188498	DURA-BUILT ENGINES CO	COATS	HARNETT
NCD981016280	DURHAM ANIMAL CLINIC	DURHAM	DURHAM
NCD981014517	DYNATECH	CHARLOTTE	MECKLENBURG
NCD004520136	EATON CORPORATION	ROXBORO	PERSON
NCD024740433	EC MANUFACTURING	PINEVILLE	MECKLENBURG
NONCD0001119	EDWARDS PROPERTY FOUNDRY SAND	CHARLOTTE	MECKLENBURG
NCD980558019	ELK MOUNTAIN LANDFILL	ASHEVILLE	BUNCOMBE
NC0001402213	ELLIS JUNK YARD	HAYESVILLE	CLAY
NONCD0001102	ENQUIRER JOURNAL	MONROE	UNION
NCD980557946	FAIRVIEW LANDFILL	FAIRVIEW	BUNCOMBE
NCD062566047	FASCO CONTROLS CORPORATION	SHELBY	CLEVELAND
NCD067178707	FAWN PLASTICS CO., INC.	MIDDLESEX	NASH
NCD990867855	FAWN PLASTICS CO., INC.	ROCKY MOUNT	NASH
NCD980502934	FAYETTEVILLE LANDFILL	FAYETTEVILLE	CUMBERLAND
NCD003200656	FEATHER PROCESSORS, INC	ROSE HILL	DUPLIN
NCD041414780	FIELDCREST MILLS INC./NC FINISHING	SPENCER	ROWAN
NCD066327313	FINETEX, INC.	SPENCER	ROWAN
NCD980557953	FISHBURNE LANDFILL	FLETCHER	BUNCOMBE
NCD003154960	FLEMING LABORATORIES	CHARLOTTE	MECKLENBURG
NCD980557854	FMC/NIAGARA PESTICIDES	AYDEN	PITT
NONCD0000075	FOAMEX/REEVES BROTHERS	CORNELIUS	MECKLENBURG
NCD986172617	FORBES ROAD WELLS	GASTONIA	GASTON
NCD071579528	FORBUSH METAL	YADKINVILLE	YADKIN
NCD981468622	FORK SWAMP/GRADY WHITE BOAT	AYDEN	PITT
NONCD0001109	FRIENDLY CLEANERS	WILSON	WILSON
NCD001871854	FRUEHAUF TRAILER CORPORATION	CHARLOTTE	MECKLENBURG
NONCD0000092	FUNDER AMERICA	MOCKSVILLE	DAVIE
NCSFN0406953	G&B/FARMER PROPERTY	SCOTLAND NECK	HALIFAX
NONCD0000024	GAITHER TRANSOU PROPERTY	GREENSBORO	GUILFORD
NCD000616219	GA-PACIFIC CORP	HAMLET	RICHMOND
NCD000813600	GA-PACIFIC CORP CHIP-N-SAW	WHITEVILLE	COLUMBUS
NCD000813592	GA-PACIFIC CORP/HDWD SAW	PLYMOUTH	WASHINGTON
NCD003221462	GARDNER MIRROR CORPORATION	NORTH WILKESBORO	WILKES
NC0002374445	GASTONIA INDUSTRIAL TRUCK	GASTONIA	GASTON
NONCD0001068	GENCORP PRINTWORLD INC	MONROE	UNION
NCD003198967	GENERAL ELECTRIC CO/CAROLINA	GOLDSBORO	WAYNE
NCD072018252	GENERAL ELECTRIC CO/MED STEAM TURBIN	DURHAM	DURHAM
NONCD0001034	GEORGE STREET PESTICIDE	GOLDSBORO	WAYNE
NCD980848766	GIBBS ELECTROPLATING	CHARLOTTE	MECKLENBURG
NONCD0001022	GIBBS ELECTROPLATING - OLD LOCATION	CHARLOTTE	MECKLENBURG
NCD980557607	GLASS, EH COUNTY LANDFILL	GREENSBORO	GUILFORD

APPENDIX II
N.C. INACTIVE HAZARDOUS SITES INVENTORY BY CATEGORY
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1. SITES PRIORITY LIST

ID Number	Site Name	City	County
NC0001206473	GLEN RAVEN MILLS	BURLINGTON	ALAMANCE
NCD003158094	GLEN RAVEN MILLS	BURNSVILLE	YANCEY
NONCD0000055	GLISSON ENTERPRISES	GREENVILLE	PITT
NCD980557649	GOLDSBORO MUNICIPAL LANDFILL	GOLDSBORO	WAYNE
NCD980843460	GRANT CREEK WWTP	SALISBURY	ROWAN
NONCD0000043	GREAT LAKES CARBON CORPORATION	MORGANTON	BURKE
NCD980557698	GREENVILLE CITY LANDFILL	GREENVILLE	PITT
NCD982124646	GREGSON FUNITURE INDUSTRIES	LIBERTY	RANDOLPH
NCD980557912	GROVE STONE LANDFILL	BLACK MOUNTAIN	BUNCOMBE
NONCD0001064	GUILFORD MILLS PLANT	FUQUAY-VARINA	WAKE
NCD055550560	GULF ADHESIVES & RESINS/PERKINS	HIGH POINT	GUILFORD
NCD067437400	GULF OIL CORPORATION	MCLEANSVILLE	GUILFORD
NONCD0001028	GURLEY DRIVE LANDFILL	CONCORD	CABARRUS
NCD024459471	GUYTON BATTERY SERVICE	CHADBOURN	COLUMBUS
NCD049772023	H & S PROCESSORS, INC.	LINCOLNTON	LINCOLN
NONCD0000073	H. M. WADE FURNITURE	CHARLOTTE	MECKLENBURG
NONCD0001115	HAHN DAIRY FARM	MOUNT PLEASANT	CABARRUS
NCD084171545	HALIFAX COUNTY LANDFILL		HALIFAX
NONCD0000087	HARPER CRAWFORD BAG CO.	CHARLOTTE	MECKLENBURG
NCD000822130	HARRELSON RUBBER COMPANY	ASHEBORO	RANDOLPH
NCD980557722	HARRISBURG BATTERY	HARRISBURG	CABARRUS
NCD108702606	HARTSOE BATTERY	KANNAPOLIS	ROWAN
NCD986166692	HARWELL ROAD SEPTIC PIT	GASTONIA	GASTON
NCD044515211	HAYES-ALBION CORP/BRIGGS-SHAFFNER	WINSTON-SALEM	FORSYTH
NCD980483275	HELENA CHEMICAL COMPANY	ENFIELD	HALIFAX
NCD082363102	HELENA CHEMICAL COMPANY	LAURINBURG	SCOTLAND
NCD003163888	HENREDON FURNITURE	MORGANTON	BURKE
NCD024817827	HENREDON FURNITURE	SPRUCE PINE	MITCHELL
NCD981003957	HENSON LANDFILL	FOREST CITY	RUTHERFORD
NCD986171270	HESTA CARILLON PROJECT	CHARLOTTE	MECKLENBURG
NC0000998344	HICKORY GROVE ROAD TCE	MCADENVILLE	GASTON
NCD003225620	HIGH POINT FURNITURE INDUSTRIES	HIGH POINT	GUILFORD
NCD003216397	HIGHLAND INDUSTRIES/BURLINGTON IND.	KERNERSVILLE	FORSYTH
NONCD0001117	HILLSIDE SHOPPING CENTER	ASHEBORO	Randolph
NCD046149019	HISTRAND CHEMICAL, INC.	LENOIR	CALDWELL
NCD981928021	HOLLINGSWORTH PROPERTY	FAYETTEVILLE	CUMBERLAND
NCD081333858	HOLSTON ENERGY INC/HOLSTON FUEL	WAYNESVILLE	HAYWOOD
NCD980558035	HOMINY CREEK LANDFILL	ASHEVILLE	BUNCOMBE
NCD048401087	HOOKER FURNITURE	PLEASANT GARDEN	GUILFORD
NCD054283189	HOOVER MACHINE SHOP	GASTONIA	GASTON
NCD003233673	HOOVER REPAIR SHOP	MT AIRY	SURRY
NCD980502983	HOPE MILLS LANDFILL	HOPE MILLS	CUMBERLAND

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ID Number	*Site Name*	*City*	*County*
NCN000407480	HORTON IRON & METAL	WILMINGTON	NEW HANOVER
NCD980847123	HURT RESIDENCE	MORGANTON	BURKE
NONCD0001018	HWY 49 BATTERY DUMP	CHARLOTTE	MECKLENBURG
NCD053010724	ICI - AMERICAS, INC.	CHARLOTTE	MECKLENBURG
NONCD0000031	INDEPENDENCE MALL OUTPARCEL	WILMINGTON	NEW HANOVER
NCD980839757	INDIAN GRAVE GAP DRUM DISPOSAL	LENOIR	CALDWELL
NCD101750305	INDUSTRIAL PLASTICS, INC.	GREENSBORO	GUILFORD
NCD990868168	INMONT CORP/BASF CORPORATION	CHARLOTTE	MECKLENBURG
NCD003186004	INTERNATIONAL PAPER RICHMOND GRAVURE	RALEIGH	WAKE
NCD081332900	INX (FORMER) FACILITY	CHARLOTTE	MECKLENBURG
NCD980518211	IRT/IBM CORPORATION	CHARLOTTE	MECKLENBURG
NONCD0001072	J & C DYEING	SHELBY	CLEVELAND
NCD980502991	JACKSONVILLE LANDFILLS	JACKSONVILLE	ONSLOW
NC0000195743	JIMMY GREEN METALS	NASHVILLE	NASH
NCD981928385	JOHN DEERE TRACTOR	MOCKSVILLE	DAVIE
NCD000770487	JOHNSON CONTROLS GLOBE BATTERY	WINSTON-SALEM	FORSYTH
NONCD0000085	JONES & PRESNELL STUDIO	CHARLOTTE	MECKLENBURG
NONCD0001036	JOYCETON WATER WORKS WELL #2	LENOIR	CALDWELL
NONCD0001037	JOYCETON WATER WORKS WELL #9	LENOIR	CALDWELL
NONCD0001011	JUNG CORPORATION	ASHEBORO	RANDOLPH
NCD980557847	KAISER ACME FARMARKET	RIEGELWOOD	COLUMBUS
NCD986228054	KANNAPOLIS PCE SPILL	KANNAPOLIS	CABARRUS
NCD981031693	KEENER LANDFILL	CLINTON	SAMPSON
NCD048958615	KELLY-SPRINGFIELD TIRE CO/GOODYEAR	FAYETTEVILLE	CUMBERLAND
NCD980557805	KERR MCGEE CORPORATION	NAVASSA	BRUNSWICK
NCD981927908	KIDD LANE BATTERY DISPOSAL	CHARLOTTE	MECKLENBURG
NCD097361018	KIN PROPERTIES ABANDONED DRUMS	CHARLOTTE	MECKLENBURG
NCD980729677	KNOB CREEK FLYASH DISPOSAL	BREVARD	TRANSYLVANIA
NCD002388965	LACKAWANNA LEATHER CO., INC.	CONOVER	CATAWBA
NCD981863814	LANCASTER PLATING	LILLINGTON	HARNETT
NCD053528170	LAURENS GLASS/BALL-INCON GLASS PACK	HENDERSON	VANCE
NCN000407197	LEARY BROTHERS STORAGE (FORMER)	EDENTON	CHOWAN
NCD986175628	LEE'S MOTOR WORKS	GASTONIA	GASTON
NCD980557888	LENOIR CITY LANDFILL	LENOIR	CALDWELL
NCD079066833	LENOIR REFINING COMPANY	LENOIR	CALDWELL
NONCD0001079	LES MYERS PARK	CONCORD	CABARRUS
NONCD0001050	LEXINGTON FURNITURE IND. PLNT #12	LEXINGTON	DAVIDSON
NONCD0001048	LEXINGTON FURNITURE IND. PLNT #2	LEXINGTON	DAVIDSON
NONCD0001049	LEXINGTON FURNITURE IND. PLNT #7	LEXINGTON	DAVIDSON
NCD003213568	LIBERTY FURNITURE CORP/CHROMCRAFT	LIBERTY	RANDOLPH
NONCD0001056	LITTLE MOUNTAIN LANDFILL	TRYON	POLK
NONCD0000006	LITTLEFIELD LANDFILL	AYDEN	PITT

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1. SITES PRIORITY LIST

ID Number	Site Name	City	County
NCD980848782	MADISON COUNTY CYANIDE SITE		MADISON
NCD003167988	MARANTZ PIANO CO INC/ANEVKA, INC	MORGANTON	BURKE
NCD000623223	MARTIN MANUFACTURING PROPERTIES	WILLIAMSTON	MARTIN
NCD991278755	MARTIN'S BATTERY SALVAGE, INC.	KANNAPOLIS	CABARRUS
NONCD0001015	MARY CIRCLE BATTERY	CONCORD	CABARRUS
NONCD0000096	MASON DRUM STORAGE	CANTON	HAYWOOD
NCD986223170	MCBESS INDUSTRIES	HIGH SHOALS	GASTON
NCD980838551	MCDOWELL FIREMAN ASSOCIATION SITE	MARION	MCDOWELL
NCD986172500	MCLEAN BROTHERS FARM	WAGRAM	SCOTLAND
NONCD0000027	MEADOWVIEW ROAD	GREENSBORO	GUILFORD
NONCD0000047	MEADS AIRFIELD PESTICIDES	WEEKSVILLE	PASQUOTANK
NCD991279118	MEREDITH/BURDA, INC.	NEWTON	CATAWBA
NONCD0001106	MICROTON ABRASIVES, INC	PINEVILLE	MECKLENBURG
NCD980503031	MILAN YARD LANDFILL	FAYETTEVILLE	CUMBERLAND
NCD089914311	MILLER BREWING CO/CONT DIV	REIDSVILLE	ROCKINGHAM
NONCD0001041	MITCHELL & BECKER	CHARLOTTE	MECKLENBURG
NCD042891663	MITCHELL ENGR CO/CECO BLDG. DIV.	ROCKY MOUNT	NASH
NCD990883001	MONARCH FURNITURE CORPORATION	JAMESTOWN	GUILFORD
NCD008839276	MONEY-WORTH, INC	SWANNANOA	BUNCOMBE
NCD088563242	MONSANTO COMPANY/ROHM & HAAS	FAYETTEVILLE	CUMBERLAND
NONCD0000054	MOORES COMPANY	HENDERSON	VANCE
NONCD0000097	MORRIS, NORMAN	ELON COLLEGE	ALAMANCE
NONCD0001095	MOSES CONE MEMORIAL PARK	BLOWING ROCK	WATAUGA
NCD980559355	NASH COUNTY LANDFILL/SR 1145	SPRING HOPE	NASH
NCD980559330	NASH COUNTY LANDFILL/SR 1524	RED OAK	NASH
NCD982174492	NATIONAL PIN	SARATOGA	WILSON
NCD003196847	NATIONAL SPINNING COMPANY	WASHINGTON	BEAUFORT
NONCD0001098	NATIONAL TEXTILES, LLP	MORGANTON	BURKE
NCSFN0407074	NC MARITIME MUSEUM	BEAUFORT	CARTERET
NCD981023732	NEUVILLE SOCK PROPERTY	HILDEBRAN	BURKE
NCD003235066	NEW AGE FURNITURE CO/MILLER TOOL	LEXINGTON	DAVIDSON
NCD990715070	NEW HANOVER CY & CAROLINA LDFL	CAROLINA BEACH	NEW HANOVER
NCD986171379	NEW HAVEN DRIVE TCE	GASTONIA	GASTON
NCD024577421	NORTH CAROLINA SALVAGE CO.	GOLDSBORO	WAYNE
NCD991278839	NORTH STATE CHEMICALS	GREENSBORO	GUILFORD
NCD986186518	OLD ATC REFINERY	WILMINGTON	NEW HANOVER
NCD986166734	OLD BEAUFORT CO. LANDFILL	WASHINGTON	BEAUFORT
NONCD0001065	OLD CHARLOTTE LDFL/VANGUARD CENTRE	CHARLOTTE	MECKLENBURG
NONCD0001074	OLD FORD BLDG	TABOR CITY	COLUMBUS
NONCD0001090	OLD MILL BLDG	HENDERSONVILLE	HENDERSON
NCD986172518	OLD MOUNT HOLLY ROAD PCE SITE	CHARLOTTE	MECKLENBURG
NONCD0000079	OLD PINEHURST HOTEL CLEANERS	PINEHURST	MOORE

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1. SITES PRIORITY LIST

ID Number	*Site Name*	*City*	*County*
NCD986197374	OLD RANDLEMAN TOWN DUMP	RANDLEMAN	RANDOLPH
NCSFN0406906	OLD STAKE ROAD	CHADBOURNE	COLUMBUS
NCD980728745	OSHIELDS FLY ASH	BREVARD	TRANSYLVANIA
NONCD0001039	OVERCASH GRAVEL & GRADING CO. INC.	CONCORD	CABARRUS
NCD003520301	OVERCASH MACHINE SHOP, INC.	STATESVILLE	IREDELL
NCD055165609	PANTASOTE INC. FILM/COMPOUND DIV.	HICKORY	CATAWBA
NCD144192606	PARKER-ZENITH	ABERDEEN	MOORE
NONCD0000099	PARTON'S MOTOR COMPANY	GASTONIA	GASTON
NCD057248759	PATCH RUBBER POND	ROANOKE RAPIDS	HALIFAX
NCD986171338	PEELE CO. PESTICIDE DISPOSAL	CLAYTON	JOHNSTON
NCD980503098	PFIZER INC/SKATE STADIUM	GREENSBORO	GUILFORD
NCD003196193	PIFER INDUSTRIES, INC.	DURHAM	DURHAM
NCD986166379	PILOT MOUNTAIN TIRE FIRE	PILOT MOUNTAIN	SURRY
NCD980557672	PITT COUNTY UTILITY LANDFILL	GREENVILLE	PITT
NCD075570820	PLYMOUTH WOOD TREATING COMPANY	PLYMOUTH	WASHINGTON
NCD980558027	POND ROAD LANDFILL 2	ASHEVILLE	BUNCOMBE
NCD986170694	POULOS GROUNDWATER CONTAMINATION	CHARLOTTE	MECKLENBURG
NCD980559983	PPG IND., INC./WKS 52	SHELBY	CLEVELAND
NCN000407364	QUARTER MASTER AUTO DETAIL	KERNERSVILLE	FORSYTH
NCD062548995	QUORUM KNITTING	WEAVERVILLE	BUNCOMBE
NONCD0001029	R & D LAMINATORS INC	AHOSKIE	HERTFORD
NONCD0001121	R & R PLATING	WHITEVILLE	COLUMBUS
NCD003149663	RADIATOR SPECIALTY COMPANY	CHARLOTTE	MECKLENBURG
NCD981031578	RAINBOW DRIVE BATTERY	KANNAPOLIS	CABARRUS
NCD003216413	RALEIGH ROAD FURNITURE CORP. STANLEY	LEXINGTON	DAVIDSON
NONCD0001125	RALEIGH TTA-DILLON PARCEL A	RALEIGH	WAKE
NONCD0001126	RALEIGH TTA-DILLON PARCEL B	RALEIGH	WAKE
NONCD0001127	RALEIGH TTA-DILLON PARCEL C	RALEIGH	WAKE
NONCD0001123	RALEIGH TTA-SE PARCEL	RALEIGH	WAKE
NONCC0001124	RALEIGH TTA-WILSON PARCEL	RALEIGH	WAKE
NONCD0000025	RANGE ROAD BURN SITE	BUTNER	GRANVILLE
NCD002972966	REA MAGNET WIRE COMPANY	LAURINBURG	SCOTLAND
NCD083673616	REEVES BROTHERS	RUTHERFORDTON	RUTHERFORD
NCD003152659	REICHHOLD CHEMICAL, INC.	CONCORD	CABARRUS
NCD049845548	REICHHOLD CHEMICAL, INC.	MONCURE	CHATHAM
NCD062664883	REINCO CHEMICAL COMPANY	ROANOKE RAPIDS	HALIFAX
NONCD0001116	REPUBLIC SERVICES OF NC	ROUGEMONT	PERSON
NCD986176030	RHODERIA DRIVE WELLS	STALLINGS	UNION
NCD060306727	RICHARDS WC COMPANY, INC.	ABERDEEN	MOORE
NCD980557789	RICHMOND COUNTY LANDFILL	ROCKINGHAM	RICHMOND
NCD980839716	RIVERDALE HOMES/EARL GETTS	DURHAM	DURHAM
NCN000407196	ROWAN ROAD LANDFILL	CLINTON	SAMPSON

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ID Number	Site Name	City	County
NCD980838379	ROWE CORP PROPERTY/BOULIGNY SITE	CHARLOTTE	MECKLENBURG
NCN000407775	ROYSTER FERTILIZER	LELAND	BRUNSWICK
NONCD0001016	ROYSTER-CLARK FERTILIZER PLANT	OAK CITY	MARTIN
NCD093334969	S & S METALS RECYCLING COMPANY	GOLD HILL	CABARRUS
NCD000776732	SAFETY-KLEEN CORP 3-031-02	WALLACE	DUPLIN
NONCD0001096	SALISBURY TOWNSHIP SHOPPING CENTER	SALISBURY	ROWAN
NCD980602791	SALVAGE OIL OF AMERICA	ROCKINGHAN	RICHMOND
NCD000281832	SANFORD PLATING COMPANY	SANFORD	LEE
NCD980503106	SANITATION SERV LAND	SAINT PAULS	ROBESON
NCD093338119	SCM CORP. GLIDDEN COATINGS & RESINS	CHARLOTTE	MECKLENBURG
NCD003155587	SCOTT AVIATION OF MONROE/TOOL SERV	MONROE	UNION
NCD980848840	SCOTT'S CREEK BATTERY SITE	NEW BERN	CRAVEN
NCD000616516	SCOVILL INC/SECURITY PRODUCTS	MONROE	UNION
NCD980600449	SED, INC. RADAR ROAD	GREENSBORO	GUILFORD
NCD980712038	SED, INC. SWING COURT	GREENSBORO	GUILFORD
NCD003231545	SHERWOOD TREATING CO., INC.	WINSTON-SALEM	FORSYTH
NCN000407206	SHULIMSON BROTHERS SCRAP YARD	ASHEVILLE	BUNCOMBE
NCD067428821	SIEMENS-ALLIS, INC/SWITCHGEAR DIV	SANFORD	LEE
NONCD0001100	SIMPSON WELL CONTAMINATION	BELMONT	GASTON
NCD098765506	SINGER CO/FURNITURE DIV BRYSON	BRYSON CITY	SWAIN
NCD072012354	SINGER CO/FURNITURE DIV WASHINGTON	CHOCOWINITY	BEAUFORT
NCD083673681	SINGER CO/KEARFOTT DIV	BLACK MOUNTAIN	BUNCOMBE
NONCD0001009	SINGER PLANT #2	LENOIR	CALDWELL
NONCD0000019	SIR WALTER GUN CLUB	RALEIGH	WAKE
NCD980503148	SOUTHCHEM LANDFILL	DURHAM	DURHAM
NCD990715658	SOUTHERN MANUFACTURING, INC.	CHARLOTTE	MECKLENBURG
NCN000407584	SOUTHERN METALS RECYCLING, INC	WILMINGTON	NEW HANOVER
NCD077821296	SOUTHERN RESIN/US INDUSTRIES INC	THOMASVILLE	DAVIDSON
NCD042269134	SOUTHERN SCREW/FARLEY METALS	STATESVILLE	IREDELL
NONCD0001113	SOUTHERN STATES (FORMER)	GREENVILLE	PITT
NONCD0000042	SOUTHMET, INC.	GREENVILLE	PITT
NONCD0001076	SOUTHSIDE INVESTMENTS LLC	CHARLOTTE	MECKLENBURG
NCD986180917	SPANN PROPERTY	HENDERSONVILLE	HENDERSON
NONCD0000022	SPINDALE REFUSE DISPOSAL	SPINDALE	RUTHERFORD
NCD003167780	SPRAGUE ELECTRIC COMPANY	LANSING	ASHE
NCN000407700	SPRINGS ROAD GO CART TRACK	CONOVER	CATAWBA
NCD003214574	SPRUANCE SOUTHERN, INC.	WINSTON-SALEM	FORSYTH
NCD991278730	SQUIBB E R & SONS	KENLY	JOHNSTON
NCSFN0406894	STALLINGS SALVAGE	MONROE	UNION
NCD084167444	STANADYNE, INC/DIESEL SYSTEMS	JACKSONVILLE	ONSLOW
NCD054284518	STANDARD PACKAGING CORPORATION	MT GILEAD	MONTGOMERY
NCD049845266	STANLEY CASE GOODS (FORMER)	WEST END	MOORE

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1. SITES PRIORITY LIST

ID Number	Site Name	City	County
NONCD0000001	STANLY NEWS & PRESS	ALBEMARLE	STANLY
NCD000605097	STATESVILLE ROAD LANDFILL	CHARLOTTE	MECKLENBURG
NCD986227965	STOLLER CHEMICAL - SEVERN	SEVERN	NORTHAMPTON
NCD986211274	STONEY FORK CREEK DRUM DUMP SITE	DEEP GAP	WILKES
NCD083669952	STORY BURIAL AREAS/UNION CHEMICAL	CHARLOTTE	MECKLENBURG
NCD053487765	STRATFORD METAL FINISHINGS, INC.	WINSTON-SALEM	FORSYTH
NCD003229762	STRUCTURAL WOODS PRESERVING CO.	COLERIDGE	RANDOLPH
NONCD0000679	STURGEON CITY PROPERTY	JACKSONVILLE	ONSLOW
NCD986232213	SUMMIT RESOURCE MANAGEMENT	STALLINGS	UNION
NCD081428104	SUN CHEM CORPORATION/GPI DIV	WINSTON-SALEM	FORSYTH
NCD000006361	SUPERIOR ELECTRO FINISHES	WINSTON SALEM	FORSYTH
NCD024600579	SUPERIOR PRODUCTS COMPANY	GREENSBORO	GUILFORD
NONCD0001062	SWAIM'S TRUCK PARTS & SERVICE	HENDERSON	VANCE
NCD980557987	SWANNANOA LANDFILL	SWANNANOA	BUNCOMBE
NCD981474158	SWEETEN CREEK DRUM SITE	ASHEVILLE	BUNCOMBE
NCD981921083	SWIFT ADHESIVES	PINEVILLE	MECKLENBURG
NCD980559389	TARBORO LANDFILL	TARBORO	EDGECOMBE
NCD981932023	TARBORO-EDGECOMBE AIRPORT	TARBORO	EDGECOMBE
NCD000828566	TARTAN MARINE PROPERTY	HAMLET	RICHMOND
NCD105797922	TECHNIBILT/DIV OF WHITTAKER	NEWTON	CATAWBA
NCD070619911	TELEDYNE ALLVAC MONROE PLANT	MONROE	UNION
NCD000623199	TEXACO INC/FAYETTEVILLE	FAYETTEVILLE	CUMBERLAND
NCD041519364	TEXASGULF CHEMICALS COMPANY	AURORA	BEAUFORT
NCD065295495	TEXFI IMPRESSIONS	GOLDSBORO	WAYNE
NCD986178226	TEXFI INDUSTRIES, INC	FAYETTEVILLE	CUMBERLAND
NCD981928088	TEXFI INDUSTRIES, INC/NEW BERN	NEW BERN	CRAVEN
NONCD0000074	TEXTILE CHEMICAL FACILITY	CHARLOTTE	MECKLENBURG
NONCD0000084	THERMO PRODUCTS, INC.	DENTON	DAVIDSON
NCD077838589	THOMASVILLE FOREST PRODUCTS	THOMASVILLE	DAVIDSON
NCD095470332	THONIT A SIMMONS COMPANY	CHARLOTTE	MECKLENBURG
NCD986231967	TOM SADLER ROAD WELLS	CHARLOTTE	MECKLENBURG
NONCD0001025	TOOMEY PROPERTY	SPRINGWOOD	GASTON
NCD072028251	TORPEDO WIRE & STRIP, INC.	ROCKY MOUNT	NASH
NCD980843528	TOWN CREEK REGIONAL WWTP	SALISBURY	ROWAN
NCD067392175	TRAMCO, INC.	CONNELLY SPRINGS	BURKE
NONCD0001005	TRANSEASTERN CORP.	WILSON	WILSON
NCN000407333	TRIAD USED AUTO SALES	GREENSBORO	GUILFORD
NCN000407205	TRI-COUNTY AIRPORT	AULANDER	HERTFORD
NONCD0000081	TRITON, INC	WILSON	WILSON
NCD082362989	TUNGSTEN QUEEN MINE/ATLAS MINE	TOWNSVILLE	VANCE
NCD981864614	ULAH BATTERY/BATTERY PILES	ASHEBORO	RANDOLPH
NCD003183480	UNION CAMP CORPORATION	SMITHFIELD	JOHNSTON

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ID Number	*Site Name*	*City*	*County*
NCD980844336	UNION CARBIDE BATTERY	CHARLOTTE	MECKLENBURG
NCD003216462	UNION CARBIDE CORP/EVEREADY BATTERY	ASHEBORO	RANDOLPH
NCD003184249	UNION CARBIDE CORP/EVEREADY BATTERY	GREENVILLE	PITT
NCD000609974	UNION OIL CO. SE TERM	GREENSBORO	GUILFORD
NCD003164464	UNIROYAL INC/UNIROYAL CHEMICAL	GASTONIA	GASTON
NCD061795696	UNITEX CHEMICALS	GREENSBORO	GUILFORD
NCD980557623	UNIVERSITY OF NC/ARPT WASTE DISP	CHAPEL HILL	ORANGE
NCD980557615	UNIVERSITY OF NC/OLD SANITARY LDFL	CHAPEL HILL	ORANGE
NCN000407188	US 1-15/501 ABERDEEN	ABERDEEN	MOORE
NCD981472624	US 70 DRUM DUMP	MORGANTON	BURKE
NC5210022906	USA RESERVE XVIII AIRBORNE CORPS	MOREHEAD CITY	CARTERET
NCD000828616	USS AGRI-CHEMICALS FARM SERVICE	WHITEVILLE	COLUMBUS
NONCD0000003	VAN WATERS & ROGERS	CHARLOTTE	MECKLENBURG
NCD093783876	VANIER GRAPHICS CORPORATION	EDEN	ROCKINGHAM
NCD003464765	VAUGHAN-BASSETT FURNITURE CO.	ELKIN	SURRY
NCSFN0406924	VC CHEMICAL	WADESBORO	ANSON
NC0002178580	VC CHEMICAL-ALMONT WORKS	WILMINGTON	NEW HANOVER
NCSFN0406962	VINEGAR HILL LEAD SITE	TABOR CITY	COLUMBUS
NCD093132207	VOICE OF AMERICA RELAY STATION	GREENVILLE	PITT
NONCD0000048	WALKER DRUM DISPOSAL	GOLD HILL	ROWAN
NCD003236841	WARLICK PAINT COMPANY	STATESVILLE	IREDELL
NCN000407564	WATHA FIRING RANGE	WATHA	PENDER
NONCD0000060	WATTS REGULATOR-GENERAL AIDES SITE	FOREST CITY	RUTHERFORD
NONCD0000057	WATTS, LEVI PROPERTY	TABOR CITY	COLUMBUS
NONCD0001091	WEST MOREHEAD ST PESTICIDE	CHARLOTTE	MECKLENBURG
NCD003195963	WESTINGHOUSE ELEC METER & LIGHT	RALEIGH	WAKE
NONCD0001006	WESTINGHOUSE TURBINE	CHARLOTTE	MECKLENBURG
NONCD0001105	WETSIG YACHTS	WILMINGTON	NEW HANOVER
NCD052553641	WEYERHAEUSER CO/LEWISTON	LEWISTON	BERTIE
NCD071567259	WEYERHAEUSER CO/MONCURE	MONCURE	CHATHAM
NCD003220969	WHITE FURNITURE CO.	MEBANE	ALAMANCE
NONCD0000012	WHITE'S GRAVEL PIT	CONCORD	CABARRUS
NCD003151651	WILLARD SMELTING CO.	CHARLOTTE	MECKLENBURG
NCD001704980	WILMINGTON BRANCH/BORDEN/SMITH DOUGL	NAVASSA	BRUNSWICK
NCD986166759	WILSON SEPTIC PITS	HICKORY	CATAWBA
NCD024477556	WINSTON CONTAINER COMPANY	CHARLOTTE	MECKLENBURG
NCD003183571	WINTERVILLE MACHINE WORKS, INC.	WINTERVILLE	PITT
NCD986170678	WOOD ROAD DRUM BURIAL	GASTONIA	GASTON
NC0001279710	WOODY WILSON BATTERY/ASHLEY HEIGHTS	ASHLEY HEIGHTS	HOKE
NCN000407243	WOODY'S SALVAGE YARD	VANDER	CUMBERLAND
NCD986166288	WOODY'S TIRE FIRE	GASTONIA	GASTON

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2. RESPONSIBLE PARTY VOLUNTARY REMEDIAL ACTION SITES

ID Number	Site Name	City	County
NONCD0000040	ABBOTT LABORATORIES	LAURINBURG	SCOTLAND
NONCD0000039	ABITIBI-PRICE CORPORATION	ROARING RIVER	WILKES
NCD024462327	ACADEMY STEEL DRUM	MATTHEWS	MECKLENBURG
NCD047257472	APPLIED RESEARCH GROUP, INC.	CHARLOTTE	MECKLENBURG
NCD074511361	AQUAIR CORPORATION	CHARLOTTE	MECKLENBURG
NCD986188787	ASHEVILLE COAL GAS PLANT #1	ASHEVILLE	BUNCOMBE
NONCD0000032	ASHEVILLE COAL GAS PLANT #2	ASHEVILLE	BUNCOMBE
NCD072003635	ATHOL MANUFACTURING COMPANY	BUTNER	GRANVILLE
NCD003193588	BARBOUR BOAT WORKS, INC.	NEW BERN	CRAVEN
NONCD0000002	BURLINGTON COAL GAS PLANT	BURLINGTON	ALAMANCE
NCD986171965	CARO-KNIT	WILMINGTON	NEW HANOVER
NCD000830646	CAROLINA P&L CO. SUTTON STEAM	WILMINGTON	NEW HANOVER
NCD000608117	CELANESE CORPORATION/FIBERS TECH	CHARLOTTE	MECKLENBURG
NCD986188803	CHARLOTTE COAL GAS PLANT NO. 2	CHARLOTTE	MECKLENBURG
NONCD0001082	CMI FLYASH DISPOSAL (PARCEL 2)	ELKIN	SURRY
NONCD0001092	CMI WWTP (PARCEL1)	ELKIN	SURRY
NCD986197333	CONCORD COAL GAS PLANT	CONCORD	CABARRUS
NONCD0001097	COPES-VULCAN, INC	CHARLOTTE	MECKLENBURG
NONCD0001061	CP&L NORTHERN DIVISION COMPLEX	GARNER	WAKE
NCD062567623	DIAMOND SHAMROCK CORP/HENKEL PROCES	CHARLOTTE	MECKLENBURG
NCD981861743	DUKE POWER/GREENSBORO GAS PLANT	GREENSBORO	GUILFORD
NCD000813519	DUKE UNIVERSITY	DURHAM	DURHAM
NCD986173938	DURHAM GAS PLANT	DURHAM	DURHAM
NONCD0001058	ELECTRONICS COMPONENT CORPORATION	BURGAW	PENDER
NCD986197267	ELIZABETH CITY COAL GAS	ELIZABETH CITY	PASQUOTANK
NCD986197341	FAYETTEVILLE COAL GAS/RAY AVE	FAYETTEVILLE	CUMBERLAND
NONCD0000017	FLAKT PRODUCTS	WINSTON-SALEM	FORSYTH
NONCD0000029	FLEET AEROSPACE CORP./AERONCA	CHARLOTTE	MECKLENBURG
NCD986188829	GASTONIA COAL GAS PLANT	GASTONIA	GASTON
NCD051322980	GENERAL ELECTRIC CO.	CHARLOTTE	MECKLENBURG
NCD003163730	GENERAL INSTRUMENT CORP.	FAIRVIEW	BUNCOMBE
NONCD0001069	GENERAL MARBLE COMPANY	LINCOLNTON	LINCOLN
NCD986197309	GOLDSBORO COAL GAS PLANT #1	GOLDSBORO	WAYNE
NONCD0001083	GOLDSBORO COAL GAS PLANT #2	GOLDSBORO	WAYNE
NONCD0001089	GREENSBORO COAL GAS PLANT #1	GREENSBORO	GUILFORD
NCD986188886	GREENVILLE COAL GAS PLANT	GREENVILLE	PITT
NCD981922362	GREIF, INC	BLADENBORO	BLADEN
NCD986232379	GRESHAMS LAKE INDUSTRIAL PARK	RALEIGH	WAKE
NCD051739209	HARRELSON RUBBER COMPANY	ASHEBORO	RANDOLPH
NONCD0001084	HENDERSON COAL GAS PLANT	HENDERSON	VANCE
NCD990734055	HERCOFINA/CAPE INDUSTRIES	WILMINGTON	NEW HANOVER
NCD039102959	HEVI-DUTY ELECTRIC/GENERAL SIG	GOLDSBORO	WAYNE

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2. RESPONSIBLE PARTY VOLUNTARY REMEDIAL ACTION SITES

ID Number	Site Name	City	County
NONCD0001085	HICKORY COAL GAS PLANT	HICKORY	CATAWBA
NCD986188837	HIGH POINT COAL GAS PLANT	HIGH POINT	GUILFORD
NCD051745685	HOLDING POND FOR WASTE/USS	GREENSBORO	GUILFORD
NCD003215696	HUNT MANUFACTURING	STATESVILLE	IREDELL
NONCD0000050	HWY 268 MIRROR WASTE DUMP	NORTH WILKESBORO	WILKES
NONCD0001111	IDEAL CLEANERS	RALEIGH	WAKE
NONCD0000056	JAMES LANDFILL	LAURINBURG	SCOTLAND
NCD986197366	KINSTON COAL GAS PLANT	KINSTON	LENOIR
NCD986197358	LEXINGTON COAL GAS PLANT	LEXINGTON	DAVIDSON
NCD003183167	LONG MANUFACTURING	TARBORO	EDGECOMBE
NCD055359079	MASONITE CORP. FIBERBOARD DIV.	SPRING HOPE	NASH
NONCD0001086	MT AIRY COAL GAS PLANT	MT AIRY	SURRY
NCD986197259	NEW BERN COAL GAS PLANT	NEW BERN	CRAVEN
NCD055162069	PELTON & CRANE PLANT (FORMER)	CHARLOTTE	MECKLENBURG
NONCD0001020	PRECISION FABRICS GROUP, INC	GREENSBORO	GUILFORD
NCD986188894	RALEIGH COAL GAS PLANT NO. 1	RALEIGH	WAKE
NCD986188902	RALEIGH COAL GAS PLANT NO. 2	RALEIGH	WAKE
NONCD0001087	REIDSVILLE COAL GAS PLANT	REIDSVILLE	ROCKINGHAM
NCD053009510	RELIANCE UNIVERSAL OF KENTUCKY	LENOIR	CALDWELL
NONCD0001108	RENTAL UNIFORM SERVICE	ASHEVILLE	BUNCOMBE
NCD986197325	ROCKY MOUNT COAL GAS PLANT NO. 1	ROCKY MOUNT	NASH
NCD986197317	ROCKY MOUNT COAL GAS PLANT NO. 2	ROCKY MOUNT	NASH
NCD981933096	ROCKY MOUNT, OLD AIRPORT	ROCKY MOUNT	NASH
NCD986197283	SALISBURY COAL GAS PLANT #1	SALISBURY	ROWAN
NONCD0001088	SALISBURY COAL GAS PLANT #2	SALISBURY	ROWAN
NCD062552153	SAYLES-BILTMORE BLEACHERIES	ASHEVILLE	BUNCOMBE
NCD003234549	SCM PROCTOR SILEX/WEAREVER	SOUTHERN PINES	MOORE
NCD003229358	SCM PROCTOR-SILEX/WEAREVER	MOUNT AIRY	SURRY
NCD083678631	SINCLAIR AND VALENTINE CO.	CHARLOTTE	MECKLENBURG
NCD053488557	SOUTHERN WOOD PIEDMONT COMPANY	GULF	CHATHAM
NCD058517467	SOUTHERN WOOD PIEDMONT COMPANY	WILMINGTON	NEW HANOVER
NCD986197291	STATESVILLE COAL GAS PLANT	STATESVILLE	IREDELL
NCD986176444	STROH/CHITTY FARM	WINSTON-SALEM	FORSYTH
NONCD0001101	STRONGHAVEN WAREHOUSE	MATTHEWS	MECKLENBURG
NCD986166700	TOISNOT SWAMP	WILSON	WILSON
NCD053485991	VARCO-PRUDEN BUILDINGS	KERNERSVILLE	FORSYTH
NCD986197275	WASHINGTON COAL GAS PLANT	WASHINGTON	BEAUFORT
NCD986188910	WILMINGTON COAL GAS PLANT	WILMINGTON	NEW HANOVER
NCN000407302	WILMINGTON GUN CLUB (FORMER)	WILMINGTON	NEW HANOVER
NCD986188845	WINSTON-SALEM COAL GAS PLANT NO. 1	WINSTON-SALEM	FORSYTH
NCD986188852	WINSTON-SALEM COAL GAS PLANT NO. 2	WINSTON-SALEM	FORSYTH

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3. SITES WITH EVALUATIONS PENDING

ID Number	*Site Name*	*City*	*County*
NCN000407830	CLOROX CHEMICAL	CHARLOTTE	CONCORD
NONCD0001070	EMPORIUM CLEANERS	RALEIGH	WAKE
NCD980503056	FLEMINGTON LANDFILL	WILMINGTON	NEW HANOVER
NCD000773515	GA-PACIFIC CORP/HDWD SAW	BOWDENS	DUPLIN
NCD000773507	GA-PACIFIC CORP/HDWD SAW	ENFIELD	HALIFAX
NCN000409780	INDUSTRIAL METAL ALLOY	WINSTON-SALEM	FORSYTH
NCD981863327	KSP DRY CLEANERS	CHAPEL HILL	ORANGE
NONCD0001112	OLD JOHN'S RIVER ROAD DUMP	BLOWING ROCK	WATAUGA
NCD980848667	ONE HOUR KORETIZING	DURHAM	DURHAM
NCN000407491	P&B DISTRIBUTION CHEMICAL FIRE	WINSTON-SALEM	FORSYTH
NONCD0001024	PARK PLAZA	SPENCER	ROWAN
NCN000409783	ROBERTS WHITIN PLANT #2	SANFORD	LEE
NC0210020541	US DOD MILITARY OCEAN TERMINAL	SOUTHPORT	BRUNSWICK
NC7210020544	USA TARHEEL ARMY MISSILE PLANT	BURLINGTON	ALAMANCE
NC6570027460	USAF DARE COUNTY RANGE SEYMOUR	ENGLEHART	HYDE
NC7170090008	USMC/CRASH CREW BURN PIT	MOREHEAD CITY	CARTERET
NCN000409779	WAYNE AGRICULTURAL WORKS	GOLDSBORO	WAYNE
NONCD0001110	WOODSON-TENET LABORATORIES	GOLDSTON	CHATHAM

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4. NATIONAL PRIORITIES LIST

ID Number	*Site Name*	*City*	*County*
NCD024644494	ABC ONE HOUR CLEANERS	JACKSONVILLE	ONSLOW
NCD980843346	ABERDEEN PESTICIDE DUMPS	ABERDEEN	MOORE
NCSFN0406989	BARBER ORCHARD	WAYNESVILLE	HAYWOOD
NCD981026479	BENFIELD INDUSTRIES, INC.	HAZELWOOD	HAYWOOD
NCD044440303	BYPASS 601	CONCORD	CABARRUS
NC6170022580	CAMP LEJEUNE MILITARY RESERVATION	CAMP LEJEUNE	ONSLOW
NCD003188828	CAPE FEAR WOOD PRESERVING	FAYETTEVILLE	CUMBERLAND
NCD003188844	CAROLINA TRANSFORMER	FAYETTEVILLE	CUMBERLAND
NCD003446721	CELANESE CORPORATION/SHELBY FIBER	SHELBY	CLEVELAND
NCD980840409	CHARLES MACON LAGOON & DRUM	CORDOVA	RICHMOND
NCD095459392	CHEMTRONICS, INC/JET RESEARCH	SWANNANOA	BUNCOMBE
NC1170027261	CHERRY POINT MARINE CORPS AIR STN	CHERRY POINT	CRAVEN
NCD986175644	DAVIS PARK ROAD TCE SITE	GASTONIA	GASTON
NCD095458527	FCX, INC. STATESVILLE	STATESVILLE	IREDELL
NCD981475932	FCX, INC. WASHINGTON PLANT	WASHINGTON	BEAUFORT
NCD981927502	GEIGY CHEMICAL CORPORATION	ABERDEEN	MOORE
NCD079044426	GENERAL ELECTRIC CO/SHEPHERD FARM	EAST FLAT ROCK	HENDERSON
NCD980729602	JADCO-HUGHES	BELMONT	GASTON
NCD122263825	JFD/CHANNEL MASTER	OXFORD	GRANVILLE
NCD003200383	KOPPERS COMPANY, INC.	MORRISVILLE	WAKE
NCD001810365	MARTIN MARIETTA-SODYECO DIV/SANDOZ	CHARLOTTE	MECKLENBURG
NCD991278953	NATIONAL STARCH CORPORATION	SALISBURY	ROWAN
NCD980557656	NC STATE UNIV. (LOT 86 FARM UNIT)	RALEIGH	WAKE
NCD981021157	NEW HANOVER COUNTY AIRPORT BURN	WILMINGTON	NEW HANOVER
NCD986187128	NORTH BELMONT PCE SITE	NORTH BELMONT	GASTON
NCD981023260	POTTER'S SEPTIC TANK SVS PITS	MACO	BRUNSWICK
NCD982096653	RAM LEATHER CARE	CHARLOTTE	MECKLENBURG
NCD986187094	REASOR CHEMICAL	CASTLE HAYNE	NEW HANOVER
NCD062555792	SIGMON'S SEPTIC TANK	STATESVILLE	IREDELL
NCD003202603	WARD TRANSFORMER	RALEIGH	WAKE

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5. NON-NPL FEDERAL SUPERFUND CLEANUPS

ID Number	*Site Name*	*City*	*County*
NCD000648402	BATTERY TECH (DURACELL)	LEXINGTON	DAVIDSON
NCD044447589	BLUE RIDGE PLATING COMPANY	ARDEN	BUNCOMBE
NCD051827905	ESTECH GENERAL CHEMICALS CORP.	NAVASSA	BRUNSWICK
NCD045922986	FLANDERS FILTERS, INC.	WASHINGTON	BEAUFORT
NCD986172526	GURLEY PESTICIDE BURIAL	SELMA	JOHNSTON
NCD991278631	HOLTRA CHEM/HONEYWELL, INC.	REIGELWOOD	COLUMBUS
NCD981027915	J STREET FLYASH DISPOSAL SITE	ERWIN	HARNETT
NCD053530234	NORTHEAST CHEMICAL COMPANY	CAPE FEAR	NEW HANOVER
NC6570024475	POPE AFB	POPE AIR FORCE BASE	CUMBERLAND
NCD087336335	TRIANGLE PACIFIC CORP/IXL DIV.	ELIZABETH CITY	PASQUOTANK
NC7570024474	USAF SEYMOUR JOHNSON AFB	GOLDSBORO	WAYNE
NCD991278540	WEYERHAEUSER COMPANY	PLYMOUTH	MARTIN

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6. RCRA PERMITTED OR INTERIM STATUS FACILITIES

ID Number	*Site Name*	*City*	*County*
NCD986171320	ALCOA BADIN LANDFILL	BADIN	STANLY
NCD003162542	ALCOA BADIN WORKS	BADIN	STANLY
NCD053488409	ALLIED CHEMICAL CORPORATION	MONCURE	CHATHAM
NCD085074821	AMERICAN HOECHST SOU-TEX /HOECHST	MT. HOLLY	GASTON
NCD070619663	ASHEVILLE DYEING AND FINISHING	SWANNANOA	BUNCOMBE
NCD024599011	ASHLAND CHEMICAL CO	GREENSBORO	GUILFORD
NCD061263315	ASHLAND CHEMICAL COMPANY	CHARLOTTE	MECKLENBURG
NCD088560032	ASHLAND CHEMICAL COMPANY	RALEIGH	WAKE
NCD001725464	BORDEN CHEMICAL SMITH-DOUGLAS	KINSTON	LENOIR
NCD060295417	BURLINGTON FURNITURE/CENT MAIN	LEXINGTON	DAVIDSON
NCD047373766	BURROUGHS WELLCOME COMPANY	GREENVILLE	PITT
NCD052547635	BURROUGHS WELLCOME COMPANY	RTP	DURHAM
NCD086871282	CALDWELL SYSTEMS INCORPORATED	LENOIR	CALDWELL
NC6170022580	CAMP LEJEUNE MILITARY RESERVATION	CAMP LEJEUNE	ONSLOW
NCD003154010	CARTER, A B INCORPORATED	GASTONIA	GASTON
NCD991278623	CHARLOTTE FIRE DEPT TRNG/CITY OF	CHARLOTTE	MECKLENBURG
NC1170027261	CHERRY POINT MARINE CORPS AIR STN	CHERRY POINT	CRAVEN
NCD061801361	CIBA-GEIGY CORPORATION	GREENSBORO	GUILFORD
NCD042892067	COOPER INDUSTRIES, INC. LUFKIN DIV	APEX	WAKE
NCD049773245	DETREX CHEMICAL INDUSTRIES, INC.	CHARLOTTE	MECKLENBURG
NCD047368642	DUPONT EI DE NEMOURS & CO.	FAYETTEVILLE	CUMBERLAND
NCD003190386	DUPONT EI DE NEMOURS & CO.	KINSTON	LENOIR
NCD047369046	DUPONT EI DE NEMOURS & CO.	LELAND	BRUNSWICK
NCD003173358	DURABLE WOOD PRESERVERS, INC.	CHARLOTTE	MECKLENBURG
NCD003237948	GENERAL ELECTRIC CO/HICKORY	HICKORY	CATAWBA
NCD093137636	GENERAL WOOD PRESERVING CO., INC.	LELAND	BRUNSWICK
NCD024900987	HOLCOMB CREOSOTE COMPANY	YADKINVILLE	YADKIN
NCD041463761	IBM CORPORATION	RTP	DURHAM
NCD981476955	JOHNSTON COUNTY SCHOOL BOARD	SMITHFIELD	JOHNSTON
NCD000771964	LITHIUM CORP. OF AMERICA /FMC	BESSEMER CITY	GASTON
NCD044438406	LITTON INDUSTRIES/CLIFTON PRECISION	CHEROKEE	CHEROKEE
NCD048467427	MINERAL RESEARCH & DEV. CORP.	ROCKY RIVER	CABARRUS
NC1750890005	NATIONAL INST. ENVMTL. HLTH. SCI.	RTP	DURHAM
NCD991278953	NATIONAL STARCH CORPORATION	SALISBURY	ROWAN
NCD053010732	PARKS-CRAMER COMPANY	CHARLOTTE	MECKLENBURG
NCD091245969	RADIATOR SPECIALTY CO.	INDIAN TRAIL	UNION
NCD042091975	RJR/MALLINKRODT	RALEIGH	WAKE
NCD046362117	ROADWAY EXPRESS TERMINAL	KERNERSVILLE	FORSYTH
NCD079060059	SAFETY KLEEN CORP.	CHARLOTTE	MECKLENBURG
NCD077840148	SAFETY-KLEEN CORP 3-064-01	HIGH POINT	GUILFORD
NCD000776740	SAFETY-KLEEN CORP 3-171-01	RALEIGH	WAKE

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6. RCRA PERMITTED OR INTERIM STATUS FACILITIES

ID Number	*Site Name*	*City*	*County*
NCD980846935	SAFETY-KLEEN CORP. 3-031	ST PAULS	ROBESON
NCD065300519	SCHLAGE LOCK COMPANY	ROCKY MOUNT	EDGECOMBE
NCD002591014	SCOVILL, SHRADER-BELLOWS DIVISION	WAKE FOREST	WAKE
NCD071574164	SEABOARD CHEMICAL CORPORATION	JAMESTOWN	GUILFORD
NCD057451270	SINGER CO/AAF-MCQUAY	WILMINGTON	NEW HANOVER
NCD067203752	SQUARE D COMPANY	KNIGHTDALE	WAKE
NCD091249417	TEXTRON INC/HOMELITE DIV.	GASTONIA	GASTON
NCD982093783	UNC-CHAPEL HILL	CHAPEL HILL	ORANGE
NCD045646924	UNICAN SECURITY SYSTEMS/ILCO UNI	ROCKY MOUNT	NASH
NC8210020121	USA FORT BRAGG	FORT BRAGG	CUMBERLAND
NC2690308232	USCG SUPPORT CENTER	ELIZABETH CITY	PASQUOTANK
NCD041466251	VEEDER-ROOT COMPANY	ELIZABETHTOWN	BLADEN
NCD060299880	WEBER USA SANFORD PLANT	SANFORD	LEE
NCD003213907	WESTERN ELECTRIC CO/AT&T	WINSTON-SALEM	FORSYTH
NCD003471158	WORTH CHEMICAL	GREENSBORO	GUILFORD

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7. RCRA NON-PERMITTED CORRECTIVE ACTION SITES

ID Number	*Site Name*	*City*	*County*
NCD003168168	AMERICAN CYANAMID/FREEDOM TEXTILES	CHARLOTTE	MECKLENBURG
NCD044447589	BLUE RIDGE PLATING COMPANY	ARDEN	BUNCOMBE
NCD048181218	CAROLINA GALVANIZING CORP.	ABERDEEN	MOORE
NCD003200854	CAROLINA WOOD PRESERVING COMPANY	SCOTLAND NECK	HALIFAX
NCD046148540	CENTRAL TRANSPORT COMPANY	CHARLOTTE	MECKLENBURG
NCD095459392	CHEMTRONICS, INC/JET RESEARCH	SWANNANOA	BUNCOMBE
NCD107868812	CONBRACO INDUSTRIES, INC.	MATTHEWS	MECKLENBURG
NCD986194439	DYNATECH - HAWKINS ST	CHARLOTTE	MECKLENBURG
NCD041043811	FIBER INDUSTRIES INC/HOECHST-CELANESE	SALISBURY	ROWAN
NCD001864123	GA-PACIFIC CORP ATP	MURFREESBORO	HERTFORD
NCD991278631	HOLTRA CHEM/HONEYWELL, INC.	REIGELWOOD	COLUMBUS
NCD003185238	ITT TELECOMS CORP/ALCATEL	RALEIGH	WAKE
NCD003151990	KIMBERLY-CLARK CORP/LANDFILL	BALFOUR	HENDERSON
NCD001810365	MARTIN MARIETTA-SODYECO DIV/SANDOZ	CHARLOTTE	MECKLENBURG
NCD991277724	MITCHELL SYSTEMS, INC.	SPRUCE PINE	MITCHELL
NCD000773655	OLDOVER CORP/CAROLINA SOLITE	NORWOOD	STANLY
NCD041466806	PHILLIPS PLATING	BRIDGETON	CRAVEN
NCD000604322	SINGER CO/FURNITURE DIV PLTS 3	LENOIR	CALDWELL
NCD000648451	TRIANGLE RESOURCE IND/LAIDLAW	REIDSVILLE	ROCKINGHAM
NC7570024474	USAF SEYMOUR JOHNSON AFB	GOLDSBORO	WAYNE

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8. SITES UNDER THE JURISDICTION OF THE SOLID WASTE SECTION

ID Number	*Site Name*	*City*	*County*
NCD980557714	BEAUFORT COUNTY LANDFILL	BATH	BEAUFORT
NCD980502801	BIGGERSTAFF LANDFILL	GASTONIA	GASTON
NCD980502819	BLADEN COUNTY LANDFILL	ELIZABETHTOWN	BLADEN
NCD980502835	BRUNSWICK COUNTY LANDFILL	LELAND	BRUNSWICK
NCD980558001	BUNCOMBE COUNTY LANDFILL	ASHEVILLE	BUNCOMBE
NCD980502843	CABARRUS COUNTY LANDFILL	CONCORD	CABARRUS
NCD982118960	CALDWELL LANDFILL	LENOIR	CALDWELL
NCD980502868	CHATHAM COUNTY LANDFILL	PITTSBORO	CHATHAM
NCD980502900	CUMBERLAND COUNTY LANDFILL	FAYETTEVILLE	CUMBERLAND
NCD003152329	DUPONT EI DE NEMOURS & CO.	CEDAR MOUNTAIN	TRANSYLVANIA
NCD047369046	DUPONT EI DE NEMOURS & CO.	LELAND	BRUNSWICK
NCD003166675	ECUSTA MILL	PISGAH FOREST	TRANSYLVANIA
NCD980502926	EDGECOMBE COUNTY LANDFILL	TARBORO	EDGECOMBE
NCD000605303	FEDERAL PAPER BOARD CO., INC.	RIEGELWOOD	COLUMBUS
NCD044388015	GA-PACIFIC CORP HDBD	CONWAY	NORTHAMPTON
NC4120000001	GRAHAM COUNTY MUNICIPAL LANDFILL	ROBBINSVILLE	GRAHAM
NCD991279027	GREENSBORO CITY LANDFILL	GREENSBORO	GUILFORD
NCD980502959	HARRISBURG PARK LANDFILL	CHARLOTTE	MECKLENBURG
NCD981474190	HAYWOOD COUNTY LANDFILL	WAYNESVILLE	HAYWOOD
NCD980557961	HENDERSON COUNTY SAN LANDFILL	HENDERSONVILLE	HENDERSON
NCD980557565	HIGH POINT CITY LANDFILL	HIGH POINT	GUILFORD
NCD003151990	KIMBERLY-CLARK CORP/LANDFILL	BALFOUR	HENDERSON
NCD075588913	KINSTON DEMOLITION LANDFILL	KINSTON	LENOIR
NCD980503015	LEE COUNTY LANDFILL	SANFORD	LEE
NCD980557581	LEXINGTON MUNICIPAL LANDFILL	LEXINGTON	DAVIDSON
NCD070626825	MACON COUNTY LANDFILL	FRANKLIN	MACON
NCD981928013	MOORE COUNTY LANDFILL	ABERDEEN	MOORE
NCD980559348	NASH COUNTY LANDFILL	NASHVILLE	NASH
NCD986171106	ORANGE CO. REGIONAL LANDFILL	CHAPEL HILL	ORANGE
NCD980557680	PITT COUNTY LANDFILL	GREENVILLE	PITT
NCD043712298	PPG IND., INC.	LEXINGTON	DAVIDSON
NCD980557748	ROWAN COUNTY LANDFILL	SALISBURY	ROWAN
NCD980503122	SORRELL LANDFILL	APEX	WAKE
NC3120000002	SWAIN COUNTY LANDFILL	BRYSON CITY	SWAIN
NCD980503163	UNION COUNTY LANDFILL	MONROE	UNION
NCD980503171	WAKE COUNTY/FELTONVILLE LANDFILL	APEX	WAKE
NCD980557896	WILKES COUNTY MUNICIPAL LANDFILL	RONDA	WILKES

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9. SITES UNDER THE JURISDICTION OF THE DIVISION OF WATER QUALITY

ID Number	*Site Name*	*City*	*County*
NCD002464691	ALLIANCE CAROLINA TOOL AND MOLD	ARDEN	BUNCOMBE
NCD040049173	AMOCO OIL COMPANY	WILMINGTON	NEW HANOVER
NCD075582197	AMORE/WORTH CHEMICAL	DURHAM	DURHAM
NCD980844518	AMP INCORPORATED	CLEMMONS	FORSYTH
NCD003467974	AMP INCORPORATED	GREENSBORO	GUILFORD
NCD051853547	AUSTIN FOODS	CARY	WAKE
NCD054412283	BLACK & DECKER PLANT (FORMER)	TARBORO	EDGECOMBE
NCD047373766	BURROUGHS WELLCOME COMPANY	GREENVILLE	PITT
NCD045456134	BUSS AUTOMATION INCORPORATED	LENOIR	CALDWELL
NONCD0001104	CATO FARMS	CHARLOTTE	MECKLENBURG
NCD046148540	CENTRAL TRANSPORT COMPANY	CHARLOTTE	MECKLENBURG
NCD065288847	CF NITROGEN, INCORPORATED	WINTON	HERTFORD
NCD991278623	CHARLOTTE FIRE DEPT TRNG/CITY OF	CHARLOTTE	MECKLENBURG
NCD986176451	CITY OF SHELBY LANDFILL	SHELBY	CLEVELAND
NONCD0001032	COCA COLA BOTTLING WORKS INC	NEW BERN	CRAVEN
NCD107868812	CONBRACO INDUSTRIES, INC.	MATTHEWS	MECKLENBURG
NCD042890525	DIAMOND SHAMROCK CORP/MARIETTA	CASTLE HAYNE	NEW HANOVER
NCD057454670	DIAMOND SHAMROCK CORP/OCCIDENTAL	CASTLE HAYNE	NEW HANOVER
NONCD0001066	DIMETRICS INC	DAVIDSON	MECKLENBURG
NONCD0001120	EATON AEROQUIP, INC (FORMER)	NORWOOD	STANLY
NCD000827832	ELECTRICAL UTILITIES/CO BB&T	FARMVILLE	PITT
NCD089989917	EMERSON ELECTRIC COMPANY	MURPHY	CHEROKEE
NCD003201837	ENCEE CHEMICAL SALES, INC.	BRIDGETON	CRAVEN
NCD000605303	FEDERAL PAPER BOARD CO., INC.	RIEGELWOOD	COLUMBUS
NCD041043811	FIBER INDUSTRIES INC/HOECHST-CELANES	SALISBURY	ROWAN
NCD067191262	FIRESTONE TIRE AND RUBBER COMPANY	WILSON	WILSON
NCD062553490	FLEET TRANSPORT CO., INC.	CHARLOTTE	MECKLENBURG
NCD003448610	GALVAN INDUSTRIES, INC.	HARRISBURG	CABARRUS
NCD980559975	GA-PACIFIC CORP/RESIN DIV	CONWAY	NORTHAMPTON
NCD003149291	GASTON COUNTY DYEING MACHINE CO.	MOUNT HOLLY	GASTON
NCD991277922	GASTON COUNTY DYEING MACHINE CO.	STANLEY	GASTON
NCD050409150	GENERAL ELECTRIC CO/WILMINGTON	WILMINGTON	NEW HANOVER
NCD043679349	GENERAL TIRE & RUBBER CO	CHARLOTTE	MECKLENBURG
NONCD0001023	HEAVY EQUIPMENT SCHOOL	CHARLOTTE	MECKLENBURG
NONCD0001078	HIGHLAND MILLS	CHARLOTTE	MECKLENBURG
NCD062571658	HONEYWELL MICRO SWITCH DIV.	MARS HILL	MADISON
NCD003198520	HONEYWELL, INC	DURHAM	DURHAM
NCD083674713	HULL SERVICE STATION/PHILLIPS 66	VALE	LINCOLN
NONCD0000089	JOHN MORRELL & CO	WILSON	WILSON
NCD000653576	KERN RUBBER CO. URETHANE PLANT	SALISBURY	ROWAN
NCD062552989	MALLARD CREEK RD/UNION OIL CO OF CA	CHARLOTTE	MECKLENBURG

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9. SITES UNDER THE JURISDICTION OF THE DIVISION OF WATER QUALITY

ID Number	*Site Name*	*City*	*County*
NCD000772046	MOBIL OIL CORP/KOCH REFINING	WILMINGTON	NEW HANOVER
NCD981030893	MUSIC CLUB PESTICIDE SITE	WILLIAMSTON	MARTIN
NCD091572073	NATIONAL STARCH & CHEMICAL COMPANY	LELAND	BRUNSWICK
NCD986185411	OLD WESTERN NC FAIRGROUNDS	EAST FLAT ROCK	HENDERSON
NONCD0001053	PARAMOUNT CHEVROLET	GOLDSBORO	WAYNE
NCD057037178	PFIZER INC/COTY DIVISION	SANFORD	LEE
NCD040047425	PRILLAMAN CHEMICALS	FAYETTEVILLE	CUMBERLAND
NCD067441394	RJR ARCHER, INC.	WINSTON-SALEM	FORSYTH
NCD044514602	RJR ARCHER, INC.	WINSTON-SALEM	FORSYTH
NCD042091215	RJR TECH COMPANY	MERRY HILL	BERTIE
NCD041466525	ROCKY MOUNT FIBER DUMP	ROCKY MOUNT	EDGECOMBE
NCD003197704	SALT WOOD PRODUCTS, INC.	COVE CITY	CRAVEN
NCD981863228	SCHERER, R.P.	MONROE	UNION
NCD095458709	SCHRADER AUTOMOTIVE PRODUCTS DIV.	MONROE	UNION
NCD986180909	SHELBY DYEING & FINISHING	SHELBY	CLEVELAND
NONCD0000033	SPRINGS IND/UNIGLASS IND.	STATESVILLE	IREDELL
NCD003951878	SQUARE D COMPANY	ASHEVILLE	BUNCOMBE
NCD024895864	STEWART-WARNER CORP/BASSICK-SACK	WINSTON-SALEM	FORSYTH
NCD986191484	STOUT INTERNATIONAL OF NC, INC	MONROE	UNION
NONCD0000011	TERRELL MACHINE SHOP	CHARLOTTE	MECKLENBURG
NCD086326741	TEXACO INC/APEX	APEX	WAKE
NCD096165121	TEXACO INC/GREENSBORO	GREENSBORO	GUILFORD
NCD046148318	TEXACO INC/PAW CREEK	PAW CREEK	MECKLENBURG
NCD000770016	TEXAS CITY REFINING COMPANY	PAW CREEK	MECKLENBURG
NCD002560159	THIELE-ENGDAHL, INCORPORATED	WINSTON-SALEM	FORSYTH
NCD037160439	TOASTMASTER, INCORPORATED	LAURINBURG	SCOTLAND
NONCD0001017	TOWNE NORTH SHOPPING CENTER	RALEIGH	WAKE
NONCD0000088	TRANS TECHNOLOGY	CHARLOTTE	MECKLENBURG
NCD038551263	TRI-COUNTY COMMUNITY COLLEGE	MURPHY	CHEROKEE
NCD000609982	UNION OIL CO. SE TERM/PAW CREEK	PAW CREEK	MECKLENBURG
NONCD0000010	UNITED MERCHANTS/OLD FORT PLANT	OLD FORT	MCDOWELL
NCD980515308	UNIVERSITY OF NC AT CHAPEL HILL	CHAPEL HILL	ORANGE
NC6680090002	US EPA TECH CENTER	RTP	DURHAM
NCD001493931	WECK, EDWARD INC.	RTP	DURHAM
NCD045924032	WEST POINT PEPPERELL LUMBERTON	LUMBERTON	ROBESON
NCD024766719	WRIGHT CHEMICAL CORP.	RIEGELWOOD	COLUMBUS

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10. SITES UNDER THE JURISDICTION OF THE DIVISION OF ENVIRONMENTAL HEALTH'S RADIATION PROTECTION SECTION

ID Number	*Site Name*	*City*	*County*
NCD980559397	RADIATION PHYSICS CONSULTANTS	PURLEAR	WILKES

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11. OLD UNLINED LANDFILL LIST

ID Number	Site Name	City	County	In Other IHS Category
NONCD0000401	ABATTOIR LANDFILL	LINCOLNTON	LINCOLN	No
NONCD0000443	ABERDEEN DUMP	ABERDEEN	MOORE	No
NONCD0000361	AHOSKIE DUMP	AHOSKIE	HERTFORD	No
NONCD0000307	AIRPORT LANDFILL		FORSYTH	No
NONCD0000728	ALAMANCE CO LDFL	GRAHAM	ALAMANCE	No
NONCD0000102	ALAMANCE GARBAGE SERVICE	BURLINGTON	ALAMANCE	No
NONCD0000571	ALBEMARLE DUMP	ALBERMARLE	STANLY	No
NONCD0000623	ALBERT MCCLURE BALL FIELD	STATESVILLE	IREDELL	No
NONCD0000551	ALEXANDER MILLS DUMP	ALEXANDER MILLS	RUTHERFORD	No
NONCD0000192	ANDERSON REFUSE DUMP		CALDWELL	No
NONCD0000231	ANDREWS DUMP	ANDREWS	CHEROKEE	No
NONCD0000349	ANGIER REFUSE DUMP	ANGIER	HARNETT	No
NONCD0000731	ANSON CO LDFL		ANSON	No
NONCD0000568	AQUADALE DUMP	AQUADALE	STANLY	No
NONCD0000717	ARAPAHOE LDFL	ARAPAHOE	PAMLICO	No
NONCD0000165	ARDEN DISPOSAL	ARDEN	BUNCOMBE	No
NONCD0000644	ARLINGTON DUMP	ARLINGTON	YADKIN	No
NONCD0000732	ASHE CO LDFL		ASHE	No
NONCD0000120	ASHE COUNTY LANDFILL	JEFFERSON	ASHE	No
NONCD0000509	ASHEBORO DUMP	ASHEBORO	RANDOLPH	No
NONCD0000489	ATKINSON DUMP	ATKINSON	PENDER	No
NONCD0000199	ATLANTIC REFUSE DUMP	ATLANTIC	CARTERET	No
NONCD0000138	AULANDER REFUSE DISPOSAL	AULANDER	HERTFORD	No
NONCD0000126	AURORA DUMP		BEAUFORT	No
NONCD0000659	AUTEN ROAD LANDFILL		GASTON	No
NONCD0000560	AUTRYVILLE LDFL	AUTRYVILLE	SAMPSON	No
NONCD0000502	AYDEN REFUSE DUMP	AYDEN	PITT	No
NONCD0000773	AZALEA ROAD LANDFILL	OTEEN	BUNCOMBE	No
NONCD0000556	B & G DUMP	CLIFFSIDE	RUTHERFORD	No
NONCD0000454	BAILEY DUMP	BAILEY	NASH	No
NONCD0000431	BAKERVILLE REFUSE DISPOSAL	BAKERVILLE	MITCHELL	No
NONCD0000768	BALFOUR ROAD LANDFILL	GRANITE QUARRY	ROWAN	No
NONCD0000594	BALSAM GROVE DUMP		TRANSYLVANIA	No
NONCD0000457	BARFIELD'S DUMP	WRIGHTSVILLE BEACH	NEW HANOVER	No
NONCD0000128	BATH DUMP	BATH	BEAUFORT	No
NONCD0000451	BATTLEBORO DUMP	BATTLEBORO	NASH	No
NONCD0000485	BAYBORO DUMP	BAYBORO	PAMLICO	No
NONCD0000200	BEAUFORT REFUSE DUMP	BEAUFORT	CARTERET	No
NONCD0000579	BEAULAH COMM. DUMP		SURRY	No
NONCD0000302	BECKEL ROAD DUMP	WINSTON-SALEM	FORSYTH	No
NONCD0000131	BELHAVEN DUMP	BELHAVEN	BEAUFORT	No

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11. OLD UNLINED LANDFILL LIST

ID Number	Site Name	City	County	In Other IHS Category
NONCD0000780	BELLTOWN ROAD DUMP	HAVELOCK	CRAVEN	No
NONCD0000384	BENSON REFUSE DUMP	BENSON	JOHNSTON	No
NONCD0000669	BENTLEY WOODS SITE	RALEIGH	WAKE	No
NONCD0000325	BESSEMER CITY DUMP	BESSEMER CITY	GASTON	No
NONCD0000501	BETHEL REFUSE DUMP	BETHEL	PITT	No
NONCD0000108	BETHLEHEM COMMUNITY DUMP	BETHLEHEM	ALEXANDER	No
NONCD0000283	BEULAVILLE DUMP	BEULAVILLE	DUPLIN	No
NONCD0000672	BISCOE OLD TOWN DUMP	BISCOE	MONTGOMERY	No
NONCD0000636	BLACK CREEK DUMP	BLACK CREEK	WILSON	No
NONCD0000166	BLACK MOUNTAIN	BLACK MOUNTAIN	BUNCOMBE	No
NONCD0000148	BLADENBORO REFUSE DISPOSAL	BLADENBORO	BLADEN	No
NONCD0000622	BLOWING ROCK LANDFILL	BLOWING ROCK	WATAUGA	No
NONCD0000194	BLOWING ROCK LF	BLOWING ROCK	CALDWELL	No
NONCD0000465	BLUE CLAY RD. LF		NEW HANOVER	No
NONCD0000241	BOILING SPRINGS DUMP	BOILING SPRINGS	CLEVELAND	No
NONCD0000160	BOILING SPRINGS LAKES DUMP	BOILING SPRINGS	BRUNSWICK	No
NONCD0000149	BOLIVIA REFUSE DISPOSAL	BOLIVIA	BRUNSWICK	No
NONCD0000252	BOLTON DUMP	BOLTON	COLUMBUS	No
NONCD0000226	BONLEE DUMP	BONELEE	CHATHAM	No
NONCD0000645	BOONEVILLE DUMP	BOONEVILLE	YADKIN	No
NONCD0000546	BOSTIC REFUSE DISPOSAL	BOSTIC	RUTHERFORD	No
NONCD0000208	BREVARD DUMP	BREVARD	TRANSYLVANIA	No
NONCD0000168	BRISTOL CREEK COMM. DUMP		BURKE	No
NONCD0000389	BROADWAY DUMP	BROADWAY	LEE	No
NONCD0000119	BRONSON SAND & GRAVEL LDFL	LILESVILLE	ANSON	No
NONCD0000320	BRUCES COUNTY LANDFILL		GASTON	No
NONCD0000673	BUD HOLDING COMPANY	GREENSBORO	GUILFORD	No
NONCD0000306	BUDDY ROBINS LANDFILL		FORSYTH	No
NONCD0000348	BUIES CREEK DUMP	BUIES CREEK	HARNETT	No
NONCD0000354	BUIES CREEK LANDFILL	BUIES CREEK	HARNETT	No
NONCD0000300	BUILDING RUBBLE LF		FORSYTH	No
NONCD0000682	BUNCOMBE CO LF/E CANTON LF/OLD		BUNCOMBE	No
NONCD0000312	BUNN DUMP	BUNN	FRANKLIN	No
NONCD0000490	BURGAW DUMP	BURGAW	PENDER	No
NONCD0000649	BURNSVILLE DUMP	BURNSVILLE	YANCEY	No
NONCD0000695	BURNT MILL CREEK LANDFILL	WILMINGTON	NEW HANOVER	No
NONCD0000765	BUXTON DUMP TWO	BUXTON	DARE	No
NONCD0000224	BYNUM DUMP	BYNUM	CHATHAM	No
NONCD0000510	C.A. BOWERS DUMP	TRINITY	RANDOLPH	No
NONCD0000284	CALYPSO DUMP	CALYPSO	DUPLIN	No
NONCD0000654	CAMDEN CO LF-CAMDEN	CAMDEN	CAMDEN	No

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11. OLD UNLINED LANDFILL LIST

ID Number	Site Name	City	County	In Other IHS Category
NONCD0000197	CAMDEN COUNTY LF-OLD TRAP	CAMDEN	CAMDEN	No
NONCD0000442	CAMERON DUMP	CAMERON	MOORE	No
NONCD0000683	CAMP DAVIS LANDFILL	HOLLY RIDGE	ONSLOW	No
NONCD0000162	CANDLER REFUSE DISPOSAL AREA	CANDLER	BUNCOMBE	No
NONCD0000433	CANDOR DUMP	CANDOR	MONTGOMERY	No
NONCD0000755	CANNON MILLS LANDFILL		ROWAN	No
NONCD0000358	CANTON DUMP	CANTON	HAYWOOD	No
NONCD0000213	CAPE CARTERET DUMP	CAPE CARTERET	CARTERET	No
NONCD0000458	CAROLINA BEACH REFUSE DISP	CAROLINA BEACH	NEW HANOVER	No
NONCD0000764	CAROVA BEACH LANDFILL	CAROVA BEACH	CURRITUCK	No
NONCD0000214	CARTERET COUNTY LF	NEWPORT	CARTERET	No
NONCD0000209	CARTERET COUNTY LF - MT RUSSEL	NEWPORT	CARTERET	No
NONCD0000395	CARTER'S REFUSE DISPOSAL	KINSTON	LENOIR	No
NONCD0000446	CARTHAGE DUMP	CARTHAGE	MOORE	No
NONCD0000602	CARY DUMP	CARY	WAKE	No
NONCD0000377	CASHIER'S REFUSE DISPOSAL	CASHIERS	JACKSON	No
NONCD0000448	CASTALIA REFUSE DUMP	CASTALIA	NASH	No
NONCD0000459	CASTLE HAYNE SERVICE DUMP	CASTLE HAYNE	NEW HANOVER	No
NONCD0000460	CASTLE HAYNE TRASH SERVICE	CASTLE HAYNE	NEW HANOVER	No
NONCD0000216	CASWELL LF	YANCEYVILLE	CASWELL	No
NONCD0000392	CASWELL SCHOOL DUMP	KINSTON	LENOIR	No
NONCD0000222	CATAWBA COUNTY LF	HICKORY	CATAWBA	No
NONCD0000217	CATAWBA DUMP		CATAWBA	No
NONCD0000782	CENTRAL PARK LDFL	WINSTON-SALEM	FORSYTH	No
NONCD0000254	CHADBOURN DUMP	CHADBOURN	COLUMBUS	No
NONCD0000642	CHAMBERLAND-HODGE DUMP	YADKINVILLE	YADKIN	No
NONCD0000484	CHAPEL HILL LANDFILL	CHAPEL HILL	ORANGE	No
NONCD0000716	CHARLIE LITTLE RD LDFL	DUDLEY SHOALS	CALDWELL	No
NONCD0000182	CHARLOTTE MOTOR SPEEDWAY LF#1		CABARRUS	No
NONCD0000183	CHARLOTTE MOTOR SPEEDWAY LF#2		CABARRUS	No
NONCD0000185	CHARLOTTE MOTOR SPEEDWAY LF#3		CABARRUS	No
NONCD0000582	CHATHAM REFUSE DISPOSAL	ELKIN	SURRY	No
NONCD0000587	CHEROKEE INDIAN DUMP	CHEROKEE	SWAIN	No
NONCD0000627	CHERRY HOSPITAL DUMP	GOLDSBORO	WAYNE	No
NONCD0000779	CHERRY POINT LANDFILL	CHERRY POINT	CRAVEN	No
NONCD0000778	CHERRY POINT MCAS LANDFILL	CHERRY POINT	CRAVEN	No
NONCD0000250	CHERRYVILLE DUMP	CHERRYVILLE	CLEVELAND	No
NONCD0000187	CHESTER REFUSE DISPOSAL		CALDWELL	No
NONCD0000540	CHINA GROVE DUMP	CHINA GROVE	ROWAN	No
NONCD0000127	CHOCOWINITY DUMP	CHOCOWINITY	BEAUFORT	No
NONCD0000751	CITY OF ALBERMARLE DUMP	ALBERMARLE	STANLY	No

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11. OLD UNLINED LANDFILL LIST

ID Number	Site Name	City	County	In Other IHS Category
NONCD0000294	CITY OF DURHAM LF	DURHAM	DURHAM	No
NONCD0000739	CITY OF FAYETTEVILLE LDFL	FAYETTEVILLE	CUMBERLAND	No
NONCD0000740	CITY OF FAYETTEVILLE LDFL	FAYETTEVILLE	CUMBERLAND	No
NONCD0000244	CITY OF KINGS MTN.	KINGS MOUNTAIN	CLEVELAND	No
NONCD0000712	CITY OF LUMBERTON LDFL	LUMBERTON	ROBESON	No
NONCD0000612	CITY OF RALEIGH - WILDERS GROVE	RALEIGH	WAKE	No
NONCD0000699	CITY OF SHELBY LDFL (STUBBS)	STUBBS	CLEVELAND	No
NONCD0000674	CITY OF WILSON LANDFILL-1	WILSON	WILSON	No
NONCD0000202	CITY OF WILSON LDFL-2	WILSON	WILSON	No
NONCD0000744	CITY OF WINSTON-SALEM	WINSTON-SALEM	FORSYTH	No
NONCD0000743	CITY OF WINSTON-SALEM	WINSTON-SALEM	FORSYTH	No
NONCD0000308	CITY OF WINSTON-SALEM LF	WINSTON-SALEM	FORSYTH	No
NONCD0000726	CIVIC CENTER AREA	GRAHAM	ALAMANCE	No
NONCD0000147	CLARKTON REFUSE DISPOSAL	CLARKTON	BLADEN	No
NONCD0000280	CLEMENT REFUSE DUMP	MOCKSVILLE	DAVIE	No
NONCD0000157	CLEMMONS LF	BOLIVIA	BRUNSWICK	No
NONCD0000544	CLIFFSIDE MILL DUMP	CLIFFSIDE	RUTHERFORD	No
NONCD0000558	CLINTON DUMP	CLINTON	SAMPSON	No
NONCD0000363	CLYDE LEACH DUMP	ARABIA	HOKE	No
NONCD0000745	COATS MODIFIED LDFL	COATS	HARNETT	No
NONCD0000353	COATS REFUSE DISPOSAL	COATS	HARNETT	No
NONCD0000142	COLERAIN REFUSE DISPOSAL	COLERAIN	BERTIE	No
NONCD0000314	COLLEGE ST DUMP	YOUNGSVILLE	FRANKLIN	No
NONCD0000426	COLLINS & AIKMAN LF	OLD FORT	MCDOWELL	No
NONCD0000595	COLUMBIA DUMP	COLUMBIA	TYRRELL	No
NONCD0000503	COLUMBUS REFUSE DISPOSAL	COLUMBUS	POLK	No
NONCD0000180	CONCORD LANDFILL	CONCORD	CABARRUS	No
NONCD0000295	CONETOE REFUSE DISPOSAL AREA	CONETOE	EDGECOMBE	No
NONCD0000218	CONOVER DUMP	CONOVER	CATAWBA	No
NONCD0000470	CONWAY REFUSE DISPOSAL	CONWAY	NORTHAMPTON	No
NONCD0001093	CORBETT PACKAGING CO LDFL	WILMINGTON	NEW HANOVER	No
NONCD0000301	COUNTY GARBAGE LANDFILL	WINSTON-SALEM	FORSYTH	No
NONCD0000322	CRAMERTON LF	CRAMERTON	GASTON	No
NONCD0000261	CRAVEN COUNTY	HAVELOCK	CRAVEN	No
NONCD0000333	CREEDMORE DUMP	CREEDMOOR	GRANVILLE	No
NONCD0000430	CRESCENT RESOURCES INC.	LEMLEY	MECKLENBURG	No
NONCD0000620	CRESWELL REFUSE DISPOSAL	CRESWELL	WASHINGTON	No
NONCD0000122	CROSSNORE REFUSE DUMP	CROSSMORE	AVERY	No
NONCD0000741	CUMBERLAND CO LDFL		CUMBERLAND	No
NONCD0000736	CUMBERLAND CO LDFL – BEAVER DAM		CUMBERLAND	No
NONCD0000733	CUMBERLAND CO LDFL - BONES CR	FAYETTEVILLE	CUMBERLAND	No

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11. OLD UNLINED LANDFILL LIST

ID Number	Site Name	City	County	In Other IHS Category
NONCD0000734	CUMBERLAND CO LDFL - TRAILER	FAYETTEVILLE	CUMBERLAND	No
NONCD0000735	CUMBERLAND CO LDFL - WADE	GODWIN	CUMBERLAND	No
NONCD0000279	DALTON REFUSE DUMP	MOCKSVILLE	DAVIE	No
NONCD0000753	DAN JOHNSON LDFL	ELKIN	WILKES	No
NONCD0000575	DANBURY DUMP	DANBURY	STOKES	No
NONCD0000272	DARE COUNTY DUMP	MANTEO	DARE	No
NONCD0000738	DAVIDSON CO LDFL		DAVIDSON	No
NONCD0000428	DAVIDSON LANDFILL	DAVIDSON	MECKLENBURG	No
NONCD0000591	DAVIDSON RIVER DUMP		TRANSYLVANIA	No
NONCD0000184	DAVIDSON SANITARY LANDFILL	DAVIDSON	CABARRUS	No
NONCD0000309	DEMOLITION LANDFILL		FORSYTH	No
NONCD0000275	DENTON DUMP	DENTON	DAVIDSON	No
NONCD0000277	DENTON LANDFILL	DENTON	DAVIDSON	No
NONCD0000276	DENTON LANDFILL	DENTON	DAVIDSON	No
NONCD0000408	DENVER LANDFILL	DENVER	LINCOLN	No
NONCD0000391	DOBBS FARM DUMP	KINSTON	LENOIR	No
NONCD0000259	DOVER REFUSE DUMP	DOVER	CRAVEN	No
NONCD0000705	DOWDY DUMP	GATEWOOD	CASWELL	No
NONCD0000531	DRAPER DUMP	DRAPER	ROCKINGHAM	No
NONCD0000172	DREXEL DUMP	DREXEL	BURKE	No
NONCD0000144	DUBLIN REFUSE DUMP	DUBLIN	BLADEN	No
NONCD0000671	DUDLEY LANDFILL	DUDLEY	WAYNE	No
NONCD0000769	DUDLEY SHOALS RD LDFL #1	DUDLEY SHOALS	CALDWELL	No
NONCD0000770	DUDLEY SHOALS RD LDFL #2	DUDLEY SHOALS	CALDWELL	No
NONCD0000292	DUKE AND GREGSON ST. DUMP	DURHAM	DURHAM	No
NONCD0000650	DUKE POWER DUMP	HICKORY	ALEXANDER	No
NONCD0000351	DUNN REFUSE DISPOSAL	DUNN	SAMPSON	No
NONCD0000352	DUNN-ERWIN DUMP	ERWIN	HARNETT	No
NONCD0000666	DUPONT DUMP	LELAND	BRUNSWICK	No
NONCD0000289	DURHAM COUNTY LANDFILL		DURHAM	No
NONCD0000293	DURHAM COUNTY SANITARY LF		DURHAM	No
NONCD0000291	DURHAM LAND DISPOSAL AREA	DURHAM	DURHAM	No
NONCD0000723	DURHAM ST LDFL	BURLINGTON	ALAMANCE	No
NONCD0000169	DYSARTSVILLE DUMP	DYSARTSVILLE	BURKE	No
NONCD0000236	E.Z. SANITATION DUMP	LATTIMORE	CLEVELAND	No
NONCD0000439	EAGLE SPRINGS DUMP	EAGLE SPRINGS	MOORE	No
NONCD0000178	EARNHARDT ROAD DUMP	KANNAPOLIS	CABARRUS	No
NONCD0000757	EAST LAKE SHORE DRIVE LDFL	WILIMINGTON	NEW HANOVER	No
NONCD0000541	EAST SPENCER DUMP	EAST SPENCER	ROWAN	No
NONCD0000614	EAST WAKE COUNTY LF	KNIGHTDALE	WAKE	No
NONCD0000245	ECHO SERVICE, INC.	SHELBY	CLEVELAND	No

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11. OLD UNLINED LANDFILL LIST

ID Number	Site Name	City	County	In Other IHS Category
NONCD0000233	EDENTON LANDFILL	EDENTON	CHOWAN	No
NONCD0000653	EDGECOMBE COUNTY LANDFILL	TARBORO	EDGECOMBE	No
NONCD0000488	ELIZABETH CITY LF	ELIZABETH CITY	PASQUOTANK	No
NONCD0000145	ELIZABETHTOWN REFUSE DISP	ELIZABETHTOWN	BLADEN	No
NONCD0000123	ELK PARK DUMP	ELK PARK	AVERY	No
NONCD0000581	ELKIN LANDFILL	ELKIN	SURRY	No
NONCD0000547	ELLENBORO DUMP	ELLENBORO	RUTHERFORD	No
NONCD0000516	ELLERBE DUMP	ELLERBE	RICHMOND	No
NONCD0000638	ELM CITY REFUSE DISPOSAL	ELM CITY	WILSON	No
NONCD0000730	ELON COLLEGE LDFL - AMICK RD	ELON COLLEGE	ALAMANCE	No
NONCD0000212	EMERALD ISLE DUMP	EMERALD ISLE	CARTERET	No
NONCD0000340	ENFIELD REFUSE DISPOSAL	ENFIELD	HALIFAX	No
NONCD0000367	ENGLEHARD DUMP	ENGLEHARD	HYDE	No
NONCD0000410	ENVIRONETICS BURN SITE	LINCOLNTON	LINCOLN	No
NONCD0000632	EUREKA REFUSE DISPOSAL	EUREKA	WAYNE	No
NONCD0000396	EVERETT GARBAGE SERVICE DUMP	KINSTON	LENOIR	No
NONCD0000255	FAIR BLUFF DUMP	FAIR BLUFF	ROBESON	No
NONCD0000365	FAIRFIELD DUMP	FAIRFIELD	HYDE	No
NONCD0000521	FAIRMONT DUMP	FAIRMONT	ROBESON	No
NONCD0000287	FAISON DUMP	FAISON	DUPLIN	No
NONCD0000498	FALKLAND DUMP	FALKLAND	PITT	No
NONCD0000641	FALL CREEK COMM. DUMP		YADKIN	No
NONCD0000497	FARMVILLE REFUSE DISPOSAL	FARMVILLE	PITT	No
NONCD0000267	FAYETTEVILLE CITY LF	FAYETTEVILLE	CUMBERLAND	No
NONCD0000163	FISHBURNE REFUSE DUMP		BUNCOMBE	No
NONCD0000179	FISHERTOWN DUMP	KANNAPOLIS	CABARRUS	No
NONCD0000328	FONTANA VILLAGE DUMP	FONTANA VILLAGE	GRAHAM	No
NONCD0000554	FOREST CITY	FOREST CITY	RUTHERFORD	No
NONCD0000496	FOUNTAIN REFUSE DISPOSAL	FOUNTAIN	PITT	No
NONCD0000379	FOUR OAKS DUMP	FOUR OAKS	JOHNSTON	No
NONCD0000313	FRANKLIN COUNTY SANITARY LF		FRANKLIN	No
NONCD0000412	FRANKLIN DISPOSAL	FRANKLIN	MACON	No
NONCD0000310	FRANKLINTON DUMP	FRANKLINTON	FRANKLIN	No
NONCD0000508	FRANKLINVILLE DUMP	FRANKLINVILLE	RANDOLPH	No
NONCD0000628	FREMONT REFUSE DISPOSAL	FREMONT	WAYNE	No
NONCD0000606	FUQUAY VARINA DUMP	FUQUA VARINA	WAKE	No
NONCD0000580	GARBAGE SERVICE DUMP	MT AIRY	SURRY	No
NONCD0000562	GARLAND DUMP	GARLAND	SAMPSON	No
NONCD0000604	GARNER TRASH DUMP	GARNER	WAKE	No
NONCD0000188	GARNES REFUSE DUMP		CALDWELL	No
NONCD0000321	GASTON CO LF (MT HOLLY LF)	MT HOLLY	GASTON	No

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ID Number	Site Name	City	County	In Other IHS Category
NONCD0000324	GASTON COUNTY LF (HARDEN RD.)	DALLAS	GASTON	No
NONCD0000475	GASTON REFUSE DISPOSAL	GASTON	NORTHAMPTON	No
NONCD0000658	GASTONIA REFUSE DUMP		GASTON	No
NONCD0000327	GATES COUNTY LF	GATESVILLE	GATES	No
NONCD0000326	GATESVILLE DUMP	GATESVILLE	GATES	No
NONCD0000564	GIBSON REFUSE DUMP	GIBSON	SCOTLAND	No
NONCD0000338	GIBSONVILLE TOWN LF	GIBSONVILLE	GUILFORD	No
NONCD0000201	GILL STREET PARK	ZEBULON	WAKE	No
NONCD0000173	GLEN ALPINE DUMP	ST PAUL	BURKE	No
NONCD0000630	GOLDSBORO DUMP	GOLDSBORO	WAYNE	No
NONCD0000227	GOLDSTON DUMP	GOLDSTON	CHATHAM	No
NONCD0000576	GORDON'S DUMP		STOKES	No
NONCD0000104	GRAHAM DISPOSAL	GRAHAM	ALAMANCE	No
NONCD0000186	GRANITE FALLS DUMP	GRANITE FALLS	CALDWELL	No
NONCD0000121	GREEN VALLEY DUMP		AVERY	No
NONCD0000336	GREENE COUNTY LF	SNOW HILL	GREENE	No
NONCD0000500	GRIFTON DUMP	GRIFTON	PITT	No
NONCD0000495	GRIMESLAND REFUSE DUMP	GRIMESLAND	PITT	No
NONCD0000150	GRISSETTOWN LANDFILL	SEASIDE	BRUNSWICK	No
NONCD0000343	HALIFAX DUMP	HALIFAX	HALIFAX	No
NONCD0000418	HAMILTON DUMP	HAMILTON	MARTIN	No
NONCD0000515	HAMLET DUMP	HAMLET	RICHMOND	No
NONCD0000519	HAMLET TRASH DISPOSAL AREA	HAMLET	RICHMOND	No
NONCD0000722	HANOVER RD LDFL	BURLINGTON	ALAMANCE	No
NONCD0000317	HARDIN REFUSE DUMP		GASTON	No
NONCD0000207	HARKERS ISLAND REFUSE DISP	HARKERS ISLAND	CARTERET	No
NONCD0000370	HARMONY REFUSE DISPOSAL	HARMONY	IREDELL	No
NONCD0000258	HAVELOCK REFUSE DUMP	HAVELOCK	CRAVEN	No
NONCD0000548	HAWKINS REFUSE DISPOSAL	FOREST CITY	RUTHERFORD	No
NONCD0000235	HAYESVILLE DUMP	HAYESVILLE	CLAY	No
NONCD0000553	HAYNES REFUSE DUMP		RUTHERFORD	No
NONCD0000355	HAZELWOOD DUMP	HAZELWOOD	HAYWOOD	No
NONCD0000191	HELTON REFUSE DUMP		CALDWELL	No
NONCD0000680	HENDERSON DR LDFL	JACKSONVILLE	ONSLOW	No
NONCD0000359	HENDERSON DUMP	HENDERSONVILLE	HENDERSON	No
NONCD0000538	HENDIX GARBAGE DUMP		ROWAN	No
NONCD0000549	HENDRICKS DUMP	FOREST CITY	RUTHERFORD	No
NONCD0000171	HENRY RIVER COMM. DUMP		BURKE	No
NONCD0000718	HERTFORD CO LDFL	UNION	HERTFORD	No
NONCD0000492	HERTFORD DUMP	HERTFORD	PERQUIMANS	No
NONCD0000651	HICKORY LANDFILL	HICKORY	CATAWBA	No

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11. OLD UNLINED LANDFILL LIST

ID Number	Site Name	City	County	In Other IHS Category
NONCD0000707	HIGH POINT TRASH DUMP	HIGH POINT	GUILFORD	No
NONCD0000319	HIGH SHOALS DUMP		GASTON	No
NONCD0000413	HIGHLANDS REFUSE DISPOSAL	HIGHLANDS	MACON	No
NONCD0000170	HILDEBRAN DISPOSAL AREA	HILDEBRAN	BURKE	No
NONCD0000483	HILLSBOROUGH DUMP	HILLSBOROUGH	ORANGE	No
NONCD0000771	HILLSBOROUGH LDFL	HILLSBOROUGH	ORANGE	No
NONCD0000345	HOBGOOD DUMP	HOBGOOD	MARTIN	No
NONCD0000429	HOLBROOK RD. LF	HUNTERSVILLE	MECKLENBURG	No
NONCD0000154	HOLDEN BEACH LF	CEDAR GROVE	BRUNSWICK	No
NONCD0000478	HOLLY RIDGE REFUSE DISPOSAL	HOLLY RIDGE	ONSLOW	No
NONCD0000605	HOLLY SPRINGS DUMP	HOLLY SPRINGS	WAKE	No
NONCD0000335	HOOKERTON DUMP	HOOKERTON	GREENE	No
NONCD0000264	HOPE MILLS DUMP	HOPE MILLS	CUMBERLAND	No
NONCD0000535	HOPKINS GARBAGE DUMP	LEAKSVILLE	ROCKINGHAM	No
NONCD0000664	HORN OPEN DUMP		RUTHERFORD	No
NONCD0000416	HOT SPRINGS REFUSE DISPOSAL	HOT SPRINGS	MADISON	No
NONCD0000402	HOWARD CREEK LANDFILL	LINCOLNTON	LINCOLN	No
NONCD0000435	HURLEY'S DUMP	BISCOE	MONTGOMERY	No
NONCD0000763	I-85 LANDFILL	SALISBURY	ROWAN	No
NONCD0000269	INDEPENDENT TRASH SERVICE	MAMIE	CURRITUCK	No
NONCD0000311	J.H. WINSTON DUMP	BUNN	FRANKLIN	No
NONCD0000232	J.W. BRADLEY DUMP	EDENTON	CHOWAN	No
NONCD0000767	JACKSON DUNES, LOT 14	OCRACOKE	HYDE	No
NONCD0000469	JACKSON REFUSE DISPOSAL	JACKSON	NORTHAMPTON	No
NONCD0000479	JACKSONVILLE DUMP	JACKSONVILLE	ONSLOW	No
NONCD0000713	JAMES DEBRAHL LAFAYETTE TRANSP		ROBESON	No
NONCD0000421	JAMESVILLE DUMP	JAMESVILLE	MARTIN	No
NONCD0000688	JAYCEE PARK	RALEIGH	WAKE	No
NONCD0000273	JENNETTE'S DUMP	BUXTON	DARE	No
NONCD0000749	JOHNSONVILLE MODIFIED LDFL	JOHNSONVILLE	HARNETT	No
NONCD0000400	JONES AIRPORT LANDFILL	LINCOLNTON	LINCOLN	No
NONCD0000643	JONESVILLE DUMP	JONESVILLE	YADKIN	No
NONCD0000646	JOYNER REFUSE DUMP	YADKINVILLE	YADKIN	No
NONCD0000136	KELFORD DUMP	KELFORD	BERTIE	No
NONCD0000282	KENANSVILLE DUMP	KENANSVILLE	DUPLIN	No
NONCD0000380	KENLY DUMP	KENLY	JOHNSTON	No
NONCD0000393	KENNEDY HOME DUMP	KINSTON	LENOIR	No
NONCD0000626	KERMIT GURLEY DUMP	GOLDSBORO	WAYNE	No
NONCD0000303	KERNERSVILLE DUMP	KERNERSVILLE	FORSYTH	No
NONCD0000678	KERR CITY PARK	JACKSONVILLE	ONSLOW	No
NONCD0000271	KILL DEVILS HILLS DUMP	KILL DEVIL HILLS	DARE	No

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11. OLD UNLINED LANDFILL LIST

ID Number	Site Name	City	County	In Other IHS Category
NONCD0000572	KINGS DUMP	KING	STOKES	No
NONCD0000675	KINGS MOUNTAIN LANDFILL	KINGS MOUNTAIN	CLEVELAND	No
NONCD0000239	KINGS MTN. DUMP	KINGS MOUNTAIN	CLEVELAND	No
NONCD0000491	KIRKLAND'S DUMP	HAMPSTEAD	PENDER	No
NONCD0000175	KIRKSEY DRIVE LF	MORGANTON	BURKE	No
NONCD0000603	KNIGHTDALE DUMP	KNIGHTDALE	WAKE	No
NONCD0000461	KURE BEACH REFUSE DISPOSAL	KURE BEACH	NEW HANOVER	No
NONCD0000394	LA GRANGE REFUSE DISPOSAL	LA GRANGE	LENOIR	No
NONCD0000228	LAKE HINASSEE RESORT DUMP		CHEROKEE	No
NONCD0000357	LAKE LOGAN DUMP	CANTON	HAYWOOD	No
NONCD0000552	LAKE LURE DUMP	LAKE LURE	RUTHERFORD	No
NONCD0000592	LAKE TOXAWAY DUMP	LAKE TOXAWAY	TRANSYLVANIA	No
NONCD0000253	LAKE WACCAMAW DUMP	LAKE WACCAMAW	COLUMBUS	No
NONCD0000697	LAKES APTS	RALEIGH	WAKE	No
NONCD0000539	LANDIS WASTE DISPOSAL AREA	LANDIS	ROWAN	No
NONCD0000237	LATTIMORE DUMP	LATTIMORE	CLEVELAND	No
NONCD0000565	LAURINBURG DUMP	LAURINBURG	SCOTLAND	No
NONCD0000534	LEAKSVILLE LANDFILL	LEAKSVILLE	ROCKINGHAM	No
NONCD0000411	LEDFORD PICK-UP SERVICE	FRANKLIN	MACON	No
NONCD0000193	LENOIR DUMP	LENOIR	CALDWELL	No
NONCD0000140	LEWISTON REFUSE DISPOSAL	LEWISTON	BERTIE	No
NONCD0000512	LIBERTY DUMP	LIBERTY	RANDOLPH	No
NONCD0000266	LIEBER SANITATION DUMP		CUMBERLAND	No
NONCD0000350	LILLINGTON DUMP	LILLINGTON	HARNETT	No
NONCD0000746	LILLINGTON MODIFIED LDFL	LILLINGTON	HARNETT	No
NONCD0000409	LINCOLN COUNTY LF	LINCOLNTON	LINCOLN	No
NONCD0000405	LINCOLNTON REFUSE DISPOSAL	LINCOLNTON	LINCOLN	No
NONCD0000304	LINK ROAD DUMP	WINSTON-SALEM	FORSYTH	No
NONCD0000423	LINVILLE FALLS REFUSE DISPOSAL	LINVILLE FALLS	MCDOWELL	No
NONCD0000422	LITTLE SWITZERLAND LANDFILL	LITTLE SWITZERLAND	MCDOWELL	No
NONCD0000339	LITTLETON DUMP	LITTLETON	HALIFAX	No
NONCD0000155	LONG BEACH REFUSE DISPOSAL	LONG BEACH	BRUNSWICK	No
NONCD0000219	LONG VIEW REFUSE DUMP	LONG VIEW	CATAWBA	No
NONCD0000315	LOUISBURG DUMP	LOUISBURG	FRANKLIN	No
NONCD0000655	LOUISBURG SITE #2	LOUISBURG	FRANKLIN	No
NONCD0000657	LOUISBURG SITE #3	LOUISBURG	FRANKLIN	No
NONCD0000373	LOVE VALLEY DUMP	LOVE VALLEY	IREDELL	No
NONCD0000323	LOWELL REFUSE DUMP	LOWELL	GASTON	No
NONCD0000522	LUMBER BRIDGE REFUSE DISPOSAL	LUMBER BRIDGE	ROBESON	No
NONCD0000527	LUMBERTON DUMP	HESTERTOWN	ROBESON	No
NONCD0000296	MACCLESFIELD DUMP	MACCLESFIELD	EDGECOMBE	No

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11. OLD UNLINED LANDFILL LIST

ID Number	Site Name	City	County	In Other IHS Category
NONCD0000407	MACHPELAH LANDFILL	IRON STATION	LINCOLN	No
NONCD0000619	MACKEY'S DUMP		WASHINGTON	No
NONCD0000617	MACON DUMP	MACON	WARREN	No
NONCD0000536	MADISON LANDFILL	MADISON	ROCKINGHAM	No
NONCD0000286	MAGNOLIA DUMP	MAGNOLIA	DUPLIN	No
NONCD0000220	MAIDEN DUMP	MAIDEN	CATAWBA	No
NONCD0000748	MAMERS MODIFIED LDFL	MAMERS	HARNETT	No
NONCD0000270	MANTEO DUMP	MANTEO	DARE	No
NONCD0000786	MARBERY	DURHAM	DURHAM	No
NONCD0000425	MARION REFUSE DISPOSAL	MARION	MCDOWELL	No
NONCD0000415	MARS HILL REFUSE DISPOSAL	MARS HILL	MADISON	No
NONCD0000414	MARSHALL REFUSE DISPOSAL	MARSHALL	MADISON	No
NONCD0000203	MARSHALLBERG DUMP	MARSHALLBERG	CARTERET	No
NONCD0000600	MARSHVILLE DUMP	MARSHVILLE	UNION	No
NONCD0000747	MASON'S STORE MODIFIED LDFL	MAMERS	HARNETT	No
NONCD0000781	MATTHEWS POINT DUMP	HAVELOCK	CRAVEN	No
NONCD0000524	MAXTON DUMP	MAXTON	ROBESON	No
NONCD0000387	MAYSVILLE REFUSE DISPOSAL	MAYSVILLE	JONES	No
NONCD0000318	MCADENVILLE DUMP	MCADENVILLE	GASTON	No
NONCD0000101	MEBANE DUMP	MEBANE	ALAMANCE	No
NONCD0000545	MICHAEL'S DUMP		RUTHERFORD	No
NONCD0000449	MIDDLESEX DUMP	MIDDLESEX	NASH	No
NONCD0000215	MILES GARBAGE DUMP	YANCEYVILLE	CASWELL	No
NONCD0000462	MILITARY CUTOFF LANDFILL	WILIMINGTON	NEW HANOVER	No
NONCD0000204	MILL CREEK REFUSE DUMP	MILL CREEK	CARTERET	No
NONCD0000785	MITCHELL FARM	DURHAM	DURHAM	No
NONCD0000513	MODERN GARBAGE DUMP	RANDLEMAN	RANDOLPH	No
NONCD0000752	MONROE CRAIG LDFL	WALNUT COVE	STOKES	No
NONCD0000599	MONROE LANDFILL	MONROE	UNION	No
NONCD0000720	MOORE CO LDFL-CARTHAGE	CARTHAGE	MOORE	No
NONCD0000376	MOORESVILLE DUMP	MOORESVILLE	IREDELL	No
NONCD0000374	MOORESVILLE LANDFILL	MOORESVILLE	IREDELL	No
NONCD0000205	MOREHEAD CITY REFUSE DUMP	MOREHEAD CITY	CARTERET	No
NONCD0000177	MORGANTOWN DUMP	MORGANTON	BURKE	No
NONCD0000116	MORVEN DUMP	MORVEN	ANSON	No
NONCD0000585	MOUNT AIRY LF	MT AIRY	SURRY	No
NONCD0000434	MOUNT GILEAD DUMP	MT GILEAD	MONTGOMERY	No
NONCD0000181	MOUNT PLEASANT DUMP	MT PLEASANT	CABARRUS	No
NONCD0000709	MT OLIVE LDFL	MOUNT OLIVE	WAYNE	No
NONCD0000584	MT. AIRY DUMP	MT AIRY	SURRY	No
NONCD0000631	MT. OLIVE REFUSE DISPOSAL	MOUNT OLIVE	WAYNE	No

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ID Number	Site Name	City	County	In Other IHS Category
NONCD0000372	MURDOCK RD LANDFILL	STATESVILLE	IREDELL	No
NONCD0000362	MURFREESBORO DUMP	MURFREESBORO	HERTFORD	No
NONCD0000230	MURPHY REFUSE DUMP	MURPHY	CHEROKEE	No
NONCD0000737	N DAVIDSON CO LDFL		DAVIDSON	No
NONCD0000634	N. WILKESBORO DUMP	NORTH WILKESBORO	WILKES	No
NONCD0000456	NASHVILLE DUMP	NASHVILLE	NASH	No
NONCD0000783	NC 7 DUMP	BELMONT	GASTON	No
NONCD0000607	NC DEPT. OF AGRICULTURE LF	RALEIGH	WAKE	No
NONCD0000611	NC STATE FAIR LF	RALEIGH	WAKE	No
NONCD0000263	NEW BERN SANITARY DUMP	NEW BERN	CRAVEN	No
NONCD0000463	NEW HANOVER CO. LANDFILL	CAROLINA BEACH	NEW HANOVER	No
NONCD0000368	NEW HOLLAND DUMP	SWAN QUARTER	HYDE	No
NONCD0000196	NEWBY'S TRASH SERVICE DUMP	CAMDEN	CAMDEN	No
NONCD0000124	NEWLAND REFUSE DUMP	NEWLAND	AVERY	No
NONCD0000559	NEWTON GROVE DUMP	NEWTON GROVE	JOHNSTON	No
NONCD0000221	NEWTON LANDFILL	NEWTON	CATAWBA	No
NONCD0000615	NORLINA DUMP	NORLINA	WARREN	No
NONCD0000403	NORTH BROOK LANDFILL	VALE	LINCOLN	No
NONCD0000246	NORTH EARL DUMP	EARL	CLEVELAND	No
NONCD0000625	NORTHERN WAYNE LF	BUCK SWAMP TWNSP	WAYNE	No
NONCD0000570	NORWOOD DUMP	NORWOOD	STANLY	No
NONCD0000417	OAK CITY DUMP	OAK CITY	MARTIN	No
NONCD0000569	OAKBORO DUMP	OAKBORO	STANLY	No
NONCD0000656	OCEAN ISLE DUMP	OCEAN ISLE	BRUNSWICK	No
NONCD0000153	OCEAN ISLE LANDFILL	OCEAN ISLE	BRUNSWICK	No
NONCD0000369	OCRACOKE DUMP	OCRACOKE	HYDE	No
NONCD0000111	OLD ALEXANDER CO LF (SR 1608)	TAYLORSVILLE	ALEXANDER	No
NONCD0000110	OLD ALEXANDER CO LF (SR 1620)	TAYLORSVILLE	ALEXANDER	No
NONCD0000113	OLD ALLEGHENY COUNTY LF	SPARTA	ALLEGHANY	No
NONCD0000106	OLD CITY OF BURLINGTON SOLID	BURLINGTON	ALAMANCE	No
NONCD0000290	OLD DURHAM COUNTY LF		DURHAM	No
NONCD0000424	OLD FORT REFUSE DISPOSAL	OLD FORT	MCDOWELL	No
NONCD0000665	OLD HOLLY SPRINGS DUMP/ CARY	HOLLY SPRINGS	WAKE	No
NONCD0000404	OLD LINCOLN COUNTY LF	LINCOLNTON	LINCOLN	No
NONCD0000610	OLD RALEIGH LDFL #11 - DORTHEA	RALEIGH	WAKE	No
NONCD0000684	OLD RALEIGH LF #1	RALEIGH	WAKE	No
NONCD0000693	OLD RALEIGH LF #10	RALEIGH	WAKE	No
NONCD0000694	OLD RALEIGH LF #12	RALEIGH	WAKE	No
NONCD0000685	OLD RALEIGH LF #2	RALEIGH	WAKE	No
NONCD0000686	OLD RALEIGH LF #3	RALEIGH	WAKE	No
NONCD0000687	OLD RALEIGH LF #4	RALEIGH	WAKE	No

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ID Number	Site Name	City	County	In Other IHS Category
NONCD0000689	OLD RALEIGH LF #6	RALEIGH	WAKE	No
NONCD0000690	OLD RALEIGH LF #7	RALEIGH	WAKE	No
NONCD0000691	OLD RALEIGH LF #8	RALEIGH	WAKE	No
NONCD0000445	OLD ROBBINS-HIGH FALLS LF	ROBBINS	MOORE	No
NONCD0000299	OLD ROCKY MOUNT LF	ROCKY MOUNT	EDGECOMBE	No
NONCD0000698	OLD SHELBY LANDFILL	SHELBY	CLEVELAND	No
NONCD0000777	OLD SMITHFIELD LANDFILL	SMITHFIELD	JOHNSTON	No
NONCD0000156	OLD SOUTHPORT LF	SOUTHPORT	BRUNSWICK	No
NONCD0000648	OLD YADKIN COUNTY LF	YADKINVILLE	YADKIN	No
NONCD0000593	OLIN-MATHEISON DUMP	PISGAH FOREST	TRANSYLVANIA	No
NONCD0000681	ONSLOW PINES RD LDFL	JACKSONVILLE	ONSLOW	No
NONCD0000760	OPTIMIST BALL PARK	WILIMINGTON	NEW HANOVER	No
NONCD0000486	ORIENTAL DUMP	ORIENTAL	PAMLICO	No
NONCD0000198	OTWAY COMMUNITY REFUSE DUMP	OTWAY	CARTERET	No
NONCD0000784	OVERHILLS LANDFILL	MANCHESTER	HARNETT	No
NONCD0000331	OXFORD DUMP	OXFORD	GRANVILLE	No
NONCD0000719	PAMLICO CO LDFL	REELSBORO	PAMLICO	No
NONCD0000130	PANTEGO DUMP	BELHAVEN	BEAUFORT	No
NONCD0000133	PANTEGO REFUSE DISPOSAL	PANTEGO	BEAUFORT	No
NONCD0000520	PARKTON DUMP	PARKTON	ROBESON	No
NONCD0000249	PATTERSON SPRINGS	EARL	CLEVELAND	No
NONCD0000118	PEACHLAND DUMP	PEACHLAND	ANSON	No
NONCD0000229	PEACHTREE COM. DUMP	PEACHTREE	CHEROKEE	No
NONCD0000525	PEMBROKE DUMP	PEMBROKE	ROBESON	No
NONCD0000474	PERDUE, INC.	CONWAY	NORTHAMPTON	No
NONCD0000234	PERQUIMANS-CHOWAN LF	TYNER	CHOWAN	No
NONCD0000677	PHILLIPS PARK LANDFILL	JACKSONVILLE	ONSLOW	No
NONCD0000240	PHILLIPS REFUSE DUMP	GROVER	CLEVELAND	No
NONCD0000629	PIKEVILLE DUMP	PIKEVILLE	WAYNE	No
NONCD0000708	PIKEVILLE LDFL	PIKEVILLE	WAYNE	No
NONCD0000583	PILOT MT. REFUSE DUMP	PILOT MT	SURRY	No
NONCD0000440	PINE BLUFF DUMP	PINE BLUFF	MOORE	No
NONCD0000382	PINE LEVEL DUMP	PINE LEVEL	JOHNSTON	No
NONCD0000298	PINETOPS REFUSE DUMP	PINETOPS	EDGECOMBE	No
NONCD0000427	PINEVILLE DUMP	PINEVILLE	MECKLENBURG	No
NONCD0000397	PINK HILL DUMP	PINK HILL	LENOIR	No
NONCD0000621	PLYMOUTH REFUSE DUMP	PLYMOUTH	WASHINGTON	No
NONCD0000115	POLKTON DUMP	POLKTON	ANSON	No
NONCD0000248	POLKVILLE DUMP	POLKVILLE	CLEVELAND	No
NONCD0000388	POLLOCKSVILLE DUMP	MAYSVILLE	JONES	No
NONCD0000776	POLLOCKSVILLE DUMP #2	POLLOCKSVILLE	JONES	No

APPENDIX II
N.C. INACTIVE HAZARDOUS SITES INVENTORY BY CATEGORY
OCTOBER 2005

11. OLD UNLINED LANDFILL LIST

ID Number	Site Name	City	County	In Other IHS Category
NONCD0000164	POND ROAD LF #1	ASHEVILLE	BUNCOMBE	No
NONCD0000727	PORTER AVENUE LDFL	GRAHAM	ALAMANCE	No
NONCD0000137	POWELLSVILLE REFUSE DISPOSAL	AHOSKIE	HERTFORD	No
NONCD0000383	PRINCETON DUMP	PRINCETON	JOHNSTON	No
NONCD0000297	PRINCEVILLE DUMP	TARBORO	EDGECOMBE	No
NONCD0000482	PUMPKIN CENTER LF	JACKSONVILLE	ONSLOW	No
NONCD0000132	PUNGO DUMP	PANTEGO	BEAUFORT	No
NONCD0000364	RAEFORD DUMP	RAEFORD	HOKE	No
NONCD0000506	RAMSEUR	RAMSEUR	RANDOLPH	No
NONCD0000511	RANDLEMAN DUMP	RANDLEMAN	RANDOLPH	No
NONCD0000211	RAYNOR GARBAGE DISPOSAL	BOGUE	CARTERET	No
NONCD0000481	RAY'S RURAL DUMP	JACKSONVILLE	ONSLOW	No
NONCD0000529	RED SPRINGS DUMP	RED SPRINGS	ROBESON	No
NONCD0000537	REIDSVILLE LANDFILL	REIDSVILLE	ROCKINGHAM	No
NONCD0000711	RENNERT LANDFILL	RENNERT	ROBESON	No
NONCD0000190	RHODHISS DUMP	RHODHISS	CALDWELL	No
NONCD0000176	RHODHISS LANDFILL	ICARD	BURKE	No
NONCD0000715	RHONE ANDERSON LDFL	WHITEVILLE	COLUMBUS	No
NONCD0000473	RICH SQUARE REFUSE DISPOSAL	RICH SQUARE	NORTHAMPTON	No
NONCD0000742	RICHARD FRANKLIN LDFL	WAYNESVILLE	HAYWOOD	No
NONCD0000566	RICHFIELD DUMP	RICHFIELD	STANLY	No
NONCD0000477	RICHLANDS REFUSE DISPOSAL	RICHLANDS	ONSLOW	No
NONCD0000251	RIEGELWOOD DUMP	RIEGELWOOD	COLUMBUS	No
NONCD0000347	ROANOKE RAPIDS CITY LF	THELMA	HALIFAX	No
NONCD0000341	ROANOKE RAPIDS LANDFILL	ROANOKE RAPIDS	HALIFAX	No
NONCD0000437	ROBBINS DUMP	ROBBINS	MOORE	No
NONCD0000329	ROBBINSVILLE DUMP	ROBBINSVILLE	GRAHAM	No
NONCD0000420	ROBERSONVILLE DUMP	ROBERSONVILLE	MARTIN	No
NONCD0000528	ROBESON COUNTY LANDFILL-PH I	ST PAULS	ROBESON	No
NONCD0000530	ROBESON COUNTY LF	ROWLAND	ROBESON	No
NONCD0000517	ROCKINGHAM DUMP	ROCKINGHAM	RICHMOND	No
NONCD000787	ROCKY KNOLL SCHOOL SITE	DURHAM	DURHAM	No
NONCD0000455	ROCKY MOUNT LANDFILL	ROCKY MOUNT	NASH	No
NONCD0000710	ROCKY MOUNT LDFL (LIEBERS)	ROCKY MOUNT	EDGECOMBE	No
NONCD0000601	ROLESVILLE DUMP	ROLESVILLE	WAKE	No
NONCD0000618	ROPER REFUSE DISPOSAL	ROPER	WASHINGTON	No
NONCD0000281	ROSE HILL DUMP	ROSE HILL	DUPLIN	No
NONCD0000561	ROSEBORO DUMP	ROSEBORO	SAMPSON	No
NONCD0000590	ROSMAN DUMP	ROSMAN	TRANSYLVANIA	No
NONCD0000589	ROSMAN RESEARCH LF		TRANSYLVANIA	No
NONCD0000523	ROWLAND REFUSE DUMP	ROWLAND	ROBESON	No

APPENDIX II
N.C. INACTIVE HAZARDOUS SITES INVENTORY BY CATEGORY
OCTOBER 2005

11. OLD UNLINED LANDFILL LIST

ID Number	Site Name	City	County	In Other IHS Category
NONCD0000494	ROXBORO DUMP	ROXBORO	PERSON	No
NONCD0000139	ROXOBEL REFUSE DISPOSAL	KELFORD	BERTIE	No
NONCD0000467	RURAL GARBAGE SERVICE		NEW HANOVER	No
NONCD0000274	RURAL GARBAGE SERVICE, INC.	THOMASVILLE	DAVIDSON	No
NONCD0000555	RUTHERFORDTON DISPOSAL	RUTHERFORDTON	RUTHERFORD	No
NONCD0000724	S MEBANE ST LDFL	BURLINGTON	ALAMANCE	No
NONCD0000557	SALEMBURG DUMP	SALEMBURG	SAMPSON	No
NONCD0000543	SALISBURY LANDFILL	SALISBURY	ROWAN	No
NONCD0000505	SALUDA REFUSE DUMP	SALUDA	POLK	No
NONCD0000706	SAMPSON CO LDFL (CARTERS BRG)	GARLAND	SAMPSON	No
NONCD0000702	SAMPSON CO LDFL (INGOLD)	INGOLD	SAMPSON	No
NONCD0000703	SAMPSON CO LDFL (IVANHOE)	IVANHOE	SAMPSON	No
NONCD0000701	SAMPSON CO LDFL (MT GILEAD)	MT GILEAD	SAMPSON	No
NONCD0000700	SAMPSON CO LDFL (SPIVEYS CRNR)	SPIVEYS CORNER	SAMPSON	No
NONCD0000704	SAMPSON CO LDFL (SUTTONTOWN)	SUTTONTOWN	SAMPSON	No
NONCD0000514	SANDFILL INDUSTRIAL DUMP	ROCKINGHAM	RICHMOND	No
NONCD0000390	SANFORD DUMP	SANFORD	LEE	No
NONCD0000305	SANITARY LANDFILL		FORSYTH	No
NONCD0000109	SANITARY PICK-UP SERVICE	TAYLORSVILLE	ALEXANDER	No
NONCD0000637	SARATOGA DUMP	SARATOGA	WILSON	No
NONCD0000563	SCOTLAND COUNTY COMM. DUMP	LAURINBURG	SCOTLAND	No
NONCD0000344	SCOTLAND NECK DUMP	SCOTLAND NECK	HALIFAX	No
NONCD0000596	SCUPPERNONG COMM. DUMP	SCUPPERNONG	TYRRELL	No
NONCD0000471	SEABOARD REFUSE DISPOSAL	SEABOARD	NORTHAMPTON	No
NONCD0000507	SEAGROVE DUMP	SEAGROVE	RANDOLPH	No
NONCD0000381	SELMA REFUSE DUMP	SELMA	JOHNSTON	No
NONCD0000398	SEVEN SPRINGS DUMP	SEVEN SPRINGS	LENOIR	No
NONCD0000472	SEVERN REFUSE DISPOSAL	SEVERN	NORTHAMPTON	No
NONCD0000159	SHALLOTTE REFUSE DUMP	SHALLOTTE	BRUNSWICK	No
NONCD0000152	SHALLOTTE SANITARY LANDFILL	SHALLOTTE	BRUNSWICK	No
NONCD0000450	SHARPSBURG DUMP	SHARPSBURG	NASH	No
NONCD0000242	SHELBY REFUSE DUMP	SHELBY	CLEVELAND	No
NONCD0000195	SHEW REFUSE DISPOSAL		CABARRUS	No
NONCD0000225	SILER CITY DUMP	SILER CITY	CHATHAM	No
NONCD0000639	SIMS REFUSE DISPOSAL	SIMS	WILSON	No
NONCD0000385	SMITHFIELD REFUSE DUMP	SMITHFIELD	JOHNSTON	No
NONCD0000337	SNOW HILL DUMP	SNOW HILL	GREENE	No
NONCD0000493	SOLOMON'S DUMP	ROXBORO	PERSON	No
NONCD0000775	SOUND SHORES LOTS 18 & 19	OCRACOKE	HYDE	No
NONCD0000247	SOUTH EARL DUMP	EARL	CLEVELAND	No
NONCD0000668	SOUTH SAUDERS STREET DUMP	RALEIGH	WAKE	No

APPENDIX II
N.C. INACTIVE HAZARDOUS SITES INVENTORY BY CATEGORY
OCTOBER 2005

11. OLD UNLINED LANDFILL LIST

ID Number	Site Name	City	County	In Other IHS Category
NONCD0000762	SOUTHERN PINES DUMP	SOUTHERN PINES	MOORE	No
NONCD0000447	SOUTHERN PINES LANDFILL	SOUTHERN PINES	MOORE	No
NONCD0000480	SOUTHWEST LF	JACKSONVILLE	ONSLOW	No
NONCD0000114	SPARTA REFUSE DISPOSAL	SPARTA	ALLEGHANY	No
NONCD0000542	SPENCER LAND DISPOSAL AREA	SPENCER	ROWAN	No
NONCD0000533	SPRAY DUMP		ROCKINGHAM	No
NONCD0000452	SPRING HOPE DUMP	SPRING HOPE	NASH	No
NONCD0000268	SPRING LAKE DUMP	SPRING LAKE	CUMBERLAND	No
NONCD0000432	SPRUCE PINE REFUSE DISPOSAL	SPRUCE PINE	MITCHELL	No
NONCD0000526	ST. PAULS DUMP	ST PAULS	ROBESON	No
NONCD0000206	STACY REFUSE DUMP		CARTERET	No
NONCD0000567	STANFIELD DUMP	STANFIELD	STANLY	No
NONCD0000316	STANLEY REFUSE DUMP	STANLEY	GASTON	No
NONCD0000371	STATESVILLE DUMP	STATESVILLE	IREDELL	No
NONCD0000635	STATONSBURG DUMP	STANTONSBURG	WILSON	No
NONCD0000265	STEDMAN DUMP	STEDMAN	CUMBERLAND	No
NONCD0000578	STOKES COUNTY LF		STOKES	No
NONCD0000573	STOKES GARBAGE SERVICE DUMP		STOKES	No
NONCD0000721	STONE QUARRY RD LDFL	BURLINGTON	ALAMANCE	No
NONCD0000532	STONEVILLE DUMP	STONEVILLE	ROCKINGHAM	No
NONCD0000330	STOVALL DUMP	STOVALL	GRANVILLE	No
NONCD0000125	SUBURBAN SANITATION SERVICE	WASHINGTON	BEAUFORT	No
NONCD0000518	SUBURBAN WASTE & GARBAGE CO	ROCKINGHAM	RICHMOND	No
NC0210020541	SUNNY POINT BASE LANDFILL	SOUTHPORT	BRUNSWICK	No
NONCD0000588	SWAIN COUNTY DUMP	BRYSON CITY	SWAIN	No
NONCD0000366	SWAN QUARTER DUMP	SWAN QUARTER	HYDE	No
NONCD0000476	SWANSBORO DUMP	SWANSBORO	ONSLOW	No
NONCD0000378	SYLVA DUMP		JACKSON	No
NONCD0000257	TABOR CITY DUMP	TABOR CITY	COLUMBUS	No
NONCD0000759	TALLMAN CLAY PIT	WILMINGTON	NEW HANOVER	No
NONCD0000143	TAR HEEL REFUSE DISPOSAL	TAR HEEL	BLADEN	No
NONCD0000112	TAYLORSVILLE DUMP	TAYLORSVILLE	ALEXANDER	No
NONCD0000278	THOMASVILLE LANDFILL	THOMASVILLE	DAVIDSON	No
NONCD0000406	TIN MINE LANDFILL	LINCOLNTON	LINCOLN	No
NONCD0000750	TOWN OF HAMLET LDFL	HAMLET	RICHMOND	No
NONCD0000714	TOWN OF MAXTON LDFL	MAXTON	ROBESON	No
NONCD0000135	TOWN OF WASHINGTON PARK	WASHINGTON PARK	BEAUFORT	No
NONCD0000356	TOWN OF WAYNESVILLE DUMP	WAYNESVILLE	HAYWOOD	No
NONCD0000386	TRENTON REFUSE DISPOSAL	TRENTON	JONES	No
NONCD0000436	TROY LANDFILL	TROY	MONTGOMERY	No
NONCD0000504	TRYON REFUSE DISPOSAL	TRYON	POLK	No

APPENDIX II
N.C. INACTIVE HAZARDOUS SITES INVENTORY BY CATEGORY
OCTOBER 2005

11. OLD UNLINED LANDFILL LIST

ID Number	Site Name	City	County	In Other IHS Category
NONCD0000223	UNKNOWN	CONOVER	CATAWBA	No
NONCD0000661	UNKNOWN #1 - PITT		PITT	No
NONCD0000662	UNKNOWN #1 - RANDOLPH	PLEASANT RIDGE	RANDOLPH	No
NONCD0000660	UNKNOWN #2 - PITT	GREENVILLE	PITT	No
NONCD0000663	UNKNOWN #2 - RANDOLPH	COLERIDGE	RANDOLPH	No
NONCD0000238	UPPER CLEVELAND DUMP	FALLSTON	CLEVELAND	No
NONCD0000174	VALDESE REFUSE DUMP	VALDESE	BURKE	No
NONCD0000260	VANCEBORO DUMP	VANCEBORO	CRAVEN	No
NONCD0000262	VANCEBORO LANDFILL	VANCEBORO	CRAVEN	No
NONCD0000487	VANDEMERE DUMP	VANDEMERE	PAMLICO	No
NONCD0000441	VASS DUMP	VASS	MOORE	No
NONCD0000676	W DAVIDSON CO LDFL		DAVIDSON	No
NONCD0000772	W R BONSAL #1	LILESVILLE	ANSON	No
NONCD0000774	W R BONSAL #2		ANSON	No
NONCD0000243	WACO DUMP	WACO	CLEVELAND	No
NONCD0000117	WADESBORO LANDFILL	WADESBORO	ANSON	No
NONCD0000613	WAKE FOREST TOWN LF	WAKE FOREST	WAKE	No
NONCD0000288	WALLACE DUMP	WALLACE	DUPLIN	No
NONCD0000577	WALNUT COVE DUMP	WALNUT COVE	STOKES	No
NONCD0000692	WALNUT COVE DUMP #2	WALNUT COVE	STOKES	No
NONCD0000574	WALNUT COVE LF	WALNUT COVE	STOKES	No
NONCD0000189	WALSH REFUSE DUMP		CALDWELL	No
NONCD0000334	WALSTONBURG DUMP	WALSTONBURG	GREENE	No
NONCD0000609	WALTON'S DUMP	WENDELL	WAKE	No
NONCD0000696	WALTON'S SANITATION SERVICE	MORRISVILLE	WAKE	No
NONCD0000616	WARRENTON DUMP	WARRENTON	WARREN	No
NONCD0000285	WARSAW DUMP	WARSAW	DUPLIN	No
NONCD0000129	WASHINGTON DUMP	WASHINGTON	BEAUFORT	No
NONCD0000134	WASHINGTON PARK DUMP	WASHINGTON	BEAUFORT	No
NONCD0000624	WATAUGA COUNTY LF	BOONE	WATAUGA	No
NONCD0000598	WAXHAW DUMP	WAXHAW	UNION	No
NONCD0000667	WE BUFFALOE, JR PRIVATE DUMP	GARNER	WAKE	No
NONCD0000161	WEAVERVILLE LANDFILL	WEAVERVILLE	BUNCOMBE	No
NONCD0000346	WELDON CITY LANDFILL	WELDON	HALIFAX	No
NONCD0000342	WELDON REFUSE DISPOSAL	WELDON	HALIFAX	No
NONCD0000438	WEST END DUMP	WEST END	MOORE	No
NONCD0000586	WEYERHAUSER LF	ELKIN	SURRY	No
NONCD0000652	WHEELERS SAND ROCK PIT DUMP		DAVIDSON	No
NONCD0000444	WHISPERING PINES DUMP		MOORE	No
NONCD0000453	WHITAKERS DUMP	WHITAKERS	NASH	No
NONCD0000146	WHITE LAKE REFUSE DUMP	WHITE LAKE	BLADEN	No

APPENDIX II
N.C. INACTIVE HAZARDOUS SITES INVENTORY BY CATEGORY
OCTOBER 2005

11. OLD UNLINED LANDFILL LIST

ID Number	*Site Name*	*City*	*County*	*In Other IHS Category*
NONCD0000256	WHITEVILLE DUMP	WHITEVILLE	COLUMBUS	No
NONCD0000670	WICKER PARK LANDFILL	PINEHURST	MOORE	No
NONCD0000754	WILKES CO LDFL	ROARING RIVER	WILKES	No
NONCD0000633	WILKESBORO REFUSE DISPOSAL	WILKESBORO	WILKES	No
NONCD0000419	WILLIAMSTON DUMP	WILLIAMSTON	MARTIN	No
NONCD0000466	WILMINGTON LANDFILL	WILMINGTON	NEW HANOVER	No
NONCD0000756	WILMINGTON LDFL (KIDDER ST)	WILIMINGTON	NEW HANOVER	No
NONCD0000640	WILSON SANITARY LF	WILSON	WILSON	No
NONCD0000141	WINDSOR REFUSE DISPOSAL AREA	WINDSOR	BERTIE	No
NONCD0000597	WINGATE DUMP	WINGATE	UNION	No
NONCD0000151	WINNABOW LANDFILL	WINNABOW	BRUNSWICK	No
NONCD0000210	WINSTON HILL LF	ATLANTIC	CARTERET	No
NONCD0000499	WINTERVILLE DUMP	WINTERVILLE	PITT	No
NONCD0000360	WINTON DUMP	WINTON	HERTFORD	No
NONCD0000758	WISTERIA DR LDFL	WILMINGTON	NEW HANOVER	No
NONCD0000468	WOODLAND REFUSE DISPOSAL	WOODLAND	NORTHAMPTON	No
NONCD0000464	WRIGHTSVILLE BEACH DUMP	WRIGHTSVILLE BEACH	NEW HANOVER	No
NONCD0000647	YADKINVILLE REFUSE DISPOSAL	YADKINVILLE	YADKIN	No
NONCD0000158	YAUPON BEACH DUMP	OAK ISLAND	BRUNSWICK	No
NONCD0000608	ZEBULON DUMP	ZEBULON	WAKE	No

EXHIBIT O

TABLE 1
Status of the Superfund Cost-Share Fund
(as of November 30, 2005)

Appropriations, Interest and Other Income	**$14,264,059**
Disbursements for NPL Sites Cost Share	($6,012,561)
Other Disbursements	($11,545)
Other Reductions	($1,575,671)
Present Fund Balance	**$6,664,282**
Encumbrances for NPL Site Cost Share	($5,309,859)
Remaining Balance after Encumbrance	**$1,354,423**

Projected Additional NPL Cost Share		**Expected Execution Date[1]**	
		FY05-06	**FY06-07**
FCX, Inc. Washington Washington, Beaufort County	($31,000)	X	
Reasor Chemical Castle Hayne, New Hanover County	($150,000)		X
RAM Leather Care Charlotte, Mecklenberg County	($200,000)	X	
Sigmon's Septic Tank Statesville, Iredell County	($230,000)		X
Ward Transformer Raleigh, Wake County	**Unknown**		
Total and Expenditures by Fiscal Year	($611,000)	($231,000)	($380,000)
Projected State Cost-Share Remaining Unobligated Through 2007[2]	**$743,423**		

1 State fiscal year.

2 Beginning in 2008 the State is liable for annual O&M costs at several of these sites. Annual costs are estimated to be $30,000 (EPA estimate) in 2008 and increase to an annual cost of $1.28 million in 2014.

TABLE 2
(Revised 1/19/2006)
NPL Sites with Groundwater Remediation Systems Requiring State Long-Term Operation and Maintenance (O&M)
(100% State-Funded upon Transfer)

Site Name	Remedy	O&M Transfer Date	Estimated[1] Annual O&M Costs	Approximate Years of Operation
FCX Statesville	GW: MNA	6/30/2008	$30,000	30
Potters Pits	GW: MNA	9/27/2011	$200,000	30-50
Benfield Industries	GW: P&T	5/21/2012	$200,000	30
Davis Park Road TCE	GW: MNA	9/17/2012	$200,000	30
Cape Fear Wood	GW: P&T/Air Sparging	7/1/2013	$250,000	10
ABC 1-Hr Cleaners	GW: P&T	8/22/2013	$200,000	10
North Belmont PCE	GW: P&T	6/1/2014	$200,000	10

Abbreviations:
GW - Groundwater
MNA - Monitored Natural Attenuation
O&M - Operation and Maintenance
P&T - Pump-and-Treat

Other NPL Sites that May Require GW Monitoring Systems (Investigation Underway - Remediation Option Pending)

Site Name	Remedy	O&M Transfer Date	Annual O&M Costs
Barber Orchard	MNA	TBD	TBD
Carolina Transformer	MNA	TBD	TBD
FCX Washington	MNA	TBD	TBD
Ram Leather	P&T	TBD	TBD
Reasor Chemical	MNA	TBD	TBD
Ward Transformer	MNA	TBD	TBD

Abbreviation: TBD - To Be Determined

O&M Cost Projections Based on Signed State Superfund Contracts (100% State Funded)

Year	Annual O&M Costs
2008	$30,000
2009	$30,000
2010	$30,000
2011	$230,000
2012	$630,000
2013	$1,080,000
2014	$830,000
2015	$630,000
2016	$630,000
2017	$630,000
2018	$630,000
2019	$630,000
2020	$630,000
TOTAL (Through 2020)	$6,640,000

Notes:
[1]The O&M cost for FCX Statesville is EPA's estimate. The $200,000 annual cost estimates for other O&M systems are based on the costs for P&T sytems and MNA at Marine Corps Base Camp Lejeune.

EXHIBIT P

NCDENR

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

January 23, 2006

To: Sen. Charles Albertson, co-chair
Sen. Daniel Clodfelter, co-chair
Rep. Pryor Gibson, co-chair

From: Secretary Bill Ross

Attached is the Dept. of Environment and Natural Resources' annual report to the Environmental Review Commission on the Brownfields Property Reuse Act required by G.S. 130A-310.40. If you have any questions about this report, please contact Bruce Nicholson at 919-508-8418.

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One NorthCarolina Naturally

Annual Report to the North Carolina General Assembly

The NC Brownfields Program

October 2005



NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

Division of Waste Management
www.wastenotnc.org

North Carolina Brownfields Program
www.ncbrownfields.org

Department of Environment and Natural Resources

Michael F. Easley
Governor

William G. Ross Jr.
Secretary
NC Department of Environment and Natural Resources

Dexter R. Matthews
Director
Division of Waste Management

DENR
Division of Waste Management
1646 Mail Service Center
Raleigh, NC 27699-1646
(919) 508-8400

Brownfields Property Reuse Act - Annual Report to the General Assembly October 2005

Executive Summary

This report to the General Assembly, required by the Brownfields Property Reuse Act (BPRA) of 1997 (G.S. 130-310.30 *et seq.*), describes the activities and status of the N.C. Brownfields Program in 2005. DENR is pleased to report continued success and growth in the state's efforts to revitalize and safely reuse brownfields properties through the N.C. Brownfields Program and its partnership with the U.S. Environmental Protection Agency. The program continues to be a model of high return on public investment in that the relatively small sums of public funds spent leverage large sums of private investment in brownfields redevelopment. Furthermore, DENR receives no state-appropriated funds for the program. To date, all of the public dollars spent are federal funds from a cooperative agreement with the U.S. EPA. With these funds, the program has facilitated over $1.2 billion in committed private investment in brownfields redevelopment.

Because of continued growth in brownfields redevelopment, the program is at a crossroads year. The history of the program is one of steady expansion over time to accommodate the needs of brownfields developers. The program continues to gain popularity, and word has continued to spread about how it helps the brownfields developer define and encapsulate environmental cleanup liability. More and more brownfields property developers are now seeking its services and the program again needs further staff resources to meet this demand. The last time the program was in such a position, it was able to obtain approximately $1 million in federal grant funds for expansion. However, the available U.S. EPA funds for state brownfields programs are at their likely maximum and indeed may be cut in the future, depending on the federal budget. Therefore, DENR proposes to exercise its statutory authority to develop fees to help cover the cost of the department to develop and implement brownfields agreements.

Previous years' reports have detailed the program's results on a calendar year basis. However, in order to align this report with both the General Assembly's reporting date of October 1 of each year and the program's U.S. EPA funding source, this report reflects the status of the program and of the projects therein for Federal Fiscal Year (FFY) 2005, the period from October 1, 2004 through September 30, 2005. Thus, this reporting will be consistent for both the General Assembly and the U.S. EPA.

Program progress for the one-year period from October 1, 2004 through September 30, 2005 can be summarized with the following statistics:

- Program applications received: 59 (a 40 percent increase over previous year)
- Brownfields agreements finalized: 18 (more than ever and a 50 percent increase over previous year)

The total number of completed agreements since the inception of the program stands at 66. More important than the numbers themselves is what they represent- the state brownfields agreement is a sought-after mechanism for breaking down barriers that prospective developers encounter in obtaining financing on environmentally-impacted brownfields properties.

Background

Redeveloping brownfields properties has become increasingly popular as developers and local governments realize that these properties offer viable opportunities to bring economic growth, public health protection, jobs, and quality of life benefits to cities and rural areas. Brownfields are abandoned, idled or underutilized properties where environmental contamination hinders redevelopment due to concerns about environmental liability. The BPRA gives DENR the authority to enter into brownfields agreements with prospective developers who did not cause or contribute to site contamination. The BPRA modifies the environmental liability barrier for prospective developers and motivates them to bring these properties and their hindrances to DENR's attention. DENR partners with the prospective developer to evaluate the possible risks associated with site contamination, and then negotiates a brownfields agreement that stipulates the steps necessary to make the site safe for a specific intended reuse. The result is a redevelopment project that works economically and also protects public health and the environment.

Because brownfields agreements afford prospective developers liability protection for as long as they make and maintain the site safely for its intended reuse, the specter of open-ended financial uncertainty is lifted. This economic shield allows prospective developers to obtain financing previously unavailable for these properties.

Thus, the BPRA allows DENR to distinguish between prospective developers of brownfields properties and the properties' polluters. Instead of mandating that the site be cleaned to current standards, the BPRA requires developers who did not cause or contribute to the contamination to make the site safe for reuse. The program must examine the risks to public health or environment posed by the site. Then, DENR determines what the prospective developer must do to ensure safe redevelopment. These actions can range from land-use restrictions to cleanup, or a mixture of both. In addition to holding prospective developers accountable to their agreements, DENR reserves the right to enforce against those parties responsible for the original contamination. The process is summarized in Table 1 below.

Table 1. Summary of the Brownfield Process

Step 1 – A prospective developer with a brownfields site that needs liability protection submits a letter of intent with basic site facts. DENR determines if the prospective developer and the property proposed for reuse are eligible under the BPRA statute.

Step 2 - DENR reviews existing site data to determine the risk posed by contamination at the site. If the data are insufficient to evaluate such risk, DENR advises the prospective developer on further site assessment to gather the necessary data.

Step 3 - DENR determines what actions are necessary to make the site safe for reuse and includes these actions in a draft brownfields agreement. The prospective developer pays statutory fee and negotiates/concurs with DENR on provisions in brownfields agreement.

Step 4 - The brownfields agreement is published with a 60-day public comment period.

Step 5 - The brownfields agreement is finalized after any public comments are considered and incorporated. The prospective developer uses the final brownfields agreement, which provides liability protection, to obtain financing for the project. Liability protection is contingent upon the completion of the actions required by the brownfields agreement. The brownfields agreement makes the site eligible for the brownfields property tax incentive.

The ancillary brownfields property tax incentive for prospective developers allows them to recoup funds spent on assessment and cleanup. The program motivates the market to recycle these sites to productive reuse, while preserving or reducing the use of pristine or undeveloped "greenfields" property. While the environmental benefits are obvious, most redevelopments also create a significant number of jobs and put properties back on the tax rolls. This dual economic-environmental gain benefits the state, local government, and the brownfields developer. As these benefits have become better known, the program's popularity and demand for its services have increased significantly. In 2005, the program saw its fifth consecutive year of record-setting growth, represented at the end of FFY 2005 by 66 completed brownfields agreements and 85 others in the pipeline. In excess of $1.2 billion in private investment dollars have been committed to redevelop abandoned properties that blight urban and rural landscapes.

The overall result is a winning scenario for both the environment and economic development. Risk reductions and cleanups are achieved at sites that could have harmed the public or the environment, and prospective developers redevelop abandoned properties that once had little hope for productive reuse. The public benefits of job creation, improved quality of life in the surrounding neighborhoods, local tax base expansion and contribution to the general fund are other positive impacts.

The program also supports smart growth, sustainability and the One North Carolina Naturally agenda. Every project that reuses property, whether it is in an urban center or a rural area, preserves green space. Often it also reduces suburban sprawl and supports sustainable urban development. In a very real sense, for each brownfield redeveloped, a greenspace is saved. The properties that have received the 66 completed agreements are estimated to represent approximately 1,500 acres, and the other 85 in the pipeline represent another 2,000 acres. This is, in effect, acreage that is being recycled into reuse rather than greenspace that is being developed.

Program Status

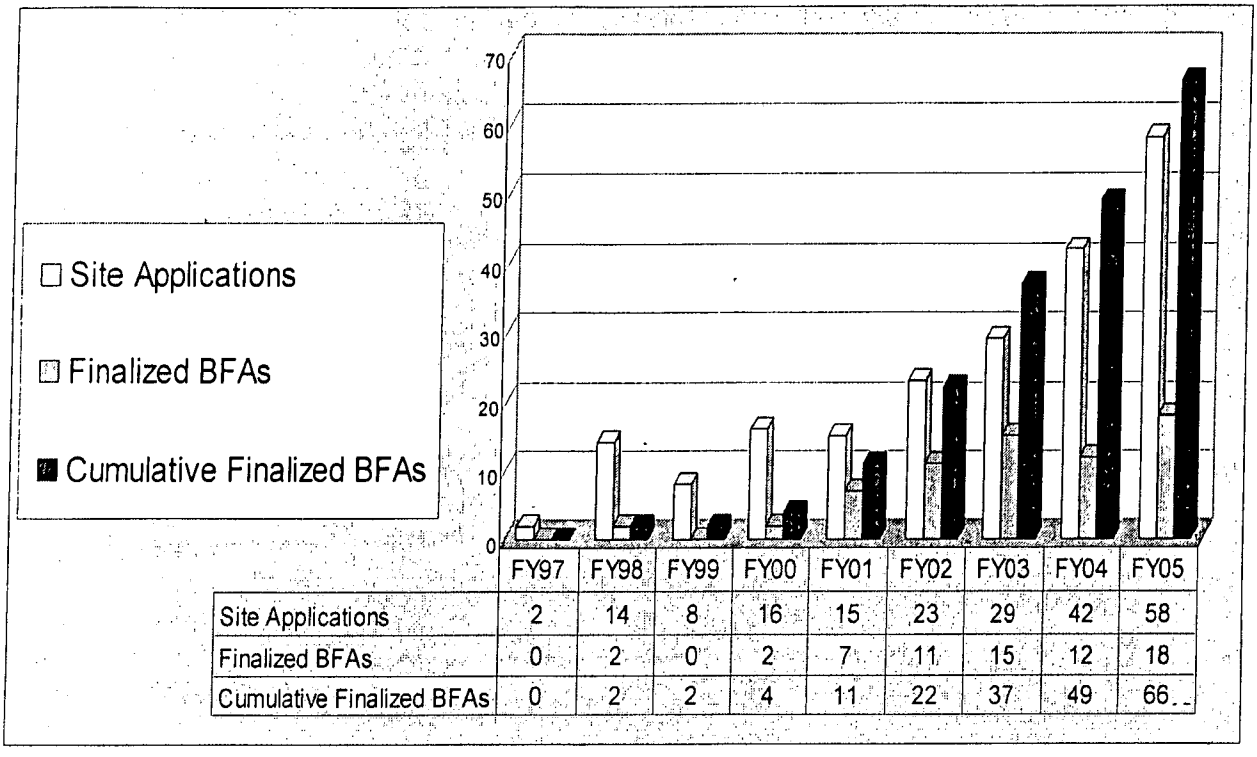
The program is preparing to receive its third year of funding from the U.S. EPA under its State Response Program Cooperative Agreement authorized under the federal brownfields act. The program has hired a full complement of staff under its planned cooperative agreement budget. This amounts to 5.5 brownfields project managers, an environmental toxicologist, and an IT database professional. These staff members are all fully engaged in processing and tracking of brownfields agreements. However, federal funds are leveling, and additional capacity must come from other funding sources in the future.

During FFY 2005, the program received a record 58 applications for projects seeking entry into the program and a brownfields agreement for a specific brownfields redevelopment project. This demand for program services compares to 42 applications received during FFY 2004, and represents 40 percent growth over last year's applications.

During FFY 2005, the program completed a record 18 brownfields agreements. This is an increase of 50 percent over last year's 12 agreement completions.

Table 2 below shows the progress during the program's history since the BPRA became effective in 1997. One can see the steady upturn in demand for the program in the number of brownfields applications and the number of cumulative brownfields agreements. There was a noticeable growth in completed agreements in 2000 when the program received sufficient EPA funds to hire its first full time staff person. Successive hires in years 2002 onward have lead to greater brownfields agreement processing capacity and outreach ability. Hence, there is clear growth in

Table 2. Program Progress Summary



	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05
Site Applications	2	14	8	16	15	23	29	42	58
Finalized BFAs	0	2	0	2	7	11	15	12	18
Cumulative Finalized BFAs	0	2	2	4	11	22	37	49	66

applications into the program and completed agreements. At the same time, the number of finalized brownfields agreements annually is tending towards leveling off at the number that can be produced by the current staff resources. This year, that number is 18 agreements. If that number is to increase along with the number of sites in the program, the staff capacity must expand as well. Although federal brownfields act resources have allowed an increase in the number of staff and a corresponding increase in the number of agreements completed, the demand for more agreements continues to grow. This demand threatens to outstrip the ability of the existing staff to provide services to brownfields developers to obtain a brownfields agreement in a timely manner. Hence, increased resources commensurate with the demand are key to the continued success of the program. Proposals for accomplishing this are discussed in greater detail in the Improving Effectiveness section.

We anticipate continued increases in demand as the program's expansion serves to better educate both the public and the development community about the benefits of brownfields redevelopment. Local interest in brownfields continues to grow and local governments in this state continue to have great success in competing for EPA brownfields grant funds. The federal

grants for brownfields assessment and cleanup totaling $787,750 were awarded by the U.S. EPA to North Carolina local governments in 2005, including Rocky Mount, Fletcher, Woodfin, and the Western Piedmont Council of Governments. Job Training grants for an additional $400,000 were awarded to Winston-Salem and Southeastern North Carolina through Concurrent Technologies Corporation. More local governments received EPA brownfields grants than in any other state in EPA Region 4, and for the second year in a row these represent more federal grant funds than any other southeastern state. These local brownfields activities will serve to strengthen local interest in brownfields redevelopment and will certainly further increase interest in developers seeking brownfields agreements from DENR as these communities begin their local brownfields redevelopment efforts.

Outreach and Education

The program is largely market driven in that prospective developers bring their sites to the program in order to break liability barriers for financing. One of the clear goals of the program is to educate the development community and local governments as to the program's existence and usefulness as a tool for both private and public redevelopment stakeholders. We have again done so this year and efforts to increase awareness of the program have clearly worked well with an ever increasing number of applicants and a strong award rate for them.

Through our staff person in Asheville, the program participated heavily in the Western North Carolina Brownfields Workshop sponsored by the Land-of-Sky Regional Council. Brownfields staff continue to conduct outreach at conferences and programmatic information booths and attend meetings held by EPA for local governments in order to meet and serve their interest in brownfields redevelopment. The program also has made concerted efforts to continually improve information offering on its web site (**www.ncbrownfields.org**) and receives consistent positive feedback on the informative nature of this important outreach component.

Cooperation with Local Government

The Brownfields Program has long held the strategy that brownfields redevelopment is largely a local issue, and therefore has made strong efforts to coordinate with local governments. The success of its cooperative agreement with the City of Charlotte that placed a DENR employee in city offices in May of 2002 was the culmination of much work with local governments. This provides direct face-to-face cooperation with the developers, lenders, and economic developers in that locality. This formula has enabled the completion of 26 brownfields agreements in the Charlotte area.

Seeking to duplicate this success in western North Carolina, last year the program placed a project manager in the offices of the Land-of-Sky Regional Council in Asheville to work in much the same way. Several projects came into the program as a result of this placement, and it has continued to yield very positive results. The project manager has improved the program's local effectiveness there and developers have brought numerous projects to the program as a result. The manager is a participating member of the Land-of-Sky's Regional Brownfields Team and coordinates efforts with Land-of-Sky to encourage brownfields redevelopment in partnership with them. As part of the mutual benefits of such a relationship, the Land-of-Sky Regional Council continues to grow its federal brownfields grants such that to date they have received more federal grant funding than any other local government in the state.

Site Summaries

For brief descriptions of all brownfields projects in the program as of September 30, 2005, please see the Appendix. The table there is divided into three sections: active eligible projects, projects pending eligibility, and projects with finalized brownfields agreements.

Active eligible projects have been deemed eligible for a brownfields agreement under BPRA statutory criteria. These developers are working with DENR in some stage of data gathering, analysis or agreement negotiation. As of September 30, 2005 there were 85 active projects. Projects at this stage receive guidance from DENR as the developers gather the additional data needed to ensure protection of public health and the environment. Once research is complete, DENR analyzes the data, then drafts and negotiates the terms of the brownfields agreement with the prospective developer. At most of these sites, DENR is waiting for additional data requested by the program.

Projects pending eligibility are in the initial stage of the brownfields process as they apply for entry into the program. Sites in this category have yet to meet the requirements under the statute for eligibility for a brownfields agreement. For the sites in this category, the program has requested clarification or additional information from prospective developers regarding a site. Normally developers respond to these requests for clarification, the sites are usually deemed eligible and are then quickly moved into the active eligible category. As of September 30, 2005, 12 sites were in this category.

Projects with finalized brownfields agreements have completed the public notice phase of the brownfields process and either have a signed brownfields agreement or are waiting for the agreement to be executed. As of September 30, 2005, 66 projects were in this category, 18 of which were completed in the one year period from October 1, 2004 to September 30, 2005.

Improving Effectiveness

Throughout its existence, the Brownfields Program has provided a high economic development value for the federal funds it uses. The program's 66 brownfields agreements and 85 other projects in the pipeline represent in excess of $1.2 billion in committed private redevelopment investment. The high ratio to which the federal funds have been successfully leveraged into private development dollars for brownfields redevelopment is just one measure of the effectiveness and efficiency of the BPRA.

While DENR continues to report that the program is highly effective, this year the program is also at a crossroads regarding resources and must address this issue for continued success in supporting the brownfields redevelopment economy of the state. By continuing to add needed staff over the last several years, the program has significantly increased its volume capacity for brownfields agreements during that time. The program has always recognized that encouraging brownfields redevelopment means that it must maintain the capability to respond quickly and provide brownfields agreements within timeframes that help developers make time critical business decisions. However, the trend lines discussed above clearly show that demand for brownfields agreements continues to grow while the future federal resources are anticipated to be

level or slightly cut. The program cannot serve the increasing numbers of applicants with the same effectiveness it traditionally has. Unless further resources are found, the program will develop a large waiting list, developer's transactions will be threatened, and they will hesitate to seek the program's services. Redevelopment opportunities will be lost.

The Brownfields Property Reuse Act requires that the program collect a $2,000 initial fee plus an additional fee equivalent to all costs to the Department. However, since inception, the brownfields program has defrayed the expenses of the program by using purely federal funds without cost to the Department. These funds have grown from $100,000 in 1999 to nearly $1,000,000 in recent years. Therefore, in the past the program could grow in capacity through these federal funds and not have to pass on any fees to the prospective developer other than the statutory $2,000 initial fee. The program purposefully maintained these fees as low as possible in order to encourage developers to come into the program. However, as federal funds have leveled off, the Brownfields Program continues to see growth in demand for its services. The program will employ the statutory authority for imposing fees to meet this challenge. Prospective developers will be bearing more of the resource burden for the program as a result.

The program believes strongly that increased cooperation between DENR and local governments has yielded significant benefits and is a trend it wants to continue to strengthen. DENR has recognized the effectiveness of placing a staff person in the City of Charlotte offices and has duplicated that effort by placing a staffer in the offices of the Land-of-Sky Regional Council. It will continue to look to similar cooperative efforts across the state as it grows in capacity.

Internally, as the program has more and more projects, its data management needs have increased commensurately. The program has been developing business automation application along with a database. This system is being developed as a completely web-based tool consistent with DENR's initiative to share program information across programs and with the public via the Internet. The first module of this application has been developed in code and is in the beta testing stage. We anticipate its use by the program in 2006. This will assist the program in tracking project status, as well as tracking land use restrictions placed on the properties.

Fund Status

The Brownfields Property Reuse Act Implementation Account authorized under the statute receives the $2,000 fee charged to prospective developers who enter the program and is to be used by DENR to defray the cost of the program. For the reporting year from October 1, 2004 through September 30 2005, the Brownfields Property Reuse Act Implementation Account had a beginning balance of $101,380, receipts from fees and interest of $47,617 and no expenditures. This yields an ending balance in the fund of $148,997. In previous years, this fund has not been large enough to be used for hiring staff. It is now large enough to be used for such purposes and will fit into DENR's plans for fee funded positions for the program in the future in addition to additional outreach, software, database development needs.

Further Information

For additional information on the Brownfields Program and how it works, please visit our Web site at **www.ncbrownfields.org.**

APPENDIX

Status Summary of Brownfield Projects as of September 30, 2005

Appendix

Status Summary of Brownfield Projects as of September 30, 2005

Project Inventory is divided into three segments as follows:

Active eligible projects have been deemed eligible for a brownfields agreement under BPRA statutory criteria. These developers are working with DENR in some stage of data gathering, analysis or agreement negotiation.

Projects pending eligibility are in the initial stage that sites are in as they enter the program. Sites in this category have yet to meet the requirements under the statute for eligibility for a brownfields agreement.

Projects with finalized brownfields agreements have completed the public notice phase of the brownfields process and either have a signed brownfields agreement or are waiting for the agreement to be executed.

ACTIVE ELIGIBLE PROJECTS (85)

PD = Prospective Developer; RP = Responsible Party

A GREAT ESCAPE 1806 Funtime Blvd. Winston-Salem, Forsyth County PD: A Great Escape LLC	Prospective developer wants to purchase this approximately 5-acre abandoned amusement park (miniature golf and go cart track), which is located on edge of a former municipal landfill, refurbish it, and re-open it with in same use.
AIRPORT EXXON 3305 North Liberty St. Winston-Salem, Forsyth Co. PD: Mrs. Becky Flowers	Former automobile engine repair and maintenance facility with known soil and likely groundwater contamination involving petroleum and degreasing solvent constituents. Intended redevelopment is a gas station/convenience store to serve the Smith-Reynolds Airport users and employees.
ALAMAC AMERICAN 1885 Alamac Road Lumberton, Robeson Co. PD: Alamac American Knits, LLC	The former knit textile manufacturing facility has perchloroethylene contamination associated with former drycleaning operations. The PD is using the facility to also manufacture knit textiles but does not use perchloroethylene on the premises.
ALCAN PACKAGING FOOD 1600 Westinghouse Blvd. Charlotte, Mecklenburg County PD: Alcan Packaging Food & Tobacco	Approximately 9-acre parcel in a industrial portion of Charlotte. The soil and groundwater are impacted from historic operations with n-propyl acetate and n-propyl alcohol. The PD intends to sell the property for redevelopment of industrial and commercial uses.
ALLISON MANUFACTURING 930 Old Charlotte Road Albemarle, Stanly County PD: NCSC Properties, LLC	An 18.93-acre parcel with a 120,000 square foot former manufacturing facility used in silk-screen production, fabric printing and knitting. PD needs loan in order to improve and repair facility and recruit additional tenants. Naphthalene, 1,1-DCD and PCE in soil; petroleum hydrocarbons and chlorinated solvents in groundwater.

AMERICAN TOBACCO HISTORIC DISTRICT Blackwell & Pettigrew Streets Durham, Durham County PD: SBER Development Holdings, LLC	A 5.56-acre former cigarette manufacturing facility that has possible soil and groundwater contamination. PD intends to redevelop the site in mixed residential and commercial use, to include offices, condos, apartments and retail.
FORMER AMP FACILITY 1126 Church Street Greensboro, Guilford Co. PD: Church Street Medical, LLC	Approximately 10-acre site is the former location of AMP Incorporated, a metal stamping, plating, and manufacturing facility. Closed since the mid-1980s, the site has known chlorinated solvent contamination in groundwater, which is being remediated under an approved Corrective Action Plan within the NC DWQ Aquifer Protection Section. PD intends to redevelop the site as a medical office campus.
ARROW LAUNDRY & CLEANERS 4735 Monroe Road Charlotte, Mecklenburg County PD: Lake City Tractor Supply	Approximately 15-acres of land that was the former Arrow Laundry and Cleaners, Woonsocket Mills, and vacant land. Site groundwater is impacted with chlorinated solvents and petroleum. PD intends to redevelop the site as mixed use, including residential and various commercial uses.
ASHEVILLE ICE PLANT PD: Ice Plant of Asheville, LLP 90 Riverside Drive Asheville, Buncombe County	The site consists of 3.15 acres in Asheville's French Broad River district. It is a former ice plant with warehouse space that has been out of business and abandoned for years. Contamination at the site is perceived, the Ice Plant of Asheville, LLP, is working with the Land of Sky Regional Council to complete a Phase I ESA and likely a Phase II. The redevelopment will be consistent with Asheville's riverfront redevelopment plans for mixed use. The prospective developer plans either condominiums with a retail component or a riverfront hotel.
ASHEVILLE INDUSTRIES PD: Monarch Main LLC 1829 Hendersonville Road Arden, Buncombe County	This site is 10.5 acres and is a portion of a larger 50-acre parcel that was the former Asheville Industries. The 10.5-acre site was used for drum storage and landfilling, clean up of the drums was conducted with the oversight of DENR. There is some residual soil and groundwater contamination with volatiles. The property is undeveloped, the prospective developer would like to develop it into a retail/office park consistent with growth along this economic corridor.
ASHEVILLE MICA PD: T.R. Enterprises 75 Thompson Street Asheville, Buncombe County	The site consists of 2.41 acres located east of Biltmore Village along the Swannanoa River. There are five buildings on site with 2 currently used for the Asheville Mica facility and storage of mica product. The prospective developer plans to rehab the 80-year old structures that are currently unused as well as the mica facilities into moderately priced, pet friendly apartments with the northern undeveloped section as a dog park. Based on preliminary Phase II reports the groundwater is contaminated with volatiles in an upgradient quadrant of the property and soil near the former boiler has elevated levels of oil and grease. The prospective developer is working with the Land of Sky Regional Council to complete a Phase II as a Phase I ESA was just completed in June 2005.

ASHEVILLE WASTE PAPER PD: Daniel B. Sellers 304 Lyman Street Asheville, Buncombe County	This site consists of multiple properties along Asheville's French Broad River district, totaling 14.32 acres. There is a former tannery, warehouses, and the Asheville Waste Paper property. Known petroleum contamination to soil is from a UST and AST releases on file with DENR, soil and groundwater contamination is suspected from bulk fuel, dye and tannery operations. A request for all available reports and information has been made with the Letter of Eligibility. It is likely that a Phase II if not already complete will be required to gain further information on the site conditions. The prospective developer is planning a commercial retail and light manufacturing redevelopment related to mountain sports like kayaking.
BUSS COATING PD: SALT Investments, LLC and S&S Holdings of Lenoir, LLC 511 Creekside Drive Lenoir, Caldwell County	This site consists of 4.52 acres and was a part of Buss Automation a contiguous property. Both Buss Automation and Buss Coatings have gone out of business, leaving the property abandoned since 2003. There is known groundwater and soil contaminated with volatiles and petroleum. Several reports are being reviewed by the DENR Brownfields program to determine if more assessment work will be necessary. The prospective developer plans to renovate the structure to accommodate manufacturing and commercial businesses. A number of businesses have expressed an interest in leasing space upon its completion.
C.C. MANGUM 6105 Chapel Hill Road Raleigh, NC PD: CCM 54, LLC	Approximately 9.9-acres site used since 1940 as an asphalt plant, construction waste landfill, equipment yard, vehicle maintenance and fueling, and a machine shop. Impacts include petroleum and chlorinated compounds in soil and groundwater. PD intends to reuse the site for office and warehouse space.
CAMDEN ROAD 1600 Camden Road Charlotte, Mecklenburg Co. PD: Harris Murr & Vermillion, LLC	Approximately 0.25-acre parcel in Historic SouthEnd of Charlotte. The site has known groundwater impacts from historical site operations as a gas station, tire repair, plumbing repair, and other uses. PD intends to redevelop the property for commercial and retail purposes
CANAC KITCHENS 401, 403, 603, 607 Meacham Rd; and 2001 Speedball Rd. Statesville, Iredell County PD: Canac Kitchens U.S. Limited	The site, which has been idle since 2002, consists of approximately 28 acres and was formerly occupied by a kitchen cabinetry manufacturer. Site impacts include chromium contaminated groundwater and elevated levels of lead and nickel in the soil. The PD intends to reuse the facility for the manufacture of kitchen cabinetry, retrofitting it with upgraded manufacturing equipment.
CAROLINA CREOSOTING CORP Eastbrook Drive Leland, Brunswick County PD: E.G. Dale Enterprises	The site is approximately 90 acres and was a former wood treating facility resulting in creosote and pentachlorophenol contaminated soil and possibly groundwater. The PD plans initially to redevelop the site as a rail terminal with other redevelopment activities possible in the future. The planned redevelopment would create jobs and increase the tax base for the property.
CEDAR CREEK 3468 Cedar Creek Road Fayetteville, Cumberland Co. PD: DAK Resins, LLC	The property was formerly operated by Monsanto to produce herbicide and before that was used to produce nylon and polyester. DAK Resins, LLC plans to use the onsite utilities to produce steam and cooling water, use storage and distribution facility. Resin production may occur on the site in the future.

CELANESE DRP 2300 Archdale Avenue Charlotte, Mecklenburg County PD: Easlan Capital of Charlotte	Site contains approximately 120 acres and was developed by the Celanese Corporation in 1955 as an office and research facility known as the Dryfus Research Park. Operations ceased in the late 1990s. The site has known PCE and TCE impacts in soil and groundwater. PD intends to redevelop the property in residential townhouses and condominiums.
CHARLOTTE TANK TRUCK Border Drive Charlotte, Mecklenburg Co. PD: WR Deal Holdings LLC	Propane manufacturing company with soil and groundwater contamination from an adjacent property. PD intends to expand his current site operations.
CHATHAM PARK NC Hwy. 268 Elkin, Surry Co. PD: Town of Elkin	A 30-acre site containing solid waste disposal area used by former textile manufacturing facility. Known VOC and SVOC contamination exists in groundwater at the site. PD intends to redevelop the property for park and recreational uses in keeping with the current use of adjoining property as baseball fields.
CLIFFSIDE MILLS PROPERTY 272 Main Street Cliffside, Rutherford County PD: Cliffside Mills LLC	The site consists of 32.85 acres with the Cone Mills Yarn and Finishing Plant buildings currently used for storage of yarn and equipment and a hydroelectric power plant. The mill was historically used for cotton processing, yarn production, and textile manufacturing. A limited Phase II was conducted in 2004 and showed SVOCs, VOCs, and metals in the soil and VOCs in the groundwater. The PD intends to refurbish the hydroelectric power plant and work with Duke Power to place the plant on the Duke Power grid. The PD also intends to lease the Cone Companies warehouse space for yarn storage.
COLOR-TEX INTERNATIONAL 2555 Hwy 29 North, Salisbury, Rowan County PD: North Carolina Warehouse LLC	This approximately 200-acre site was formerly a 1916 vintage fabric-finishing mill. Site contaminants are in soil and groundwater and include metals, PAHs, chlorinated solvents, and petroleum constituents. The Prospective Developer intends to redevelop the property for the following uses: residential, recreational, retail, commercial and a race track.
FORMER CONBRACO FACILITY 701 Matthews-Mint Hill Rd Matthews, Mecklenburg County PD: Carlton Development	The site is the former sediment and runoff basin for the former Conbraco Facility. The site was remediated in the EPA Superfund Program and given a "No Further Remedial Action Planned (NFRAP)" status. PD intends to redevelop the site as a medical office with other commercial uses.
COSTCO PD: Costco Wholesale Corporation 14.8 acres 2838 Wake Forest Road Raleigh, Wake County	The former Pepsi manufacturing and bottling company was located on this site until it relocated in 2002. The southeastern portion of the property covers about 2.6 acres of a former City of Raleigh 44-acre municipal landfill. The former Alcatel site is upgradient and a potential source of chlorinated solvents found in the groundwater. Prospective Developer plans to build a 149,000 SF Costco membership warehouse and a membership gasoline station outparcel on the property.

CULTURAL ARTS CENTER 205 McDonald Street, and Old Braswell Library 344 Falls Road Rocky Mount, Nash County, NC PD: Imperial Centre Partners, LP	Former Imperial Tobacco Plant is 2.42 acres with140,000 square feet of floor space and Braswell Memorial Library is 4.93 acres with 16,000 square feet floor space. The PD owns the site and is working with City to finance and redevelop the site into the Rocky Mount Cultural Arts Center (RMCAC). The RMCAC will be the new home to the Children's Museum, the Arts Center and the Playhouse Theater, all of which were lost to major flood damage from the overflowing Tar River during Hurricane Floyd in September 1999. Contamination at the site includes gas, diesel, heating oil from USTs and #6 fuel oil from AST, lead, chlordane, asbestos.
FORMER DAYCO FACILITY Location: 2150 South Main Street Waynesville, Haywood County PD: Haywood Advancement Foundation	The site consists of 35.29 acres with existing buildings totaling 600,000 square feet plus a separate warehouse of 250,000 square feet. The facility was used for rubber hose manufacturing until it closed in 1997. The facility contained numerous ASTs and USTs, both soil and groundwater contamination exists on site. Contamination has been identified primarily as Toluene with some soil PAHs. Currently the ROR Group, a rubber manufacturer, occupies the Banbury building and the Haywood County Sheriff's office occupies a small office section. The majority of the facility is abandoned and in extremely poor condition. The Haywood Advancement Foundation is working with a potential developer to redevelop the property into a commercial property with retail stores.
EASTWAY PHASE I 3014 Eastway Drive Charlotte, Mecklenburg Co. PD: Blaine Lake, LLC	Shopping Plaza in the City of Charlotte that has contamination from a dry cleaning operation and adjacent properties. The groundwater is contaminated. PD intends to redevelop the shopping plaza and maintain jobs in the area.
EASTWAY PHASE II 3124 Eastway Drive Charlotte, Mecklenburg Co. PD: Blaine Lake, LLC	Shopping Plaza in the City of Charlotte that has contamination from a dry cleaning operation and adjacent properties. The groundwater is contaminated. PD intends to redevelop the shopping plaza and maintain jobs in the area.
EDMUNDS MANUFACTURING 1016 Battleground Avenue Greensboro, Guilford County PD: Carroll Investment Properties, LLC	This approximately 4.5-acre site was used as a metals fabrication facility. The site has petroleum and chlorinated impacts in soil and solvent contamination in groundwater. PD intends to redevelop the site into a commercial center with retail, office and storage space, or possibly a mixed residential-commercial use.
ELECTRONIC COMPONENTS CORP. Burgaw, Pender County	The approximately 5-acre site was first developed in 1966 as a facility for manufacturing small transformers. The property was idled in 1999. Site groundwater is contaminated with chlorinated solvents. Prospective Developer intends to reuse the site to manufacture sound equipment and other music related equipment.
ELK MOUNTAIN LANDFILL Woodfin, Buncombe Co.	Approximately 156-acre site contains a former municipal landfill which was operated under lease by the City of Asheville, and which has been closed since the late 1970s. PD has operated a 9-hole golf course on the site since 1990. PD will conduct assessment activities to determine if there is actual contamination at the site. PD intends to redevelop the site into an 18-hole golf course and approximately 250 condominiums in areas outside of the waste cells.

EVERHART LUMBER SITE Thurmond Road New Bern, Craven county PD: Brice's Creek Bible Church	This 32-acre property was developed as a lumber mill and wood treating facility in the late 1940s. Operations ceased in 1979, and the property has been idled and vacant since. Site contains PCP impacts in soil and groundwater. Prospective Developer intends to redevelop the site into a church center.
FABRICTEX 376 Clarks Creek Road Lincolnton, Lincoln County PD: CCR Real Estate Holdings, LLC	Property consists of approximately 15 acres and was first developed in 1981 to manufacture roof shingles. The site was converted to a textile dyeing, finishing and knitting operation, which was closed and abandoned in 2004. Contamination consists primarily of chlorinated solvents in groundwater. Prospective Developer intends to re-establish textile finishing and knitting operations at the facility.
FIELDCREST BLANKET MILL 206 Warehouse Street Eden, Rockingham County PD: Riverwalk Development, LLC	Approximately 19-acre site was a former textile manufacturing facility and has known waste oil, metals, and chlorinated solvent contamination of site soil and groundwater. PD intends to redevelop the site as a cultural center with public benefits that include the creation of approximately 325 jobs, increased tax base and providing a spur to additional redevelopment in the vicinity of the property.
FISHBURNE EQUIPMENT Airport Road Arden, Buncombe Co. PD: R. & P. Van Praag	Former metal fabrication and tobacco press manufacturing facility with suspected VOC contamination in soil and groundwater, based on detection of these compounds on adjoining, downgradient property, the former Buncombe County landfill. PD intends to redevelop the site for light manufacturing/assembly, warehousing, and public storage uses.
FLORENCE MILL 186 Mill Street Forest City, Rutherford County PD: Florence Mill Redevelopment	Consisting of approximately 8.2 acres, the Florence (Cone) Mill is a former industrial mill that went out of business in 2001. The property also has a number of former mill warehouses that are vacant, as well as dry cleaner properties that are separate from the Cone Mill but included in Prospective Developer's submittal. Site impacts include petroleum contaminated soil and PCE impacts to site soil and groundwater. The PD intends to redevelop the property into a town hall, residences, restaurant, cinema, and pavilion with open space.
FORMER FONTAINE 5TH WHEEL 3883 South Church Street Rocky Mount, Nash County PD: New Standard Corporation	This former metals fabrication/manufacturing facility has been vacant since 2001 and the property contains chlorinated solvent and petroleum contamination in soil and groundwater. Prospective Developer intends to reuse the three site buildings for metal stamping, fabrication and assembly operations.
FREUHAUF TRAILER CO. 310 Dalton Avenue Charlotte, Mecklenburg County PD: First Industrial B&L, LLC	A light manufacturing facility that was contaminated by historical site operations by former Freuhauf Trailer Corporation. The site is also impacted by chlorinated solvents from adjacent parcels. PD intends to redevelop the site in industrial and commercial uses.
GENERAL WOOD 1901 Wood Treatment Road Leland, Brunswick County PD: Leland Land, LLC	A 120-acre pole treatment facility (creosote, chromated copper arsenate (CCA) and pentachlorophenol (PCP)) under Chapter 11 bankruptcy that is currently under RCRA jurisdiction. PD's intent is to be able to distinguish old from new contamination and then continue with pole treatment (CCA and PCP only). Groundwater contamination mainly associated with creosote and petroleum. Metal and PCP contamination in soil.

GLEN RAVEN MILLS 114 Raven Circle Kings Mountain, Cleveland Co. PD: Consortium for Progress	Former textile manufacturing facility with solvent contamination in groundwater. PD intends to redevelop the property as a residential/retirement center for senior citizens. Responsible party will continue assessment and/or cleanup activities under state Voluntary Cleanup Program.
GREY HOSIERY MILL Fourth & Laurel Streets Hendersonville, Henderson Co. PD: Old Mill Arts Committee	Former hosiery manufacturing facility located in downtown Hendersonville with low concentrations of chlorinated solvents in site groundwater. PD intends to renovate the building and redevelop the property as a performing arts center.
GRIFFITH STREET PROPERTY 565 Griffith St. & 536 Jetton St. Davidson, Mecklenburg Co. PD: Five Six Five, LLC	Prior industrial operations resulted in soil and groundwater contamination by petroleum and VOCs. The PD plans to redevelop the facility as a charter school and as retail and commercial space.
HISTORIC COTTON MILL 191 Riverside Drive Asheville, Buncombe Co. PD: RiverLink, Inc.	A 2.63-acre site formerly occupied by a cotton mill that operated from the 1900s but has been abandoned for many years. PD will conduct environmental assessment to determine if the site has any contamination. PD intends to redevelop the site in mixed commercial/retail and residential uses. This project is part of the Asheville French Broad Riverfront Plan.
HOLMES PROPERTY 450 & 498 Carolina Pines Avenue, and 500 Granite Road Raleigh, Wake County PD: South Saunders Redevelopment LLC	This 2.4-acre site was first developed in the mid-1960s and has been used in auto repair, electricians offices, printing and office supplies, and, most recently, as a graphics and screen printing shop. Site impacts include PAHs in soil and metals and solvents in groundwater. Prospective Developer intends to reuse the site principally for vehicular access to a larger redevelopment project on adjoining property.
HOME INNOVATIONS SITE Hwy 52 S & Ratliff Gin Road Morven, Anson Co. PD: Dan River Inc.	Former textile manufacturing facility with petroleum hydrocarbon and VOC contamination in soil and groundwater. PD intends to redevelop the site as a modern textile manufacturing operation where present environmental contaminant compounds are not used. Project has significant job creation potential.
HUNT MANUFACTURING 2301 Speedball Road Statesville, Iredell County PD: Speedball Road LLC	The 18-acre site was first developed in the late 1950s by the Hunt Corporation as an office products manufacturing facility. The facility was closed in 2004. Site has known solvent and cyanide contamination in groundwater. Prospective Developer intends to reuse the site for manufacturing art materials and related products.
INDUSTRIAL PLASTICS Location: 4810 Clover Road, Greensboro, Guilford County PD: Standard Tools & Equipment	The site comprises 17.77 acres and was initially used as for plastic manufacturing and then metal plating. It was idled for several years. The PD currently leases the property and, once a BFA is in effect, plans to purchase it and continue its manufacturing operations, thereby keeping it in productive use. The site has environmental impacts from zinc, chromium and other metals formerly used in the electroplating process.
JDS UNIPHASE 3026 Cornwallis Road Research Triangle Park, Wake County PD: Cree, Inc.	This 55-acre site was developed in 1984 as a semiconductor research and development facility. The site has been idle and vacant since 2002. Site impacts include chlorinated solvents, chloride in groundwater and VOCs and oil & grease in soil. Prospective Developer intends to reuse the facility for semiconductor manufacturing.

KIDD LANE BATTERY DISPOSAL 3607 Kidd Lane Charlotte, Mecklenburg Co. PD: Joshua's Farm	Abandoned dairy farm with historical lead battery disposal operations. The approximately 1-acre parcel is adjacent to a 22-acre horse & animal farm area for the Joshua's Farm Operations. The site has a limited area with lead contamination in the surficial soils. PD intends to redevelop the area as a parking lot for the horse and animal farm operations.
LAROCHE SITE 500 Broome Road Greensboro, Guilford County PD: TBREC, LLC	This 18-acres property has metals and phenols and pesticide contamination in soil and groundwater. PD intends to redevelop the site as a manufacturing and/or distribution facility. Public benefits will include job creation, increased property taxes, and environmental cleanup.
MILLENNIUM FUND 923, 955, 967 Brookstown Avenue Winston-Salem, Forsyth County PD: The Millennium Fund	This project plus West End Village replace the former Unity Place Brownfields project. The property will be developed for general commercial use, in tandem with the adjacent West End Village project to create a European-style town center atmosphere. A gasoline station and automotive repair shop is on one of the parcels, and the entire property is located in the vicinity of adjacent properties with known and/or potential sources of contamination.
MITCHELLS FORMAL WEAR 115-145 Scaleybark Road Charlotte, Mecklenburg County PD: Crosland Centre Associates	A strip shopping center along the proposed South End Light Rail Corridor that has been impacted with chlorinated solvents in the soil and groundwater. PD intends to redevelop the site as mixed use to include commercial, retail, and residential.
MOREHEAD MACHINE SHOP 206 North 4th Street Morehead City, Carteret County PD: Cherokee Morehead, LLC	The property is 1.45 acres and has been historically used for ship building and maintenance. Soil at the site is contaminated with metals and petroleum products. Groundwater contained lead and MTBE. The PD plans to redevelop the property into a 45-slip marina with residential condominiums and first floor commercial establishments. The public benefits include environmental cleanup, tax base improvement and job creation.
MODEL LINEN PD: QUB Studios 120 West Lewis Street Greensboro, Guilford Co.	The site was used to manufacture wood stoves and has low levels of chlorinated solvents in the groundwater. The site will be redeveloped as a photographic studio and other commercial space.
FORMER MTE HYDRAULICS 105 Chickasaw Road (intersection of Chickasaw Rd. & Pearson's Turnpike (state Hwy 2663) Gastonia, NC 28052 Gaston County Prospective Developer: Liberty Land, LLC	A 9.76-acre parcel in Gastonia. The site has known soil and groundwater impacts from historical site operations which included the manufacturing of hydraulic components and brake pads and other uses. Prospective Developer intends to upgrade the property for manufacturing purposes and additional commercial use.
NATIONAL TEXTILES Morgantown, Burke Co.	Former textile manufacturing facility with chlorinated solvent contamination in soil and groundwater. The applicant PD intends to sell the site to an identified potential buyer for conversion and reuse as a furniture manufacturing facility.
NORTH HILLS MALL 4217 Six Forks Road Raleigh, Wake Co. PD: North Hills Mall Ownership Organization, LLC	This 31-acre site was originally developed in 1963, and was expanded into one of Raleigh's earliest enclosed malls. The site has known petroleum and chlorinated solvent contamination in soil and groundwater from auto gas and repair facilities and from an off-site drycleaner. Developer intends to redevelop the site into a pedestrian friendly mixed-use retail, commercial and residential complex.

NORTH TERMINAL River Road Wilmington, New Hanover County PD: State Ports Authority	The site consists of 36 acres historically used as a para-xylene and fuel oil bulk storage and handling facilities (i.e., tank farms). The decades-long use of the tank farms has resulted in soil and groundwater contamination by para-xylene and volatile and semi-volatile fuel oil constituents. The PD wishes to use the property to expand the state port's container yard and as a staging area for military operations and specialty import/export cargoes. The redevelopment would result in an estimated 50 percent increase in shipping container movements which would directly and indirectly create hundreds of jobs and increase state and local taxes by $1.7 million.
OLD WNC FAIRGROUNDS Location: Intersection of James Street and Mill Street East Flat Rock, Henderson County PD: Henderson County Public Schools	Project is former Western North Carolina Fairgrounds, it is currently vacant land, approximately 27 acres. The site was also used as training grounds for the Blue Ridge Fire Department. The training exercises led to soil contamination consisting of petroleum hydrocarbons in the training area. The PD intends to redevelop the property into an industrial park with the assistance of Henderson County Partnership for Economic Development.
PADGETTE LANE PROPERTY 105 Padgette Lane Carrboro, Orange County PD: Downtown Urban Ventures, LLC	Less than 1-acre site with a 3,500 square foot former automobile repair shop. Contamination appears to be restricted to incidental housekeeping related releases from site activities. PD intends to redevelop the site for 55 residential condos and/or apartments for a total of 63,950 square feet with the intent to market students at UNC-Chapel Hill.
PARK BOAT COMPANY 3.8 acres PD: Washington Center LLC block at intersection of W. Third and Van Norden Streets Washington, Beaufort County	The former Washington manufactured gas plant was located on a portion of this property, and is currently under the first phase of assessment. The remainder of the block had residential use until the early 20th century, and had commercial and light industrial usage since that time. A mixed use office/retail/residential development with a parking garage is planned for the property.
PARKER HANNIFIN Wake Forest, Wake Co.	A 33-acre former air control devices manufacturing facility with known Trichloroethene contamination in soil and groundwater resulting from former wastewater treatment operations. PD intends to redevelop the site in mixed commercial, retail, and office space uses. Responsible party is currently undertaking assessment and remediation within RCRA and N.C. Hazardous Waste Section oversight.

FORMER PELTON & CRANE PLANT 200 Clanton Road Charlotte, Mecklenburg County PD: Clanton Partners I, LLC	Site of a manufacturing facility specializing in equipment for the dental industry, this approximately 6-acre property has known metals, chlorinated solvent and PAH contamination in soil and groundwater. PD intends to redevelop the site into office and showroom space for non-profit involved in serving the educational, employment and enrichment needs of developmentally disabled children and adults.
PIEDMONT TRIAD RESEARCH PARK Various properties east and south of downtown Winston-Salem Winston-Salem, Forsythe County PD: PTRP Holdings, LLC	This redevelopment project covers approximately 180 acres and involves some 240+ individual tax blocks/lots located east and southeast of downtown Winston-Salem. The property consists of former industrial and manufacturing facilities with a wide range of known and possible impacts in soil and groundwater. The site is slated to be redeveloped into a world-class bio-technology research park in affiliation with Wake Forest University Health Sciences.
PILLOWTEX PLANT 1 1 Lake Circle Drive Kannapolis, Rowan & Cabarrus Counties, NC PD: City of Kannapolis	A 158-acre site with 5.6 million square feet in 17 buildings. Closed/bankrupt textile manufacturing plant is available for purchase through bankruptcy court. The PD is working with SouthEast Developers to purchase and redevelop the property as a sports and entertainment complex, office space and other businesses. The City is working on submitting a bid to purchase the property through the bankruptcy court. Potential or known contamination at the site includes gas, diesel fuel, varsol, PAHs, acids, caustics, alcohols, maleic acid, formaldehyde, benzidine, naphthylamines, used oil, coal (PAHs, inorganics).
POND ROAD LANDFILL PD: Sonia Gribble 79 Pond Road Asheville, Buncombe County	This site is a former landfill, more recently used as an auto salvage yard by a private owner/operator. It is a 4.72 acre site that is currently abandoned. A preliminary Phase II found soil contaminated with Chromium, oil and grease, and volatile organic compounds. The prospective developer is ready to move forward with the Land of Sky Regional Council's assistance to complete a Phase I ESA and further assessment work as needed. The prospective developer has plans to renovate the site as a recycling and resource recovery facility.
PPD HEADQUARTERS SW corner of Harnett and Front Streets Wilmington, New Hanover County PD: River Ventures, LLC	Approximately 8-acre site is a small portion of the ~ 40-acre Almont Shipping site that will all eventually be redeveloped once Almont moves to the Wilmington Port Authority. Almont has been a dealer in bulk commodities (saltcake, urea, potash, phosphate, etc.). The site as a whole has been in business for almost a hundred years, with warehouses currently on this property being built in the late 1970s. Prior to that time it was operated as a fuel depot with large ASTs located on the site. Contamination from the adjacent CSX property spill of 2.2 million gallons of diesel in 1982 is suspected, although a Phase II assessment is currently underway. PD intends to demolish the buildings on site in order to construct a 400,000 SF office building.

PRARIE PLASTICS Location: 5210 Zmax Road Harrisburg, Cabarrus County PD: Speedway Motorsports, Inc	The property is a 25-acre tract of vacant land with a plume of chlorinated solvent-contaminated groundwater migrating on to the property from offsite. The PD plans to facilitate the development of the property into a manufacturing facility which would eventually employee an estimated 350 people.
PRIDE-TRIMBLE PLANT U.S. Hwy. 1 and Yadkin Road Southern Pines, Moore County PD: Lady Builders, LLC	Approximately 37-acre site former manufacturer of children's metal tube type of furniture, then warehousing and a trucking firm. Next door to SCM Proctor-Silex, a state Superfund site undergoing a feasibility study for the cleanup of chlorinated solvents in the groundwater and PAHs in the soil. This contamination is found under the Pride-Trimble Site. PD intends to reuse the site as a small business incubator.
FORMER REXNORD INDUSTRIES 1000 Chain Road Morganton, Burke County PD: ForSite Development	The site consists of 80.66 acres, and contains facility formerly used to manufacturer engineered chain products. The facility is currently dormant, the Prospective Developer suspects there are soil and groundwater issues on site due to past manufacturing operations. The PD intends to redevelop the property for manufacturing and commercial uses.
R.W. McCOLLUM SITE 107 West Meadowbrook Road Greensboro, Guilford County PD: Mr. David Cooke	Site contains approximately 6.5 acres and was used originally to wash tanker trucks. Impacts consist primarily of TCE and its degradation products, mostly in groundwater. PD intends to expand the facility to include truck and trailer sales and maintenance and a dispatch center.
SALEM UNIFORM 4015 N. Cherry Street Winston-Salem, Forsyth County PD: Winston Weaver Co. Inc.	2.53-acre site that has been vacant for many years. Was leased out from 1967-83 to Salem Uniform and from 1983-86 to Cintus Corporation who purchased the assets for Salem Uniform. During a Limited Site Assessment for petroleum USTs, high levels of PCE were discovered, probably from dry cleaning solvents. PD is currently leasing space, but would like to improve it for use for fertilizer storage and other commercial usage.
FORMER SCHLAGE LOCK FACILITY 3551 North Wesleyan Blvd. Rocky Mount, Nash County PD: Community Resource Exchange	49.15 acre/196,000 square foot former manufacturing facility for lock/doorknob plating and assembly that used PCE as a degreasing solvent. Working with the Hazardous Waste Section as site is a RCRA TSD post-closure facility with active voluntary GW remediation system (Ingersoll-Rand is RP). Chlorinated solvents (PCE, TCE, 1,2-DCE, toluene and acetone are main constituents of concern in both soil and groundwater. PD is non-profit organization who needs loan in order to make improvements to former manufacturing facility in order to provide tenant space for non-profit organizations and possible outparcels for commercial retail businesses.
SCOTLAND MEMORIAL HOSPITAL PD: City of Laurinburg 5.3 Acres 600 McLean Street Laurinburg, Scotland County	This project has been a recipient of federal Brownfields Funding (assessment and remediation). City plans to demolish former hospital that has been abandoned for over twenty years and partner with Richmond Community College to build a 10,000 SF building to house a LPN training program and other local industry-driving vocational training program in this Tier 1 county.
SCOTT AVIATION 309/310 W. Crowell Street Monroe, Union County PD: City of Monroe	Former metal fabrication facility contains approximately 10 acres and has known metals and chlorinated solvent contamination in soil and groundwater. PD intends to redevelop the property as a civic center and expects public benefits to include job creation, increased tax base and a spur to further redevelopment in the area.

SHELBY DYEING & FINISHING 1000 West Grover Street Shelby, Cleveland Co. PD: GMAC Commercial Credit, LLC	Former textile dyeing and finishing facility with solvent and metals contamination in soil and groundwater. Through its sale of the property to Environmental Fibers, PD intends to facilitate the redevelopment of the site as a cotton recycling facility, bringing the two site buildings back into productive use, and bringing jobs and tax base improvements to the community.
SOUTH ELM STREET 44 properties along South Elm St. Greensboro, Guilford County PD: City of Greensboro, Dept. of Housing and Urban Development	Wide range of previous uses have resulted in known impacts to soil and groundwater that include solvents, petroleum products, inks, MGP-associated wastes. PD intends to redevelop the site in mixed-use including residential, office and commercial space. Public benefits include the creation of approximately 3,250 jobs, increased tax base, and a spur to additional redevelopment.
SOUTH TERMINAL 3334 River Road Wilmington, New Hanover County PD: NC State Ports Authority	25-acre property was a former petroleum shipping terminal and has known petroleum contamination in soil and groundwater. PD intends to redevelop the property in an expansion of the Port of Wilmington, and expects the project will create approximately 275 new jobs and increased property taxes.
SPARTA TEAPOT MUSEUM 48, 90, 114 West Whitehead St; and 111 West Doughton Street Sparta, Alleghany County PD: New River Community Partners	The site consists of 5.2 acres in downtown Sparta, where multiple parcels will be combined for the future museum. The existing parcels are residential, former post office, former dry cleaner, and a welding facility. PCE impacts are known to exist at the site in both soil and groundwater. The PD intends to redevelop the property into a teapot museum.
STRATFORD METAL FINISHING 807 S. Marshall Street Winston-Salem, Forsyth County PD: City of Winston-Salem	The Stratford Metal site was developed as a plating facility in the mid 1960s. Suspected contaminants include various metals in soil and groundwater. Prospective Developer intends to redevelop the half-acre property into a parking lot for the City of Winston-Salem's historic district, Old Salem.
TEXFI-NEW BERN Bosch Boulevard New Bern, Craven County PD: MGR, LLC	The site consists of approximately 20 acres located adjacent to a former Texfi textile facility and formerly used by Texfi as a dump for empty drums, refuse and other solid waste material generated in its manufacturing operations. The site has known solvent contamination in groundwater. PD intends to redevelop the property as an industrial park for suppliers to the nearby and recently modernized Bosch manufacturing facility.
TOWN & COUNTRY RENT-A-CAR 5324 East Independence Boulevard Charlotte, Mecklenburg Co. Prospective Developer: SRE North Carolina-2, LLC	Approximately 1.6-acre tract in Charlotte. The site has known petroleum soil impacts from past use as a heating oil distribution location, a service station, an automobile repair shop, a car wash and other uses. Prospective Developer plans to facilitate the redevelopment of the vacant property through its sale to a prospective purchaser, who will most likely build a car dealership.
V. F. Site 2831 Wilson Park Road Statesville, Iredell Co. PD: Statesville Partnership LLC	This former textile plant has chlorinated solvent contamination as a result of on site drycleaning operations. The PD plans to upgrade the property for light manufacturing or distribution facility.

WEST END VILLAGE Properties on N. Broad, W. Fourth, W. Fifth, North Green, N. Spring Streets and Brookstown Avenue Winston-Salem, Forsyth County PD: Boulevard Centro, LLC	This 10-acre project plus Millennium Fund replace the former Unity Place Brownfields project. The majority of properties were different facets of a large automotive dealership, although a paint and body shop and dry cleaners were also located here. Developer plans a mixed-use residential/commercial/retail development with 256 residential units (townhouses, penthouses and flats) with 45,500 SF of commercial space.
WILMINGTON CONVENTION CENTER 525 Nutt Street Wilmington, New Hanover Co. PD: River Ventures, LLC	This 9.22-acre site was formerly used as a petroleum receiving facility for CSX Transportation. The property has PAH contamination in the soil, low levels of naphthalene, arsenic, and PAH and EDB contamination in the groundwater. The currently vacant site will be re-used as a convention center/mixed-use development, including a hotel. Public benefits will include public access to a substantial amount of Wilmington's historic riverfront, an expanded tax base, and job creation. Substantial ancillary benefits, such as property taxes on marina slips and boats, room and sales taxes from the hotel, restaurants and other commercial businesses.
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PROJECTS PENDING ELIGIBILITY (12)

ABBOTT LABORATORIES Laurinburg, Scotland Co.	
BURLINGTON – FAYETTEVILLE Fayetteville, Cumberland Co.	
CANNON VILLAGE Kannapolis, Cabarrus Co.	
ECUSTA – 1 Pisgah Forest, Transylvania Co.	
ECUSTA – 2 Pisgah Forest, Transylvania Co.	
LEARY BROTHERS SITE Eden, Chowan Co.	
L. I. BUILDING, LLC Haw River, Alamance Co.	
NACCO Lenoir, Caldwell Co.	
PILLOWTEX WWTP Kannapolis, Rowan Co.	
FORMER REXAM FACILITY Matthews, Mecklenburg Co.	
FORMER UNIVERSAL STAINLESS Charlotte, Mecklenburg Co.	
WILLARD LEAD FACILITY Charlotte, Mecklenburg Co.	

FINALIZED BROWNFIELDS AGREEMENTS (66)
EITHER IN FORCE OR PENDING SIGNATURE

PD = Prospective Developer; RP = Responsible Party

ABC ENGRAVERS Charlotte, Mecklenburg Co.	Former engraving and plating facility with known chromium and chlorinated solvent contamination in soil and groundwater. PD intends to redevelop the site as an office complex.
ALAMAC KNIT FABRIC Hamilton, Martin Co.	106-acre former textile manufacturing facility with known soil and groundwater contamination involving chlorinated solvents. Site is undergoing active remediation under NC DWQ. Intended reuse is as a non-polluting school locker manufacturing facility that will employ some 350 workers.
ALPHA MILLS Charlotte, Mecklenburg Co.	A 5.77-acre parcel that was historically a textile mill. Most recently the site was the former Consolidated Group Incorporated engraving facility. The site has known soil, groundwater, surface water, and sediment impacts from historical site operations. PD intends to redevelop the property for residential apartments with compatible commercial and retail development.
ANDREX INDUSTRIES Asheville, Buncombe Co.	A 9-acre light manufacturing site formerly used as a textile production facility that operated a knitting, weaving and cutting business along with dry cleaning, shrinking and packaging of fabrics. Tetrachloroethylene groundwater contamination from drycleaning operations being remediated by RP with pump-and-treat system. PD is adjacent property owner, a milk processing and distributing plant. Initial plan is to use part of property for truck and trailer parking. Within 3 years they plan to demolish Andrex buildings and expand the Milkco Plant to double capacity within 8 years.
ANCHOR MILL Huntersville, Mecklenburg Co.	Abandoned textile manufacturing facility with known metals contamination in soil, and lead, chlorinated solvent, and petroleum hydrocarbon contamination in groundwater. PD intends to redevelop the 32-acre site as a mixed-use transit village that reuses the old mill building and adds new office, retail, and residential components.
ARCHDALE MARKETPLACE Charlotte, Mecklenburg Co.	Approximately 13-acre parcel known as Archdale Marketplace Shopping Center. Groundwater is contaminated at the Property due to historical site operations by an A&P grocery store, Sno-White Cleaners, and K-mart auto service center. PD intends to redevelop the property for commercial and retail.
BALDOR ELECTRIC Charlotte, Mecklenburg Co.	Former electric motor and motor component assembly and manufacturing facility with solvent impacted soil and groundwater. PD intends to redevelop the property for use as industrial condominiums.

BOULIGNY SITE Charlotte, Mecklenburg Co.	Approximately 3.5-acre parcel that was the former R.H Boulingy facility. The site has known groundwater impacts from chlorinated solvents. PD intends to redevelop the property for mixed-use development with commercial, retail, industrial and residential.
BROWN'S SOLVENT CO. Charlotte, Mecklenburg Co.	Former paint and solvent formulation facility with known solvent-impacted soil and groundwater. PD intends to initially renovate & reuse the existing structure for office/warehouse use, and ultimately raze the building and redevelop the site as a mixed office/retail complex in keeping with other redevelopment taking place in Charlotte's South End.
BURKHART CAROLINA Henderson, Vance Co.	Former pickle processing and packing facility with chloride impacted soil and groundwater and minor solvent contamination in groundwater. PD intends to redevelop the property for commercial retail use. Simultaneously, the responsible party will implement groundwater remediation at the site under separate action. The PD's development will provide an impervious cap on the site, further assisting remedial efforts.
BURLINGTON – JAMESTOWN Jamestown, Guilford Co.	A 22-acre site containing a abandoned chemical formulation facility operated in support of Burlington Industries textile manufacturing operations. Known chlorinated and petroleum hydrocarbon contamination exists in site soil and groundwater and is being addressed under a consent order with DENR. PD intends to redevelop the property as polyurethane and polyacrylate emulsions manufacturing facility.
BURLINGTON MILLS Mooresville, Iredell Co.	Abandoned textile manufacturing facility with known petroleum hydrocarbon contamination in soil and groundwater, and chlorinated solvent contamination in groundwater. PD intends to redevelop the site as an auto racing industry complex with office, flex, shop, and R&D space.
CAMDEN SQUARE Charlotte, Mecklenburg Co.	Abandoned Knitting and Printing Operations rebuilt into the "Design Center of the Carolinas". Development supported by the Wilmore Community as a vital redevelopment in an economically depressed area. Land Use restrictions for chlorinated solvents in groundwater.
CAMDEN SQUARE ADDITION Charlotte, Mecklenburg Co.	This project will add, by amendment, 4.5 acres to the first brownfields agreement completed in North Carolina, Camden Square, in Charlotte's South End redevelopment corridor. Contamination includes VOC- and SVOC-impacted soil and groundwater. Intended reuse is for mixed office and retail.
CAROLINA LOG BUILDINGS Fletcher, Henderson Co.	Former wood treating facility with known pentachlorophenol contamination in soil and groundwater. PD intends to redevelop the 30-acre site as the new heart of the Town of Fletcher to include various office and retail uses.
CAROLINA PRODUCTION FINISHING Asheville, Buncombe Co.	Former textile finishing facility with metals contamination in both soil and groundwater. PD intends to redevelop the site for warehousing and as a sewing operation. PD is in the process of reviewing DENR's draft brownfields agreement for this site.

CENTRAL PARK LANDFILL Winston-Salem, Forsyth Co.	Former municipal landfill for the City of Winston-Salem. Site is 7.23 acres in size, and has been used as a city park since the 1950s. Low levels of chlorinated solvents, with no surficial soil contamination. PD intends to redevelop the site for soccer and a softball field for the adjoining Salem Academy and College so their current fields can be used for additional building space. A passive methane collection system will be installed prior to installation of the recreational fields.
CHEROKEE OIL Charlotte, Mecklenburg Co.	Approximately 2-acre site was formerly a non-permitted hazardous waste storage facility and the site of an EPA removal action. Known arsenic, oil & grease, and solvent contamination exists in site soil and groundwater. PD intends to redevelop the property as a nightclub and parking facility.
CHESTER STREET PROPERTY Gastonia, Gaston County	Site contained former Carson Dry Cleaner located in the center city area of Gastonia. Property has known chlorinated solvents contamination in the soil and groundwater. PD intends to redevelop the site in commercial retail uses.
CITY WEST COMMONS Charlotte, Mecklenburg Co.	Dilapidated shopping center seized in a drug raid by the U.S. Dept. of Justice that has been approved for transfer to the city of Charlotte. Site had VOC and chlorinated solvent contamination in soil and groundwater. The City intends to transfer the property to a not-for-profit development corporation to redevelop the site as commercial retail shopping facility.
C.K. LAND DEVELOPMENT Charlotte, Mecklenburg Co.	A large mixed use development on a former industrial services firm adjacent to a manufactured gas plant. Ground floor retail and studio with Office and residential units above. Project is in vicinity of Camden Square and provides redevelopment to economically depressed area. Capping and land use restrictions regarding PAHs in soil and chlorinated solvents in soil and groundwater.
CUMBERLAND SHOPPING CENTER Greensboro, Guilford Co.	Site of former shopping center and dry cleaners with chlorinated solvent impacted soil and groundwater. PD is a not-for-profit community development corporation. The PD has performed soil remediation activities and intends to redevelop the site with affordable residential housing.
DON CHRISTIAN PROPERTY Carrboro, Orange County	This approximately 0.5-acre underused site had been in use as a bulk oil facility and gas station since the 1920s and is currently in use as an auto repair shop. The site contains petroleum hydrocarbon impacts in soil and groundwater. PD intends to reuse the property in commercial/retail use as part of the renovation and expansion of the existing, adjoining shopping center.
DYNATECH INDUSTRIES Charlotte, Mecklenburg Co.	Former plating facility with metals-impacted soil and groundwater. EPA conducted soil removal activities at the site and has classified it as NFRAP. PD intends to redevelop the property for use as mixed office/retail complex.

EAST GANNON PROPERTY Zebulon, Wake Co.	This property consists of four parcels of land totaling 1.75 acres with four existing structures (former restaurant, current auto sales, auto service garage and hair salon). Site planned to be redeveloped into a stand-alone Eckerd Drug Store, with other surrounding complimentary retail tenants. Soil and groundwater are contaminated with petroleum constituents from above ground storage tanks used by previous gas station.
EAST PARK – BOYER Charlotte, Mecklenburg Co.	Approximately 0.39-acre parcel that is a portion of the East Park Development Project, with known chlorinated solvent and gasoline contamination. PD intends to redevelop the site as a pedestrian urban infill multiple use development with commercial, residential, recreational and common open space. The site is part of the City of Charlotte's East Park re-development zone.
EAST PARK – CRAVER Charlotte, Mecklenburg Co.	Approximately 0.65-acre parcel that is a portion of the East Park Development Project, with known chlorinated solvent and gasoline contamination. PD intends to redevelop the site as a pedestrian urban infill multiple use development with commercial, residential, recreational and common open space. The site is part of the City of Charlotte's East Park re-development zone.
EAST PARK – DOROTHY HALL Charlotte, Mecklenburg Co.	Approximately 0.8-acre parcel that is a portion of the East Park Development Project, with known chlorinated solvent and gasoline contamination. PD intends to redevelop the site as a pedestrian urban infill multiple use development with commercial, residential, recreational and common open space. The site is part of the City of Charlotte's East Park re-development zone.
EAST PARK – JOAL REALTY Charlotte, Mecklenburg Co.	Part of the 24-acre site encompassing a six-block area with known chlorinated solvent contamination. PD intends to redevelop the site as a model for urban infill mixed use development with an emphasis on the needs of pedestrians in an urban setting. The site is part of the City of Charlotte's East Park re-development zone located between the CBD and the historic residential neighborhoods of Elizabeth and Myers Park.
EAST PARK – KOSSOVE Charlotte, Mecklenburg Co.	Part of the 24-acre site encompassing a six-block area with known chlorinated solvent contamination. PD intends to redevelop the site as a model for urban infill mixed use development with an emphasis on the needs of pedestrians in an urban setting. The site is part of the City of Charlotte's East Park re-development zone located between the CBD and the historic residential neighborhoods of Elizabeth and Myers Park.
ECUSTA Pisgah Forest, Transylvania Co.	In its prime, this 540-acre site was the world's largest non-wood pulp and specialty paper manufacturing facility. Closed since late 2002, the site has known metals, caustic and solvent contamination. PD intends to re-start flax pulping operations and to market the pulp to paper manufacturers. PD may also undertake other uses of site buildings and facilities, including office space and possible use of excess wastewater treatment capacity by local municipalities.

ERWIN SQUARE Durham, Durham Co.	This approximately 6-acre property is a portion of a decommissioned former Burlington Industries site, other portions of which have already been redeveloped. There is known chlorinated solvent contamination in groundwater, and these impacts are being addressed under an approved Division of Water Quality corrective action plan. PD intends to redevelop the site in high-density residential use.
FLEMINGTON LANDFILL Wilmington, New Hanover Co.	Site of a closed (1979), privately operated domestic and industrial solid waste landfill with VOC-impacted soil and groundwater. Intended reuse is for a soccer complex. This is the first former landfill property proposed for redevelopment under the NC brownfields statute, and the project's feasibility and technical challenges are being carefully evaluated.
FLYNT FABRICS MILL PROPERTY Hillsborough, Orange County	Former Flynt Fabrics, a textile dyeing and finishing operation, closed in late 2000. Potential, but not confirmed, contamination at the site includes asbestos, lead, peroxide, acetic acid, #5 fuel oil, dyes, salts, bleaches, cleaners, and oils. Prospective Developer desires to purchase the old mill and parking portion of the Property and redevelop it in residential use.
FOOD LION Winston-Salem, Forsyth Co.	A new large supermarket placed on the site of an abandoned grocery store in urban Winston-Salem. Project had strong community support as a quality of life issue as the community had no supermarket. Land use restrictions for chlorinated solvent contamination in groundwater. Brownfield Assessment determined the source to be nearby drycleaner.
FULFLEX, INC. PROPERTY Scotland Neck, Halifax County	Approximately 20-acres property contains a vacant 100,000 SF building, the site of rubber product manufacturing until 2002. Fulflex is the responsible party and is currently working with the Aquifer Protection program to remediate a petroleum and chlorinated solvent plume. The town plans to make site improvements to attract a new manufacturing tenant, who will purchase the site at a reduced rate if they bring enough jobs to the area.
GATEWAY AT OLD SALEM Winston-Salem, Forsyth County	Project size is approximately 51 acres. The property is planned for mixed-use redevelopment including offices, commercial/retail space, residences, a YWCA , a private school and parking. Contamination is from a former Duke Power Plant substation (PCBs, PAHs in soil) and groundwater contamination from a number of sources, mainly petroleum but with a few chlorinated solvents. Cleanup of contamination at the Duke Power facility under the Inactive Hazardous Sites Program is almost complete. The Duke Power site comprises only a portion of this large brownfields redevelopment project.
GUILFORD MILLS Greensboro, Guilford Co.	A 55-acre site containing former textile manufacturing facility with known VOC contamination in soil and groundwater. PD intends to redevelop the property in mixed retail uses. Public benefits include the creation of an estimated 500 jobs and substantial tax roles increases.
GUILFORD MILLS – W. Market Street Greensboro, Guilford County	A 19.8-acre vacant textile facility with ancillary buildings. Minor groundwater contamination associated with former underground storage tanks. Other non-UST contamination has been documented but information has not yet been sent to us. PD plans to use the site for general commercial property.

HAMILTON PROPERTY Charlotte, Mecklenburg Co.	As small, dilapidated property bought for the expansion of Cost Effective Maintenance Inc., a small business in the South End area of Charlotte. Expansion into this property allowed CEM to stay in Charlotte instead of move to suburbs. Land use restrictions for chlorinated solvent contamination in groundwater.
HILLSBOROUGH VENTURES Raleigh, Wake Co.	Project involves redeveloping an area of parking lots and dilapidated, underused retail structures. Land use restrictions are in place for the petroleum hydrocarbon and chlorinated solvent contamination in soil and groundwater. PD intends to redevelop the property as mixed residential (private student dormitory for N.C. State University) and retail complex.
HILLSBOROUGH VENTURES ADDITION Raleigh, Wake Co.	Prospective developer added acreage to the footprint of original Hillsborough Ventures project, which involves redeveloping an area of parking lots and dilapidated, underused retail structures adjacent to N.C. State University for mixed residential (private student dormitory) and retail uses.
HOME DEPOT – South Blvd. Charlotte, Mecklenburg County	A 12-acre site currently occupied by a produce grocer and office rental store (1 acre), parking (7 acres), abandoned plant nursery (1 acre); the rest is undeveloped. Operations at adjacent Academy Steel Drum (ASD) from 1947-69 included the disposal of wastes and sludge from drums into pits/lagoons. The location of the lagoons and overflow drainage is suspected to have been partially on subject property. After ASD burned in 1969 the property was thoroughly re-graded with contaminated soil moved around. Elevated concentrations of lead, chromium, and PCBs in soil along with lead, 2-chlorophenol, and trichloroethene. PD plans to lease property to Home Depot for construction of a new Home Depot home improvement retail store.
LEWITH TEXTILE Charlotte, Mecklenburg Co.	Project involves the redevelopment of 50+ acres of abandoned and underused commercial and industrial property, including the former Lewith Textile facility. Contaminants include Petroleum hydrocarbon and chlorinated solvents in soil and groundwater. PD intends to redevelop the site as an industrial park for light manufacturing and warehousing/distribution.
LUCENT TECHNOLOGIES Greensboro, Guilford Co.	Former cotton mill and manufacturing facility with chlorinated solvent contamination in soil and groundwater. PD intends to redevelop the site in mixed commercial retail/office and residential.
MALLARD CREEK Charlotte, Mecklenburg Co.	A 21-acre site adjacent to former auto service station and chainsaw service center operations. Petroleum hydrocarbon and chlorinated solvent contamination in groundwater, sourced from underground and aboveground storage tanks releases on the adjacent site, has migrated onto the subject property. PD intends to redevelop the property as an apartment complex.
OXFORD PRINTING Oxford, Granville Co.	Former textile printing and finishing facility with VOC contamination in groundwater. PD has conducted remediation of floor drain contents. PD intends to redevelop the site for industrial/distribution use.
PILOT MILLS Raleigh, Wake Co.	Abandoned, condemned turn-of-the-century textile mill in Downtown Raleigh redeveloped into office space and preserved on the National Register of Historic Places. Land use restrictions for chlorinated solvent in groundwater and capping of mercury in soils.

QUALITY METAL PRODUCTS Gastonia, Gaston Co.	This 11- acre site contains an abandoned facility of 48,000 square feet formerly used as for metal fabrication. Parts cleaning activities resulted in solvent impacts to site soil and groundwater. PD intends to refurbish the facility for metal fabrication utilizing high-tech, non-contaminating methods.
REDMAN HOMES Mebane, Orange Co.	Former mobile home manufacturing facility with metals and solvent contamination in soil and groundwater. PD has performed drum removal and soil remediation activities. PD intends to redevelop the site as a manufacturing facility to produce windows and doors.
FORMER REEVES SITE Charlotte, Mecklenburg County	Approximately 20-acres parcel that was historically the former Reeves Brother Facility that operated as a textile research and development laboratory. The site has known groundwater impacts from chlorinated solvents. PD intends to redevelop the property for commercial and light industrial uses.
RUSAK PROPERTY Charlotte, Mecklenburg Co.	A 1.21-acre parcel that is adjacent to the Marie G. Davis Middle School. The site is contaminated from historical operations as a metal plating facility. The PD intends to incorporate the adjacent parcels into the new middle school construction. The brownfields parcel will be the plaza entrance.
SANFORD WWTP Sanford, Lee Co.	Former municipal wastewater treatment plant site with petroleum impacted sewer sludge and metals impacts in site soils and low concentrations of volatile and semi-volatile compounds in groundwater. PD intends to redevelop the property in commercial use, including restaurant, retail space and a multi-screen movie theater.
SINGER COMPANY Chocowinity, Beaufort Co.	Abandoned rural manufacturing facility with lead and phthalate contamination in soil and groundwater. The brownfields agreement provides for partial site remediation. PD intends to redevelop the site with mixed retail and light industrial uses.
SMITH METAL & IRON Charlotte, Mecklenburg Co.	Former site of a scrap metal yard and of a waste cell created for the temporary disposal of impacted soil removed during the construction of the adjoining Carolina Panther's practice field. The waste in the cell has been removed, and minor chlorinated solvent impacts remain in site groundwater. PD intends to redevelop the site in high density residential with additional office, entertainment, and retail potential.
SMITH PROPERTY Shelby, Cleveland Co.	Project involves the redevelopment of an area occupied by seven underused and dilapidated residential homes with petroleum hydrocarbon and chlorinated solvent contamination in groundwater. PD has the support of local residents to reuse the site as a parking lot serving the Cleveland County Offices.
SOUTH TRYON STREET Charlotte, Mecklenburg Co.	A 2.88-acre parcel near historic SouthEnd. PD intends to redevelop the property for commercial purposes such as office and showroom condominiums. Groundwater is contaminated at the Property due to historical site operations as industrial/warehouse storage.
SOUTHERN MANUFACTURING Charlotte, Mecklenburg Co.	This 9-acre site located in inner Charlotte was a former asbestos tile manufacturing facility. Asbestos was discontinued in 1986, and the facility was closed in 1999. The site has asbestos contamination in soils. Intended reuse of the site includes an outdoor amphitheater, a technical business park, or a mixed-use development with industrial, commercial, and residential uses.

STATE FARM ROAD Boone, Watauga Co.	Project involves the redevelopment of property occupied by a rural residence with chlorinated solvent contamination in groundwater and in a spring from an off-site source. PD intends to redevelop the site as a medical office complex.
STONEVILLE FURNITURE CO. Stoneville, Rockingham County	The site is a 22.5 acre historic furniture manufacturer that was idled in 2003. PD plans to redevelop the facility for light industrial, warehousing and flex space, thereby creating at least 200 jobs and greatly improving the tax base. The site has chlorinated solvent impacts to soil and groundwater.
TARTAN MARINE Hamlet, Richmond Co.	Former boat manufacturing facility with lead contamination in soil. Additional site sampling conducted by the PD has shown previous soil removal actions have left no health-based lead problems. PD intends to redevelop the site as a chair and table base manufacturing facility.
TERRELL MACHINE Charlotte, Mecklenburg Co.	Site of former textile manufacturing and gear box machining operations, property in Charlotte's South End district is being redeveloped with ground floor retail and office/residential above. Remedial actions to eliminate hot spot contamination included soil removal and groundwater pump and treat. Land use restrictions are in place to address chlorinated solvent contamination remaining in groundwater.
VANIER GRAPHICS Eden, Rockingham Co.	Former printing facility with petroleum and chlorinated hydrocarbon contamination in the soil and solvent contamination in the groundwater. Developer intends to redevelop the site as a furniture assembly and upholstering facility.
WEST VILLAGE EXPANSION Durham, Durham County	Approximately 9.13-acre former Liggett and Myers tobacco company complex consisting of three warehouses, the old and new cigarette factories, office building and research lab building, all of which are on the State Historic Preservation list and eligible for listing on the National Register of Historic places. No known contamination, although no groundwater sampling has been performed to date. Redevelopment is mixed-use and will consist of 417 loft style apartments, 110,000 SF of office lab space, 53,000 SF of urban retail space, 50,000 SF of small office lofts for businesses, 52,500 SF lab space, a parking garage, and Amtrak/light rail stations with a total of over 1,000,000 sq. ft. of renovation and new construction with a 65 percent residential and 35 percent non-residential mix.
WEST MOREHEAD Charlotte, Mecklenburg Co.	Former automobile repair and maintenance facility with chlorinated solvent contamination in soil and groundwater. Developer intends to redevelop the site, to include both facility renovation and new construction for use as commercial office/retail.
WILSON LANDFILL Wilson, Wilson Co.	This underused 14-acre site was formerly occupied by a wastewater treatment facility owned and operated by the City of Wilson. The site has known metals contamination in groundwater. Developer intends to redevelop in mixed commercial, warehousing, and residential uses.

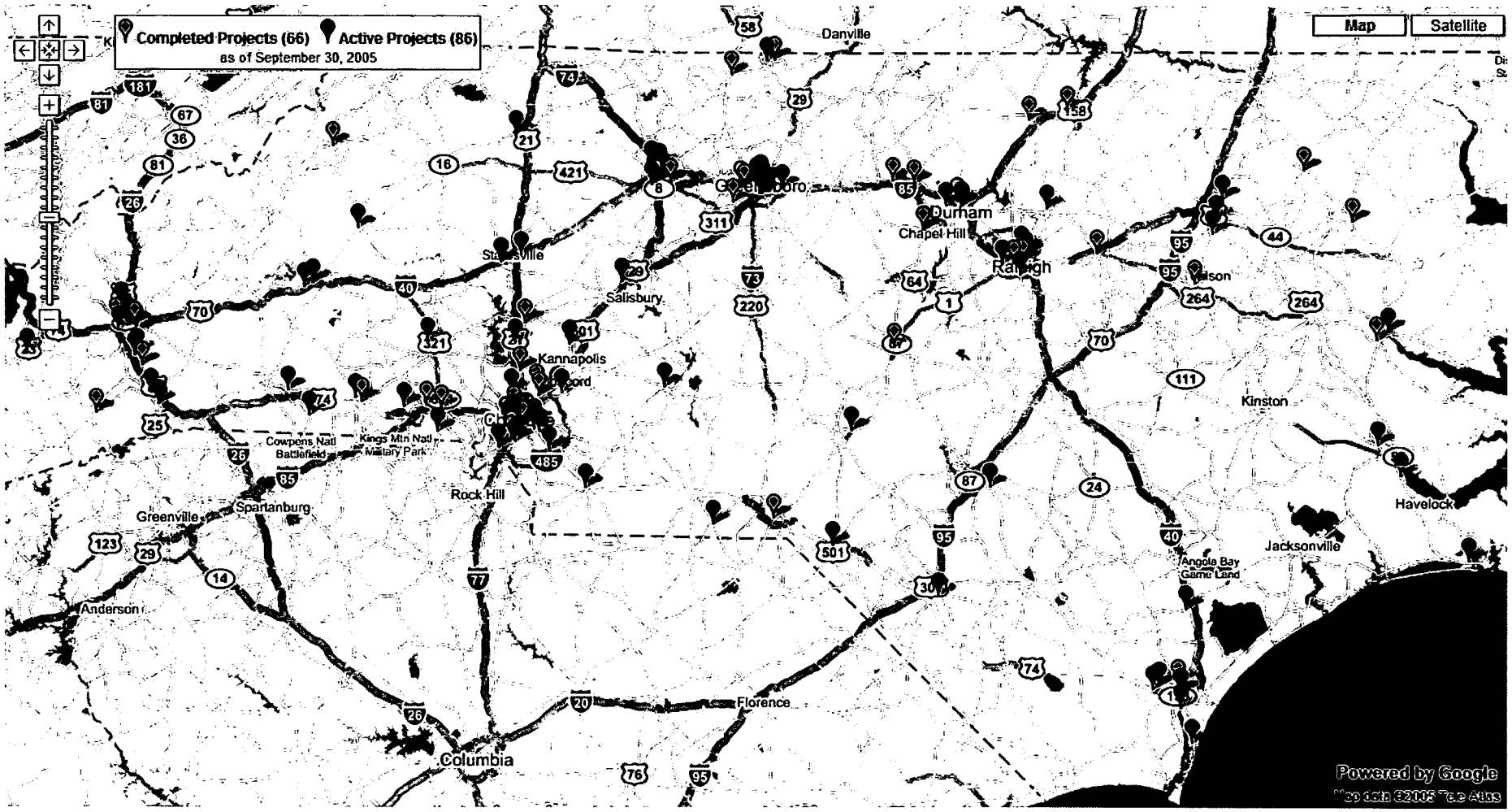
EXHIBIT Q

N. C. Brownfields - Project Locations by County

as of September 30, 2005

County	Completed	Active	County	Completed	Active
Alamance			Johnston		
Alexander			Jones		
Alleghany		1	Lee	1	
Anson		1	Lenoir		
Ashe			Lincoln		1
Avery			McDowell		
Beaufort	1		Macon		
Bertie			Madison		
Bladen			Martin	1	
Brunswick		2	Mecklenburg	29	14
Buncombe	2	8	Mitchell		
Burke		2	Montgomery		
Cabarrus		1	Moore		1
Caldwell		1	Nash		3
Camden			New Hanover	1	4
Carteret		1	Northampton		
Caswell			Onslow		
Catawba			Orange	3	1
Chatham			Pamlico		
Cherokee			Pasquotank		
Chowan			Pender		1
Clay			Perquimans		
Cleveland	1	2	Person		
Columbus			Pitt		
Craven		2	Polk		
Cumberland		1	Randolph		
Currituck			Richmond	1	
Dare			Robeson		1
Davidson			Rockingham	2	1
Davie			Rowan		2
Duplin			Rutherford		2
Durham	2	2	Sampson		
Edgecombe			Scotland		1
Forsyth	3	7	Stanly		1
Franklin			Stokes		
Gaston	2	1	Surry		1
Gates			Swain		
Graham			Transylvania	1	
Granville	1		Tyrrell		
Greene			Union		1
Guilford	5	7	Vance	1	
Halifax	1		Wake	4	5
Harnett			Warren		
Haywood		1	Washington		
Henderson	1	2	Watauga	1	
Hertford			Wayne		
Hoke			Wilkes		
Hyde			Wilson	1	
Iredell	1	3	Yadkin		
Jackson			Yancey		

N.C. Brownfields - Project Locations



View the interactive version of this map online at http://www.ncbrownfields.org/nws/project_locations.htm

2006

ENVIRONMENTAL REVIEW COMMISSION

MINUTES

MINUTES
ENVIRONMENTAL REVIEW COMMISSION
14 February 2006

The Environmental Review Commission (ERC) met on Tuesday 14 February 2006 at 9:30 a.m. in Room 544 of the Legislative Office Building. Senator Clodfelter presided.

The following members were present: Senators Albertson, Clodfelter, Dorsett, Forrester, Swindell, and Weinstein; and Representatives Gibson, Hackney, Harrell, Harrison, Justice, McComas, and Warren. Mr. George Givens, Commission Counsel; Mr. Jeffrey Hudson, Assistant Commission Counsel; Ms. Jennifer McGinnis, Assistant Commission Counsel; Ms. Susan Iddings, Assistant Commission Counsel: Mr. Tim Dodge, Commission Analyst; and Ms. Dot Waugaman, Commission Clerk, were also present.

On 1 February 2006, notice was sent to members and interested parties via e-mail and regular mail. A copy of the notice is included in the attachments to these minutes as **Exhibit A**. Copies of the agenda for the meeting and visitor registration sheets are included in the attachments as **Exhibits B** and **C**.

Senator Clodfelter called the meeting to order. He mentioned the death of long time member Senator Hamilton Horton on January 31. He then asked Mr. Givens for comments on the agenda. The planning meeting for this meeting was held on Monday 6 February. Mr. Givens announced that four reports received since the previous meeting were distributed to each member at their desk as read only reports:

- Basinwide Water Quality Management, dated 1 October 2005 (see **Exhibit D)**
- Annual Report on increasing the use of alternative-fueled and low emission light duty cars and trucks in privately owned fleets, dated 10 February 2006 (see **Exhibit E**)
- Report on Implementation of Senate Bill 953, NC Department of Transportation, dated 14 February 2006 (see **Exhibit F)**
- Fish Kills Report, 15 dated October 2005; note particularly an addendum that responds to questions brought to the Commission by Representative McComas at the previous meeting concerning a menhaden fish kill at Wrightsville Beach in December 2005

Three additional reports are being held for presentation at future meetings. They include:

- Annual report on permitting and inspecting animal waste management system (Annual Waste Compliance Report)
- Annual report on compliance enforcement of water quality laws
- Semi-annual report on the effectiveness of the pilot program to inspect animal waste management systems by the Division of Soil and Water Conservation

Mr. Givens noted other meetings of interest. The Joint Legislative Commission on Seafood and Aquaculture meets Tuesday 28 February 2006. The Legislative Commission on Global Climate Change meeting will meet Tuesday 7 March. A series of working group meetings on Risk-Based and Limited Liability are noted on the agenda for today's meeting. In answer to a question from Senator Clodfelter, Mr. Givens said he would be sending out a notice with a proposed date for the working group on Phase II stormwater issues.

The animal waste management agenda items had to be withdrawn from the agenda because the report is not yet ready. Dr. Mike Williams has indicated he expects to complete the report prior to 1 March. The co-chairs have agreed to have an additional ERC meeting on Wednesday 8 March at 9:30 a.m. in Room 544 of the LOB to focus on animal waste management issues. The next regularly scheduled meeting is Tuesday 14 March and Wednesday 15 March. The subject of the two-day meeting

is parks and recreation issues. The current plans are to meet for those two days at the North Carolina Zoological Park in Asheboro.

Senator Clodfelter recognized Mr. Brock Nicholson, Deputy Director of the Department of Environment and Natural Resources (DENR), to provide an overview of the federal vehicle emission standards, which are currently applicable in North Carolina (see **Exhibit H** for his PowerPoint presentation. Several acronyms were used in his presentation:

- LEV – Low Emitting Vehicle
- ULEV – Ultra Low Emitting Vehicle
- SULEV – Supra Ultra Low Emitting Vehicle
- ZEV – Zero Emitting Vehicle
- PZEV – Partial Zero Emitting Vehicle
- ATPZEV – Advanced Technology Partial Zero Emitting Vehicle

The regulations cover cars and medium duty trucks up to 14,000 pounds in California, and require a statewide fleet average for hydrocarbons.

Representative Harrison asked what determines what part of the California standards North Carolina will adopt. There is still debate as to whether a state can or should leave out a component of the California standards. If we select the California rule, and if the Vehicle Global Warming Law, AB 1493, know as the Pavley regulation, goes into effect in California, the regulation would be in effect in North Carolina. Mr. Givens announced he had distributed a useful paper entitled, "Legal Issues Pertaining to the Adoption of California Auto Emission Standards (Including GHG Standards) by Other States", prepared by David Bookbinder of the Sierra Club (see **Exhibit I**). In addition to the requirement that a third vehicle cannot be created, there are some other legal and practical considerations about whether there would be a challenge if some of the aspects of the California program were not adopted. There is also a question about which fleet would have to be averaged: California's, or would our Division of Motor Vehicles have to establish statistics for the fleet as sold in North Carolina?

Senator Clodfelter next recognized Ms. Kay Prince, Chief of the Air Planning Branch, United States Environmental Protection Agency (EPA), to comment on motor vehicle emissions standards from the federal point of view (see **Exhibit J**). Ms. Prince stated that EPA is supportive of states adopting the California car standards, however the Agency does not prescribe the adoption of the standards. It is a state decision. EPA has not made a decision about issuing a waiver for the Pavley provision. They have taken the position that a state can adopt the California standards without the ZEV requirement. She added that if a state is going to take credit in their State Implementation Plan (SIP) for the California car rule, the SIP credit must be modeled appropriately. If North Carolina chooses to adopt the California standards, EPA would urge them to coordinate early with the regional office on how to model that appropriately.

Senator Swindell asked where the monitoring stations will fit into the program. Ms. Prince replied that the Division of Air Quality operates a number of monitoring stations around the state to measure ambient air quality for various pollutants. They are the means whereby it is determined how well we are doing and what additional steps need to be taken. They measure all air pollution, from both stationary and mobile sources, so changing the technology of mobile sources of cars would not affect the monitoring.

Ms. Prince reiterated that the federal and California programs are based on entirely different approaches for emission reductions from vehicles. It is difficult to predict how much reduction will occur with the California program compared to the EPA federal tier II program. The standards are based on grams/mile; therefore, with the California program how many miles are traveled makes a difference in the reduction. The extensive monitoring network measuring ambient air quality generally exceeds the minimum standards set by EPA. Ms. Prince added that ozone is always formed as a secondary pollutant, and fine particulate material can be formed as a secondary pollutant. It is difficult to trace the source of

the pollution. Any emission reduction would show a decrease in the levels at the ambient air quality monitoring stations.

Senator Clodfelter recognized Ms. Coralie Cooper, Transportation Program Manager, Northeast States for Coordinated Air Use Management (NESCAUM), Boston Massachusetts, for an overview of northeast states low emission vehicle programs (see **Exhibit K** for a copy of her PowerPoint presentation), how the states have implemented the programs, what they have gone through in terms of modeling, their enforcement, and how their programs differ somewhat from state to state. The six New England states, New York and New Jersey are members of NESCAUM. NESCAUM's work plan is established by the member states. The standards need to be the same from state to state, but there is flexibility in enforcement. Each state has its own fleet-wide average that must be met, and the state Department of Environmental Protection (DEP) calculates whether or not each manufacturer is meeting the fleet-wide average at the end of every year. The calculation of the fleet-wide average is simple for the northeast states: for Massachusetts there is a single Excel spread sheet. Each manufacturer tells the state how many of four different categories of vehicles they sold in the year. The state then multiplies the number of vehicles times the emission standard for that category, bringing them a weighted average.

Representative McComas asked if legislation has been passed to allow golf-cart type electric vehicles to be used on city streets. Ms. Cooper replied that some of the states have changed the laws so the low-speed electric vehicles can operate on certain roads so they would qualify to get air quality credits. Others have not. Mr. Givens commented that the policy question is whether North Carolina should get into that system of accounting. If North Carolina did, the state would get some credit for the electric vehicles, depending on where they are allowed to go. Another question is tax breaks for certain types of vehicles. Senator Clodfelter referred to a report of several pending pieces of legislation filed by members of ERC that deal with credits on hybrid fuel or electric vehicles. Representative McComas commented that incentives would be good, particularly in the bigger cities where the air quality is poorest. Senator Clodfelter suggested the Commission take a look at the pending bills that give incentives for cleaner vehicles at the meeting just prior to session. He mentioned a prototype vehicle manufacturer relocated to North Carolina from California that produces battery-powered vehicles. They use off-the-line vehicles and convert the power train to total battery power. Some of the brands are Chrysler Crossfire, PT Cruiser, Volkswagen, etc. He added that the manufacturers told him they relocated to North Carolina because the talent pool in the automotive industry is stronger here than in California.

Representative Harrison asked if any states have addressed the issue of receiving less gas tax money because the cars use as much of the roads, but less gasoline. Ms. Cooper replied that with the electric vehicles, the amount was minimal; however, if the Pavley regulation is accepted by EPA, it would be more of an issue. She said that there is an offset; people have more disposable income for other consumer goods and services. She said she would get the figures on the amount of gas tax lost from the NESCAUM states for the Commission.

Ms. Cooper went on to say that all seven northeast states in the NESCAUM region that have adopted the LEV program have finalized their so-called Pavley regulation at the end of 2005, so they will be in line with California to have the standards in place in 2009. She told the Commission that there is a cost to the states for implementing the program. Vermont has a ½ time equivalent position at the DEP to oversee the program; New York has four staff people. The number varies by state depending on the size of the state.

Representative Harrison asked what other states have adopted the regulations. Ms. Cooper replied that Washington, Oregon, and Pennsylvania have either adopted or are in the process of adopting them.

Senator Clodfelter recognized Elizabeth Ouzts, State Director, Environment North Carolina and Brendan Bell, Associate Washington Representative, Sierra Club, to comment on motor vehicle emissions standards from the environmental and conservation community (see **Exhibit L** for a copy of their PowerPoint presentation). Ms. Ouzts led off describing the broad support for cleaner cars. Mr. Bell said the eleven states that have adopted clean car standards have a little less than 35 percent of the new

vehicles sold in the United States. Federal Tier II standards are cleaner than Federal Tier I standards; LEV II standards are cleaner than the original LEV standards, and the LEV II standards are cleaner than the federal Tier II standards.

Ms Ouzts continued the presentation. She said that the clean cars program is the next step to clean healthy air in North Carolina. The proponents advocate Option III-IV on Mr. Nicholson's slide: the California program including both the LEV (clean cars) and the ZEV (advanced technology vehicles) components. The current draft legislation on clean cars would allow the legislature to return to the issue to decide whether or not it wants to regulate greenhouse gas (CO2) pollution. She said that under the clean cars program, if it began in 2009, an estimated 95 percent of the cars on the road would be clean conventional cars and would include the advanced technology cars that are clean conventional gas burning cars. The increased cost would range between $100-$300.

Senator Clodfelter recognized Susan King Cope, Vice President of Programs and Advocacy, American Lung Association of North Carolina to comment on health impacts related to emissions from motor vehicles (see **Exhibit M** for a copy of her statement and **Exhibit N** for a fact sheet on health impacts).

Senator Dorsett asked if there are certain counties in the state that have a higher incidence of asthma than others. Ms. Cope said there are some pockets, particularly in Rowan and Cumberland Counties, in the mountains and in the coastal areas. Senator Albertson asked for a map showing the incidence of asthma across the state.

Senator Clodfelter recognized Mr. Gregory Dana, Vice President for Environmental Affairs, Alliance of Automobile Manufacturers, and Mr. John Policastro, General Counsel for the North Carolina Automobile Dealers Association. Mr. Dana told the members he had worked for EPA for 13 years regulating the automobile industry, and since 1986, he has worked for the auto industry. He stated the position of the Automobile Manufacturers is against making the California standards standard in North Carolina. He commented on some of the presentations made prior to his. Pennsylvania, purported to be on the way to requiring the California standards, has had several bills introduced prohibiting the state from doing so. Some Oregon lawmakers sued the governor as he vetoed a line item in the budget that would prevent him from spending money to move toward adopting the higher standards. He said adapting trucks to cleaner standards is more expensive because it takes more control equipment to meet the same standard. Trucks have higher funnel areas and carry heavier loads. Although it may take minimum resources to track the sales of cars on the state's side, it takes a lot more resources for the automobile manufacturers to keep track of how they are doing in meeting the standard.

Senator Clodfelter asked if the standard would require the state to use a fleet average, or would it be sufficient to say that all cars sold and registered in North Carolina must be LEV II compliant. Mr. Dana replied the state would have to do either federal or California standards. The fleet end log average is a fundamental part of the California program. A California sales mix is different than other states. If only California-compliant cars are sold in North Carolina, they may not meet the fleet average for the state.

Senator Clodfelter asked if North Carolina did have the California standards, which fleet average, would be easier for the automobile manufacturers to manage. Mr. Dana said he would not know without looking at the sales mix. Senator Clodfelter said he would be interested to know.

Mr. Dana referred to a chart (see **Exhibit O**) that showed a computer model, called the mobile model, which EPA uses to model motor vehicle emissions. The chart compares the previous federal standard (NLEV, National Low Emission Vehicle Program), a voluntary program the automobile industry agreed to meet with EPA in 2001 as the base line. The chart was made by Air Improvement Resources, an independent modeler hired by the automobile industry. Air Improvement Resources uses the EPA's assumption set for the model. There is about a 1 percent benefit from California LEV in 2020, showing there is a small incremental benefit between the federal and the California car in out years. Therefore, the automobile manufacturers do not believe it is worth the time for North Carolina to invest in the California standard. Senator Clodfelter asked why there would be no difference between the California

LEV II and the California LEV II without ZEV mandate. Mr. Dana replied the ZEV mandate does not have any impact on air quality. He added that the manufacturers are building cars so close to zero emissions today, that building a true zero emission vehicle means very little to air quality. The Clifornia Air Resources Board's (CARB) own data, back in 1990, showed the ZEV mandate would get a reduction of 13.2 tons per day. By 2003, it would get a reduction of less than 2 tons per day because no one knew how well the manufacturere could reduce emissions on conventional cars. The difference between true 0 and the small increment is very small. Mr. Dana said the industry is making gasoline cars that are PZEV incredibly clean. The first PZEV certified was a Nissan Ultima in California, about 3-4 years ago. The PZEV cars are smaller, 4-cylinder equipped cars to meet the PZEV standard. They need to meet a zero evaporative standard. Evaporative emissions are caused by fuel blowing off the fuel tank or the fuel lines. With bigger fuel tanks, it is much more difficult to meet the PZEV standard. EPA is on a court-ordered schedule to publish rules to reduce emissions from motor vehicles in two ways by 2007. It will reduce the evaporative emissions further than they are today, and it will reduce cold temperature (50 degree) tail pipe hydrocarbon emissions. The standards will take effect in the 2010 model year. If the model is redone at that time, and everything else stays the same, the difference will be almost nothing.

Mr. Dana next discussed the cost of cars. The costs for federal and California standard cars are different but very close. Because the standards are so similar, the same basic control technology is used on both federal and California cars today, so the cost differential is small. The difference exists because the standards are different: the California standard averages on hydrocarbons and the federal standard averages on NOx emissions. North Carolina needs to control NOx emissions. The federal program is more robust in NOx emissions than the California program. The cost is very similar for the LEV and Tier II vehicles today. Some manufacturers make "50-state cars", which meet both California and federal standards. Some companies selling in the low end of the market may not sell 50-state cars. Senator Clodfelter asked Mr. Dana to give staff a list of what companies are currently selling nation-wide cars that are both California and federal compliant.

Mr. Dana then explained the Pavley regulation, AB 1493. It regulates greenhouse gases for motor vehicles. It is to take effect in 2009, although it may be delayed because of a waiver proceeding. That standard, if you convert the CO2 number in 2016 to a miles per gallon number, it is 43.2 miles per gallon. The current fleet average fuel economy requirement is 27.5 miles per gallon. While the cost of the LEV program is close for the federal and California program, it is the cost of the greenhouse gas standards that is significant. The Alliance had a contractor do a 40-page paper looking at the cost analysis done by CARB (see **Exhibit P**). Even if North Carolina does nothing to adopt Pavley, but does adopt California LEV, and the Alliance loses the lawsuit they filed in California, North Carolina will get Pavley cars, because the manufacturers will have to build the cars for California to meet that requirement. Toyota said that if they had to meet the Pavley standard today, they could sell only the Echo and the Prius in California. The Alliance believes CARB is incorrect in assuming the industry can simply add technology to cars to make them meet the standard. Mr. Dana said the industry spends $15 billion a year in research and development to make cars cleaner, safer and better. He added there are four models of cars with synergy activation (when one-half the cylinders are shut off in a V-8 or V-6 car in low power mode such as cruising on a highway), resulting in a 12-20 percent improvement in fuel economy. The industry light truck fleet is facing a federal standard of 24.1 miles per gallon by 2011, an increase of almost 4 miles per gallon.

Mr. Dana brought a list of advanced technology vehicles to the attention of Commission members (see **Exhibit Q**). It lists 37 vehicles now on the road that are considered advanced technology vehicles, including biodiesel, hybrid, ethanol, and natural gas vehicles. Those vehicles are available in North Carolina. There are also more than 29 advanced technology vehicles in development at the present time. No government regulation is driving demand for hybrids today. Senator Clodfelter asked if the state adopted the California standard more hybrid cars would be made available to North Carolina. Mr. Dana answered that the way to get more hybrids to the state is to provide more tax incentives.

Mr. Dana said if North Carolina adopts California LEV II, theywould cede control of the state's motor vehicle mix to the state of California. California has the only extreme non-attainment area in the country, the Los Angeles basin. North Carolina has a much less severe non-attainment problem than

California does. The problem is that the attainment dates are not in line with all the emission control programs that are in place. The Tier II program being implemented since 2004 becomes fully effective in 2020. EPA has in place rules on heavy duty trucks to reduce NOx and particulate matter emission matter from those vehicles by 90-95 percent. They start in 2007 and phase in over 15-20 years. There are controls for air toxics on 110 types of sources across the country to reduce air toxics. There are other EPA rules going into place now that take effect in 2010 and later. EPA also has rules on off-road engines to control emissions, and sulfur has been controlled out of fuel, both gasoline and diesel. There are a whole host of emission control programs that will bring tremendous reductions of emissions in the 2015-2020 time frame. Unfortunately all the required attainment dates are 2009-2010. Every state faces the same problem. The federal program has resulted in cleaner air since the Tier II standards were put in place. There has been an 80 percent reduction in NOx emissions from previous year cars. Whatever the state does, the newer cars will continue to improve the air quality in the state, but something will have to be done by local industries to meet the attainment standards in 2009 and 2010. Adopting the California standard or keeping Tier II standard will not help the attainment problem.

There are a number of impediments to selling a light duty diesel vehicle in California, which can be sold under the federal program. If states are looking at following Pavley standards to improve the fuel efficiency of the fleet, they can do so by adopting LEV, which prohibits the industry from selling light duty diesels in the fleet. A new light duty diesel today gets 20-40 percent better fuel economy than a comparable gasoline engine. The diesels sold in Europe are very advanced technology diesels with very high pressure injectors. There is no smoke, no odor, and no soot. The cars are quiet and have tremendous performance. Over 60 percent of the luxury cars today are sold with diesel engines, because diesels have a tremendous amount of torque. Mr. Dana said he has driven a 7 series BMW (the biggest one they make) with a V-8 diesel engine that got 38 miles per gallon.

Mr. Dana contested the pie chart shown earlier that showed cars being 90 percent of the emission problem. He said that before current standards, cars made up 40-50 percent of the urban pollution problem. When the standards are fully phased in in 2020, the automobile industry will make up about 8 percent of the urban pollution problem.

Representative Justice asked about the disposal of the batteries of hybrid and electric vehicles. Mr. Dana replied that the lead acid batteries are 97 percent recyclable today because of the $1 fee attached to batteries when they are purchased. He hopes the same thing will be done with the nickel metal hydrite and lithium ion batteries in other cars today.

Mr. Dana also provided a one page paper on CO2 fuel economy key points (see **Exhibit R**). He ended his presentation by saying that California standards would get North Carolina very little if any air quality benefit. With that, whether it is done or not, North Carolina will have Pavley cars. They will be much less functional for the average consumer. Trucks will be lighter, will carry or tow less of a load. Cars will be smaller and lighter. Consumers will pay a premium of $1,000-$3,000 for the cars, getting less functional vehicles for more money.

Senator Clodfelter recognized Mr. Policastro, who spoke on behalf of the nearly 700 new car and truck dealers in North Carolina in support of Mr. Dana's comments. He added that their concerns are in the economical and practical implications of such a proposal, which would make North Carolina an island. Its neighbors of South Carolina, Virginia and Tennessee would not have the programs, and the dealers are concerned with the competitive disadvantage. North Carolinians would also have to buy lower standard, smaller cars, at increased cost. The Alliance supports market driven incentives to increase the availability and purchase of alternative fuel vehicles. The current federal standards are working well.

Senator Clodfelter asked if the state had a different standard than South Carolina and if a person could register a car in North Carolina only if it met North Carolina standards, would that drive sales back to North Carolina. Mr. Policastro said it probably would negate the unfair competition, but there are other factors. Dealers often trade cars across state lines to get a specific color or equipment. A Charlotte dealer selling to South Carolina consumers would still be at a cost competitive disadvantage.

Senator Clodfelter recognized Mr. George Millsaps, Liaison for Productivity and Legislative Affairs, Department of Administration, for comments on the costs of compliance by the State Motor Fleet with a low emission vehicle program that would require motor vehicles sold in North Carolina to meet the same motor vehicle emissions standards required for motor vehicles sold in California. Mr. Millsaps said the State does have the largest fleet of vehicles in the state: 8,500 vehicles. The fleet is both efficient, effective, and environmentally friendly. Over 4,800 of the vehicles are alternative fuel, low emission and ultra-low emission vehicles. Included in that figure is in excess of 4,600 E-85 vehicles. The Division purchased no virgin gasoline, either E-10 or E-85. They would like to see that expanded. The main car on the E-85 contract is being discontinued by the manufacturer. There are not any E-85 law enforcement vehicles available any where. For some reason, manufacturers have not chosen to sell or produce any E-85 hybrid vehicles. The fleet has 78 hybrids in the inventory with more on order. North Carolina is the third state in the nation to purchase hybrids. The State Motor Fleet leases the cars to state agencies as a self-supported entity. The range of rates is from $.25 to $.42 a mile; the average is closer to $27 to $.29 a mile. The rate includes all the purchase, maintenance, replacement, gasoline, oil, program administration and even insurance. They use rebuilt programs, economies of scale, purchase used federal surplus vehicles at about 38,000 miles. He added that they cannot find any data that will show moving to the California standards will decrease fuel efficiency and increase cost to the fleet. They do not have any data on any significant change in maintenance, nor do they believe the change would have a negative effect on resale or surplus value of the vehicles. They have not been able to determine actual incremental cost to themselves. The figures of additional cost they have from different sources range from $65 to $275 per vehicle. Based on that, the range of increase of cost to the State of North Carolina would be between $97,000 and $550,000 per year out of an agency budget of $45 million.

Mr. Millsaps summarized his remarks by saying that the change would not be significant enough for them to require a rate change to the agencies; thus there would be no impact on the general fund and no impact on agency costs. If vehicle maintenance got worse, and gasoline prices went up at the same time, a rate change might be required. He added that if the General Assembly goes forward with the California car standard legislation, the Department would like to participate but not be the lead in any rule-making or anything reducing the amount of miles that state employees would drive.

Senator Swindell asked if there have been any savings as the mileage at which they trade cars has decreased. Mr. Millsaps replied that they are identifying the cars that have maintenance issues and they get rid of them before the expensive repairs are needed. He believes it has had a beneficial effect on their costs.

Representative Gibson suggested Mr. Millsaps make the information discussed above available to local governments. Mr. Millsaps agreed to do so.

Senator Albertson asked if there is any information available to identify what health care costs are impacted by poor air quality, regardless of the source of pollution. Ms. Cope said she would get the information and provide it to the committee. Mr. Brendan Bell said for the state of Pennsylvania from all sources in their state, they estimate the health care costs at about $2 billion a year in additional costs because of poor air quality. Mr. Nicholson commented that EPA has considerable amount of health care cost information associated with not meeting the ambient air quality standards. It would be available on their website.

Senator Clodfelter asked if the emissions benefit of the California LEV standard is as it is portrayed in Exhibit L. Mr. Nicholson said there is quite a spread of results across the different analyses. He added that the more recent analyses have reduced the benefit. He said the important question is what is important to North Carolina. He answered that NOx is more important than VOC. A number of studies suggest that in 2020 the benefit would be in the 3-5 percent difference range. Some questions have been raised about the validity of the calculations. He said he has not seen any data that show it would not be a positive benefit. The federal Tier II level is close to the California LEV standard.

Representative Gibson asked if Mr. Nicholson would want to refute anything in the presentation made by Mr. Dana. Mr. Nicholson replied that the California LEV program is giving some degree of

additional benefit. Whether it is enough benefit to warrant adopting the program or not has not yet been determined.

Representative Hackney asked what Virginia has done with this issue. Mr. Nicholson replied that he does not know what they have done about air quality. He said they have made some attempts to mimic the North Carolina clean smokestacks legislation, but the attempts have failed in the legislature.

Representative Harrison asked what the overall average of poor air quality is due to mobile sources. Mr. Nicholson replied it is in the high 40 percent range for mobile sources and it was the same for stationary sources before the clean smokestacks legislation and the NOx eight-hour rule. He added that a comment made by Mr. Dana is realistic. The state is seeing considerably more NOx reduction from mobile sources due to the fleet turnover into the Tier II program or the California LEV program. The heavy duty diesel program will be a tremendous help when it kicks in in the 2007 model year. He went on to say that North Carolina has already taken two Section 177 actions to copy California, but by regulation, not by legislation.

Representative Gibson reminded the Commission members of the two-day meeting on 14 and 15 March, to be held in Asheboro. Mr. Givens reminded the members that the next meeting will be held on 8 March 2006. The topic for the 8 March meeting is animal waste management.

The meeting adjourned at 1:00 p.m.

Senator Daniel Clodfelter, Co-Chair
Presiding

Senator Charlie Albertson, Co-Chair

Dot Waugaman, Commission Assistant

Representative Pryor Gibson, Co-Chair

LIST OF EXHIBITS

Exhibit A	Notice of Meeting dated 1 February 2006
Exhibit B	Agenda of Meeting
Exhibit C	List of Attendees
Exhibit D	Basinwide Water Quality Management report
Exhibit E	Annual Report on Increasing the Use of Alternative-Fueled and Low Emission Light Duty Cars and Trucks in Privately Owned Fleets
Exhibit F	Report on Implementation of Senate Bill 953
Exhibit G	Fish Kills Report
Exhibit H	PowerPoint Presentation by Brock M. Nicholson, Division of Air Quality (DENR)
Exhibit I	Memorandum prepared by David Bookbinder, Sierra Club, concerning Legal Issues Pertaining to the Adoption of California Auto Emission Standards (including GHG Standards) by Other States
Exhibit J	PowerPoint Presentation by Kay Prince, Air Planning Branch, US Environmental Protection Agency
Exhibit K	PowerPoint Presentation by Coralie Cooper, Transportation Program Manager, Northeast States for Coordinated Air Use Management (NEWCAUM)
Exhibit L	PowerPoint Presentation Elizabeth Ouzts, State Director, Environment North Carolina; and Brendan R. Bell, Associate Washington Representative, Sierra Club
Exhibit M	Written Testimony on Clean Cars by Susan King Cope, American Lung Association of NC
Exhibit N	Fact Sheet on Air Quality and Health Impacts of Greenhouse Gas Emissions and Global Warming, American Lung Association of NC
Exhibit O	Graph Showing NC Summer Season On-Road Inventory of VOC and NOx
Exhibit P	Cost of California Greenhouse Gas Requirements
Exhibit Q	Advanced Technology Vehicles Take to the Road, from Alliance of Automobile Manufacturers
Exhibit R	CO2/Fuel Economy Key Points

EXHIBIT A

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 733-2578
FAX: (919) 715-5460

SUSAN S. IDDINGS
ASSISTANT COMMISSION COUNSEL
401 LEGISLATIVE OFFICE BUILDING
(919) 733-6660

JENNIFER L. McGINNIS
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

DOT WAUGAMAN
COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 715-2525
FAX (919) 754-3232

JEFF W. HUDSON
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

TIMOTHY R. DODGE
COMMISSION ANALYST
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

1 February 2006

TO: Members of the Environmental Review Commission
Interested Parties

FROM: George F. Givens, Commission Counsel
Dot Waugaman, Commission Clerk

RE: **Notice of Commission Meeting**
Notice of Planning Meeting
Schedule of Future Meetings
Meetings of Interested Parties (605 Working Groups)
Additional Information

COMMISSION MEETING –14 FEBRUARY 2006:

The Environmental Review Commission (ERC) will meet at 9:30 a.m. Tuesday 14 February 2006 in Room 544 of the Legislative Office Building in Raleigh. The Commission will not hold a business meeting on Wednesday 15 February 2006. This date may be utilized, however, as an alternative meeting date in the event of inclement weather.

At the 14 February meeting, the Commission will begin or continue studies for which the Commission is responsible, hear reports from State agencies, discuss topics to be considered at future meetings, and attend to other matters. Listed below are potential agenda topics for this meeting. More specific information regarding the agenda for the 14 February meeting of the Commission will be developed at the staff planning meeting discussed below.

POSSIBLE AGENDA TOPICS:

Air Quality:

1) Issues related to the implementation of a low emission vehicle program that would require motor vehicles sold in this State to meet the same motor vehicle emissions standards required for vehicles sold in California

2) Annual report on increasing the use of alternative-fueled and low-emissions light-duty cars and trucks in privately owned fleets (G.S. 143-215.107C(c))

3) Annual report on development and implementation of a plan to reduce vehicle miles traveled by State employees and vehicle emissions resulting from job-related travel, including commuting to and from work (G.S. 143-215.107C(d))

4) Annual report on development and implementation of a plan to reduce vehicle miles traveled by private sector employees and vehicle emissions resulting from job-related travel, including commuting to and from work (G.S. 143-215.107C(e))

Solid and Hazardous Waste Management:

5) Measures to reduce the quantity of mercury that is released into the environment that impacts natural resources and that harms the public health of the citizens of the State

6) Annual report on the mercury minimization plan prepared by DENR (G.S. 130A-310.57)

7) Annual report on the Dry-Cleaning Solvent Cleanup Program (G.S. 143-215.104U)

8) Semiannual report on agency litter enforcement, litter prevention, and litter removal efforts (G.S. 147-12(b))

Water Quality:

9) Discussion of issues related to the evaluation of alternative animal waste management technologies to determine whether those technologies are environmentally superior and economically feasible

10) Annual report on permitting and inspecting animal waste management systems/Animal Waste Compliance Report (G.S. 143-215.10M)

11) Annual report on the compliance/enforcement of water quality laws for facilities that discharge into surface waters (G.S. 143-215.9A)

12) Semiannual report on the effectiveness of the pilot program to inspect animal waste management systems by the Division of Soil and Water Conservation (S.L. 2003-340, Sec. 6.2)

13) Report on whether to continue or expand the pilot program to inspect animal waste management systems by the Division of Soil and Water Conservation (S.L. 2005-276, Sec. 12.7(c))

14) Annual report on fish kills within the preceding year (G.S. 143B-279.7(c))

15) Annual report on Basinwide Water Quality Management Plans (G.S. 143-215.8B)

General/Miscellaneous:

16) Issues related to actions available to governmental agencies to respond to violations and noncompliance by licensed environmental professionals and consultants

17) Other matters related to the Commission's powers and duties under G.S. 120-10.43

PLANNING MEETING:

To facilitate development of the agenda for the 14 February meeting of the Commission, to plan for subsequent meetings of the Commission, and to receive input from interested persons regarding the work of the Commission, the Commission Counsel will hold an informal planning meeting at **2:00 p.m. on Monday 6 February 2006 in Room 605 of the Legislative Office Building**. Persons who wish to participate in the development of the agenda for meetings of the Commission, or who are interested in any matter before the Commission, are invited to attend.

SCHEDULE OF FUTURE MEETINGS:

Below is a schedule of meetings of the Environmental Review Commission for February through May 2006. This schedule is tentative and subject to adjustment. For planning purposes, however, please reserve these dates. Please note the following:

1. This schedule has been developed in anticipation of the need for at least one full-day business meeting each month to address the regular workload. In addition, it allows for at least one joint meeting with other oversight entities, including the Joint Legislative Commission on Seafood and Aquaculture, the Joint Legislative Transportation Oversight Committee, and the Joint Legislative Utility Review Committee. It includes enough days to allow for the possibility of one or more optional field trips and for cancellations as a result of hazardous weather conditions.

2. Commission meetings normally begin at 9:30 a.m., include a lunch break, and run until mid-afternoon. Please plan on meeting from 9:30 a.m. until at least 3:30 p.m. Unless otherwise announced, the Commission will meet in room 544 LOB.

3. To facilitate development of the agenda for meetings of the Commission and to receive input from interested persons regarding the future work of the Commission, the Commission Counsel holds informal planning meetings for staff and interested parties. Commission members are not expected to attend these meetings. Only one staff planning meeting is scheduled per month, regardless of the number of scheduled meetings of the Commission. Unless otherwise announced, public staff planning meetings will be held in room 605 LOB.

4. The 2006 Regular Session is scheduled to begin at 12:00 noon on Wednesday 9 May 2006. The Commission may meet shortly after the beginning of the session to complete work and to consider any legislative proposals and recommendations.

Commission Meeting	**Staff Planning Meeting**
Tuesday 14 February 2006	2:00 p.m. Monday 6 February 2006
Tuesday 14 and Wednesday 15 March 2006	*10:00 a.m. Thursday 2 March 2006*
	(Please note change in date and time)
Tuesday 11 and Wednesday 12 April 2006	2:00 p.m. Monday 3 April 2006
Wednesday 3 May 2006	10:00 a.m. Thursday 27 April 2006
Monday 8 May 2006	

MEETINGS OF INTERESTED PARTIES (605 WORKING GROUPS):

The Commission Counsel will hold meetings of interested parties on specific topics as indicated below:

Risk-Based/Limit Liability for Environmental Cleanups Working Group
2:00 p.m. Monday 13 February 2006 – 605 Legislative Office Building
2:00 p.m. Monday 6 March 2006 – 605 Legislative Office Building

ADDITIONAL INFORMATION:

If you have questions related to the Commission, please feel free to contact the Commission Counsel or other Commission staff at (919) 733-2578.

EXHIBIT B

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 733-2578
FAX: (919) 715-5460

SUSAN S. IDDINGS
ASSISTANT COMMISSION COUNSEL
401 LEGISLATIVE OFFICE BUILDING
(919) 733-6660

JENNIFER L. McGINNIS
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

DOROTHY M. WAUGAMAN
COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 715-2525
FAX: (919) 754-3232

JEFF W. HUDSON
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

TIMOTHY R. DODGE
COMMISSION ANALYST
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

AGENDA
9:30 a.m. Tuesday 14 February 2006
Room 544 Legislative Office Building

1. Call to order
   Senator Daniel G. Clodfelter, Presiding

2. Introductory remarks by Cochairs
   Senator Charles W. Albertson
   Senator Daniel G. Clodfelter
   Representative Pryor A. Gibson

3. Report to the Commission and explanation of agenda items
   George F. Givens, Commission Counsel

4. Discussion of issues related to the implementation of a low emission vehicle program that would require motor vehicles sold in this State to meet the same motor vehicle emissions standards required for motor vehicles sold in California

   Overview of federal motor vehicle emissions standards and California motor vehicle emissions standards
   Brock M. Nicholson, Deputy Director
   Division of Air Quality, Department of Environment and Natural Resources (DENR)

   Comment on motor vehicle emissions standards from the United States Environmental Protection Agency
   Kay Prince, Chief
   Air Planning Branch; Air, Pesticides, & Toxics Management Division; Region IV; United States Environmental Protection Agency

   Overview of northeast states low emission vehicle programs
   Coralie Cooper, Transportation Program Manager
   Northeast States for Coordinated Air Use Management (NESCAUM)
   Boston, Massachusetts

Comment on motor vehicle emissions standards from the environmental and conservation community

Brendan R. Bell, Associate Washington Representative
Sierra Club

Elizabeth H. Ouzts, State Director
Environment North Carolina

Comment on health impacts related to emissions from motor vehicles

Susan King Cope, Vice-President of Programs and Advocacy
American Lung Association of North Carolina

Comment on motor vehicle emissions standards from automobile manufacturers and automobile dealers

Gregory J. Dana, Vice President for Environmental Affairs
Alliance of Automobile Manufacturers, Washington, D.C.

T. John Policastro, General Counsel
North Carolina Automobile Dealers Association

Comment on the costs of compliance by the State Motor Fleet with a low emission vehicle program that would require motor vehicles sold in this State to meet the same motor vehicle emissions standards required for motor vehicles sold in California

George E. Millsaps, Jr., Liaison for Productivity and Legislative Affairs
Department of Administration

5. Commission discussion and announcements

6. Adjourn

SCHEDULE OF FUTURE MEETINGS:

Below is a schedule of meetings of the Commission for March 2006 through May 2006. This schedule provides for two-day meetings in March and April. Two days have been reserved in these months because it may be necessary or desirable to have a two-day meeting to accommodate the workload and to allow for the possible scheduling of joint meetings with other committees and commissions. This also allows for the possibility of one or more out of town meetings that could include field trips or site visits on one of the two days. This schedule is tentative and subject to adjustment.

To facilitate development of the agenda for meetings of the Commission and to receive input from interested persons regarding the future work of the Commission, the Commission Counsel holds informal planning meetings for staff and interested parties. The schedule of these public Commission staff planning meetings is also set out below.

Wednesday 8 March 2006
Location: 544 LOB
Staff Planning Meeting: 10:00 a.m. Thursday 2 March 2006 – 605 LOB (This meeting will also serve as the Commission staff planning meeting for the Commission meeting scheduled for 14 and 15 March 2006.)

Tuesday 14 March and Wednesday 15 March 2006
Location: North Carolina Zoological Park (Tentative)
Staff Planning Meeting: 10:00 a.m. Thursday 2 March 2006 – 605 LOB

Tuesday 11 April and Wednesday 12 April 2006
Location: 544 LOB / To be determined
Staff Planning Meeting: 2:00 p.m. Monday 3 April 2006 – 605 LOB

Wednesday 3 May 2006
Location: 544 LOB
Staff Planning Meeting: 10:00 a.m. Thursday 27 April 2006 – 605 LOB (This meeting will also serve as the Commission staff planning meeting for the Commission meeting scheduled for 8 May 2006.)

Monday 8 May 2006
Location: 544 LOB

OTHER MEETINGS:

The Commission Counsel will hold meetings of interested parties on specific topics as indicated below:

Risk-Based/Limit Liability for Environmental Cleanups Working Group (HB 1778/HB 1099/SB 1121)
2:00 p.m. Monday 6 March 2006 – 605 Legislative Office Building

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — February 14, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
John Sparrell	NCLM
DAVID BARNES	Poyner + Spruill
Andy Ellen	NCRMA
Mike Gaither	NCDMV License & T Left
Beau Memory	NC Sierra Club
Denise Chevy	Environmental Defense
Elizabeth Self	NC Sierra Club
JAMES HAVEN	GLOBAL WARMING INITIATIVES
Molly Diggins	NC Sierra Club
R. ROGERS	NCDENR - OCCA
Robin Smith	DENR
Kim Hibbard	NCLM

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — February 14, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
James Bennett	NCCAC
Wallace Finlator	A&O
Daren Bakst	John Locke Foundation
Mark Benson	Capitol Group
Kathy Hawkins	Progress Energy
Preston Howard	MCIC
Doug Hawes	NCPMA
Nancy Thompson	MCIC
Greg Nimmer	NC Conservation Network
CC Wheeler	Progress Energy
Ms Almond	Poyner + Spruill
Tom Egan	NC Env. Def + NCSEA

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — February 14, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
Lisa Martin	NC Home Builders Assoc.
Coralie Cooper	NESCAUM
Tommy Stevens	NCPC
Greg Dana	Alliance of Auto Mfrs.
Henry Jones	" " " " Attorney
John Pollard	NCADA
George Millsaps	DOA
Johanna Reese	DENR
Ross M. Smith	PCS Phosphate
Saran Owen	Civitas Institute
Kira Prophet	Capstrat

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — February 14, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
Steve Wall	DENR
Dan Burr	OSBM
Donna Cox	OSBM
Susan King Cope	American Lung Association of NC
Amy Fullbright	Hunton & Williams

EXHIBIT D

NCDENR

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

Oct. 1, 2005

William G. Ross Jr., Secretary

To: Sen. Dan Clodfelter
Sen. Charlie Albertson
Rep. Pryor Gibson

From: Secretary Bill Ross

Subject: Basinwide Water Quality Management

G.S. 143-215.8B(d) requires the Department of Environment and Natural Resources each year to submit to the Environmental Review Commission a report on the development and implementation of basinwide water quality management plans. Attached is this year's report. If you have any questions, please contact Darlene Kucken at 919-733-7015.

1601 Mail Service Center, Raleigh, North Carolina 27699-1601
Phone: 919-733-4984 \ FAX: 919-715-3060 \ Internet: www.enr.state.nc.us/ENR/

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Annual Report from the Basinwide Planning Program

For the Period of October 1, 2004 through September 30, 2005

I. Progress in Developing and Implementing Basinwide Water Quality Plans

A. Public Outreach/Involvement

The Basinwide Planning Program finalized the first cycle of basin plans in May 1998. The second cycle of plans was completed in March 2003. The third cycle of basinwide water quality plans is well underway, with the finalization and Environmental Management Commission approval of the *Neuse (July 2002), Lumber (December 2003) Tar-Pamlico (March 2004), Catawba (September 2004), French Broad (April 2005), New (October 2005) and Cape Fear (October 2005) River Basinwide Water Quality Plans*. Completion of the remaining eight third cycle plans is well underway. Activities related to gathering formal public input on the basinwide plans during October 2004 through September 2005 are presented below.

River Basin	Plans Approved by Environmental Management Commission	Public Review
French Broad	April 2005	February 2005
New	October 2005	August 2005
Cape Fear	October 2005	May 2005

B. Coordination and Collaboration Activities Related to Basinwide Planning Implementation

Many additional activities have occurred over the past year that are not tied to a specific basin, but rather can be applied to the program as a whole. Some of the more significant activities are as follows.

- In an effort to assure Basinwide Plan implementation and to increase coordination among Division of Water Quality staff and other agencies, meetings to discuss implementation needs are held regularily for each river basin. At least one meeting has been held with each regional office staff during this reporting period to discuss the Implementation Packet for each river basin covered by the regional office. Central office staff from various units may attend these meetings with Basinwide staff, or further coordination is conducted with central office staff as follow-up to the meetings.
- Additional coordination is conducted with other agency personnel and local watershed organizations as needed to discuss specific management strategies and to assess progress being made to implement these strategies. These meetings are also

used as an opportunity to share more information and jointly develop appropriate management strategies to address specific problems.

- Basinwide staff coordinate with the Ecosystem Enhancement Program staff on prioritization of targeted watersheds, getting input from local resource professionals, and utilizing information within the Phase I watershed scoping documents.
- Basinwide staff coordinates with state, federal and local agencies to obtain information pertinent to the basinwide plans, increasing the level of coordination and communication with these agencies and their participation in the development of basinwide plans. Discussions between the Basinwide Planning Program and the following agency staff: NC Division of Soil and Water Conservation, Environmental Health, Coastal Management, Water Resources, and Marine Fisheries, as well as the Wildlife Resources Commission and US Fish and Wildlife. These discussions have resulted in improved communication, sharing information and assuring appropriate information is presented in the basin plans.
- Basinwide information was provided to applicants for Clean Water Management Trust Fund and Sections 319 and 205(j) grants. Basin planners also provide technical reviews of applications.
- Basinwide plans, notices of public input opportunities, a river quiz and other relevant information to the basinwide planning program are updated on the web site to provide interested parties with more access to information (see http://h2o.enr.state.nc.us/basinwide/).
- Basinwide staff coordinates with the Classifications & Standards Unit and other federal and state agencies to develop management strategies for threatened and endangered species per DWQ rule.
- Basinwide staff continues to work with US Geologic Survey, NC Department of Transportation (NCDOT) and the Center for Geographic Information and Analysis in development of 1:24,000 National Hydrography Data (NHD) for North Carolina. Methods continue to be developed and tested to incorporate water quality and NCDOT data onto the NHD. The NHD will be a necessary data layer for submittal of future 303(d) impaired waters lists to the Environmental Protection Agency.
- Basinwide staff continues to develop information and improve skills related to Geographic Information System procedures. The result of these efforts will increase proficiency in mapping capabilities and analysis of data.
- Basinwide staff continues to enhance procedures, methods and database implementation pertaining to use support decisions on surface water quality status.
- Solicitation for water quality information from outside sources for the Chowan, Pasquotank, Neuse and Broad River basins was conducted in 2004. This activity entails mailing a flyer to all persons on the Planning Section mailing list database for these basins, including NPDES dischargers.
- Basinwide staff conducted public input phase for developing draft basinwide water quality plans for the Roanoke River basin through the Roanoke River Basin Association.
- Basinwide staff prepared draft plans for public review for the French Broad, New and Cape Fear River basins. This activity entails conducting data analysis and making use support decisions based on all available information, obtaining public input as

noted above, preparing text and maps by subbasin identifying watershed level water quality problems and potential solutions.

- Basinwide staff conducted public review and comment phase on the French Broad, New and Cape Fear River basins. This activity entails mailing notices of the availability of the draft plan on-line or by hard copy, meeting with various interested parties as noted above, editing the plan to reflect the comments as needed, and conducting final preparation of the plan for approval by the Environmental Management Commission.
- Basinwide staff continues to coordinate with river basin coalitions and watershed groups to identify high priority waters and issues of relevance to that group, and identify potential means to address the issues. This activity entails providing technical assistance and guidance on water quality initiatives developed and implemented at the local level.
- Basinwide staff continues to participate in FERC hydropower relicensing negotiation efforts for the Catawba and Yadkin-Pee Dee River basins. This activity entails assuring that water quality conditions in the basin are maintained or improved as a result of relicensing activities.
- Basinwide staff continues to review and provide comments to the DCM staff on content and accuracy of land-use plans related to water quality in coastal areas.
- The Basinwide Program has embarked on a collaboration effort with the Soil and Water Conservation Districts across the state as each basin plan is revised. This initiative is intended to meet the expectations of the DENR Strategic Plan Directive 3. Colloboration has begun on the French Broad, New and Roanoke River basins as start-up. The Districts provide watershed level information for the basin plans and contribute to implementation strategy development.

C. Some Plan Development and Implementation Activities Related to Specific River Basins

The following bullets, by basin, present some of the more significant activities and accomplishments over the past year to achieve the goals of the Basinwide Planning Program. The program had one of four basin planner positions vacant for much of this reporting period due to inability to fill the position.

Broad River –

- Held implementation/pre-sample meetings in two regional offices (Asheville and Mooresville) to review information pertinent to the upcoming Broad River plan.
- Presented basinwide information to the Soil and Water Conservation Districts (SWCDs) during the Spring 2005 Area Meeting. This provided the basin planners an opportunity to meet SWCD supervisors and staff and provide information related to the expanded interim review process.
- Provided comments to the U.S. Army Corps of Engineers and the DWQ Section 401 Unit related to a proposed dam on the First Broad River (August 2005). Comments included information gathered during the last basinwide planning process and comments from the TMDL Modeling Unit and the Environmental Sciences Section-Lakes Assessment Unit.

Cape Fear River –

- Continued to work with the Basin Discharger Coalitions in development of projects and coordination with basinwide planning efforts.
- Participate in modeling and Total Maximum Daily Load (TMDL) meetings with stakeholders in lower Cape Fear, Haw River/Jordan Reservoir and Durham.
- Participated in Cape Fear River Assembly and Division of Water Resources hydrologic model update.

Catawba River –

- Participate in quarterly meetings of the Catawba River Bi-State Task Force, often providing a presentation on status of Catawba River Basinwide issues.
- Provide input to the Catawba River Bi-State Task Force by serving on the Executive Committee.
- Participating in monthly meetings with DENR agency staff and other stakeholders and Duke Power representatives to continue to develop a Federal Energy Regulatory Commission (FERC) relicensing settlement agreement. Program supervisor and basin planner participate in the Water Quality Resource Committee and State Relicensing Team. Staff works with the agencies and Duke Power to assess the impacts of hydropower operations on water quality, wetlands and aquatic habitat. Studies are completed and reports are forthcoming. A 401 Certificate is required by DWQ and the FERC for renewing the expiring hydropower license. The new license will be a 30 or 40-year license.
- Began process to develop strategy to reverse impairment to Lake Rhodhiss. Parties involved include Western Piedmont Council of Government, Carolina Land and Lakes RC&D, SWCD, DENR, etc. Funding for the project was secured from Section 319 in 2005. Project will begin in spring 2006.
- Serve as technical advisor to Ecosystem Enhancement Program (EEP) led restoration project in Lower Creek in Caldwell County. Also consulted on community television program designed to advertise and explain the project to Caldwell County citizens.
- Provide coordination between EEP Lower Creek restoration project and Western Piedmont COG Rhodhiss Watershed Project.
- Serve on the grant selection committee for the Catawba River Conservation Easement Fund, funded by Crescent Resources.

French Broad River –

- Met with several watershed groups, local resource agency staff and the council of governments to review draft language and use support. This allowed the local groups and staff an opportunity to comment on the basinwide water quality plan prior to the public review and comment period. Because of this expanded interim review, the plan was more inclusive with more specific information and management strategies for a particular stream or watershed.
- Met with and obtained information from four of the eight county SWCDs. Information included: specific watershed and county water quality problems; water quality monitoring and management objectives; types and amount of funding

provided from the NC Agricultural Cost Share Program (NCACSP) and the NRCS Environmental Quality Improvement Program (EQIP).

- Attended the Fall 2004 and Spring 2005 SWCD Area Meetings to be introduced to the French Broad Coalition SWCD initiative and objectives. Basin planner is working with the Division of Soil and Water Conservation to begin working with the Coalition in the development of the French Broad River Implementation Plan.
- Three watersheds in this basin have been identified by the EPA Watershed Management Office as high priority watersheds. The basin planner is working with representatives from the EPA, DWQ and local resource agency staff in implementing watershed plans to improve and remove these watersheds from the 303(d) list of Impaired waters by the year 2012.

Hiwassee –

- Serving on the Technical Advisory board for Hiawassee River Watershed Coalition (HRWC).
- Active member on the Hiwassee Interagency Team. The team is working to enhance communication and coordination between States, hydropower operations, and watershed associations.
- Technical advisor to EEP and HRWC as they develop a restoration plan for the Hiwassee River Basin.
- Assisted DWQ biologists in determination of sample locations for the first comprehensive fish community sampling effort in the Hiwassee River basin by NC.
- Attend regular meetings with DWSC and the local district staff to coordinate planning efforts.
- Served as instructor in a Clean Water Contractors course hosted by HRWC.

Little Tennessee River –

- Coordinating Nonpoint Source Team of local, state, Indian, and federal agencies and local watershed organizations to conduct education and demonstration projects in the basin.
- In cooperation with the Nonpoint Source Team, hosting a mountain region water quality conference to kickoff the 2007 revision of the Basinwide Water Quality Plans.
- Serving on the technical advisory board for the Little Tennessee Watershed Association, Tuckasegee Watershed Association and Upper Cullasaja Watershed Association.
- Work with Watershed Association of the Tuckasegee River to develop a community based restoration effort on Greens and Savannah Creeks. Funds were secured through the Section 319 program and a special technical assistance grant from EPA's central office.
- Assisting three volunteer watershed associations to develop local watershed action plans for stream restoration.
- Attend regular meetings with DWSC and the local district staff to coordinate planning efforts.

Lumber River –

- Coordinated with the Lumber River Council of Governments regarding raising public awareness and identifying appropriate groups and agencies to aid in this effort.

Neuse River –

- Participated in Upper Neuse River Basin Association technical advisory committee for stream mapping protocols and Watershed Evaluation Tool to be used by local governments.

New River –

- Met with several of the watershed groups, local resource agency staff and the council of governments to review draft language and use support. This allowed the local groups and staff an opportunity to comment on the basinwide water quality plan prior to the public review and comment period. Because of this expanded interim review, the plan was more inclusive with more specific information and management strategies for a particular stream or watershed.
- Met with each of the three county SWCDs in the river basin. The basin planner reviewed use support methodologies, use support ratings and draft language with each of the Districts. The basin planner then received information from each of the Districts related to specific watershed best management practices that were installed with NCACSP or EQIP funds; water quality concerns; and special resources in each subbasin.
- Upon request by the High Country Council of Governments, DWQ presented the draft basinwide water quality plan to the public through a Public Information Session (August 2005). DWQ presentations included: information related to the basinwide planning process; use support methodology and water quality in the New River basin; NPDES permitting; classifications and standards; and stormwater management. Presentations were also given by two local watershed groups and the NRCS District Conservationist. The thirty-five people attending included a mix of resource agency staff, state and local government officials, water and land conservation groups, consulting agencie, and local citizens.
- Presented the draft *New River Basinwide Water Quality Plan* to the Soil and Water Conservation Commission during their annual District Employee's Conservation Workshop to showcase how DWQ and the SWCDs worked together to draft language for the plan.

Roanoke River –

- Participating heavily in Army Corps of Engineers (ACE) Section 216 study for the John H. Kerr Reservoir. Responsibilities include representation on several technical task groups including team leadership at meetings with multiple state and federal agencies and interest groups. Tasks have also included development of a Scope of Work for the Water Quality Task Group for monitoring and modeling efforts. The Section 216 is a collaborative study with the States of NC and VA and the ACE to conduct a comprehensive evaluation on impacts to the Roanoke River downstream from the Roanoke Rapids Dam. The study is composed of three phases. Phase One, the feasibility phase, is composed of several tasks such as gathering and evaluating

existing relevant data, identifying gaps in the existing relevant data, and identifying and evaluating existing methods and tools for study of the subject. Phase One, scheduled for twelve months, is near completion. Phase Two, the design phase, will begin after the feasibility phase and is scheduled for 24-36 months. Phase Three, the construction phase, will begin after the design phase and is scheduled for 24 months.

- Representation on weekly communications with the ACE and relevant agencies regarding flood control releases and subsequent flow reductions from J.H. Kerr Reservoir as they pertain to dissolved oxygen levels on the Roanoke River.
- Conducted one Implementation Meeting with DWQ staff.

Tar-Pamlico River–

- Participated in Upper Tar River collaboration effort with the Division of Soil and Water Conservation, National Resources Conservation Service, Conservation REP, Division of Forest Resources, Wildlife Resources Commission and Tar River Land Conservancy to identify and coordinate water quality target project areas and resources.
- Advised Wildlife Resources Commission, National Heritage Program, and US Fish and Wildlife Service staff in development of endangered species management plans for watersheds in the upper portion of the basin and the lower Swift Creek Watershed.

Watauga River –

- Participated in Nonpoint Source Management Team meeting. Group worked to identify problem areas, concerns and on-going voluntary actions.
- Provided information regarding the goals and objectives of basinwide planning to the Watershed Education Coordinator with the NC Cooperative Extension Service. The information is to be included in a documentary related to stormwater management in the Watauga River basin.
- Working with the SWCD and NC Cooperative Extension Service to plan a Watauga Roundtable Planning Session to review draft use support and management strategies in the river basin (November 2005). Discussion will involve the work and concerns of the local resource agency staff.

White Oak River –

- Presented and participated in water quality restoration strategies with the New River Round Table including the City of Jacksonville, MCB Camp Lejeune, Division of Soil and Water Conservation, Natural Resource Conservation Service, Cooperative Extension Service, and UNC-Wilmington.
- Conducted one Implementation Meeting with DWQ staff.

Yadkin-Pee Dee River –

- Participating in monthly meetings with DENR agency staff and other stakeholders, along with Progress Energy and Yadkin, Inc. (APGI) representatives to continue to develop a Federal Energy Regulatory Commission (FERC) relicensing settlement agreement and license application for both licensees. Program supervisor participates in both relicensing processes, working with the agencies and licensees to assess the impacts of hydropower operations on water quality, wetlands and aquatic habitat.

Studies are completed and reports are forthcoming. A 401 Certificate is required by DWQ and the FERC for renewing the expiring hydropower license. The new licenses will be 30 or 40-year licenses.

- Assist with stakeholder education for the High Rock Lake TMDL development processs
- Attend regular meetings with DWSC and the local district staff to coordinate planning efforts.
- Assisted Rowan County Soil & Water Conservation District with developing a project to address water quality concerns in Second Creek, a tributary to High Rock Lake. The project received a grant from the Section 319 program.

EXHIBIT E

NCDENR

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross, Jr., Secretary

February 10, 2006

To: Sen. Dan Clodfelter
Sen. Charlie Albertson
Rep. Pryor Gibson

From: Secretary Bill Ross

Subject: Annual Report on increasing the use of alternative-fueled and low emission light duty cars and trucks in privately owned fleets

G.S. 143-215.107C(c) requires the Department of Environment and Natural Resources each year to submit to the Environmental Review Commission a report on the use of alternative-fueled and low emission vehicles in private fleets. Attached is this year's report. If you have any questions, please contact Vicki Chandler at 919-715-0972.

cc: Keith Overcash
Vickie Woods for reader file

1601 Mail Service Center, Raleigh, North Carolina 27699-1601
Phone: 919-733-4984 / FAX 919-715-3060 / Internet: www.enr.state.nc.us/ENR/

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One NorthCarolina Naturally

Incentives to Increase the Use of Alternative-Fueled Vehicles in Privately Owned Fleets in North Carolina

2005 Report to the Environmental Review Commission N.C. General Assembly

North Carolina Department of Environment and Natural Resources
Division of Air Quality

Legislative Background

Section 4.5 of Session Law 1999-328 (Senate Bill 953) states:

"The Department of Transportation, the Department of Commerce, and the Department of Environment and Natural Resources shall jointly develop recommendations for incentives to increase the use of alternative-fueled and low emission light duty cars and trucks in privately owned fleets. The Department of Environment and Natural Resources shall submit these recommendations to the Environmental Review Commission on or before 1 February 2000. The Department of Environment and Natural Resources shall report on progress in increasing the use of alternative-fueled and low emission light duty cars and trucks in privately owned fleets to the Environmental Review Commission on or before 1 October of each year beginning 1 October 2001."

2005 Report

The following discussion highlights the Alternative Fueled Vehicle and Fuel activities since the 2004 report.

National Energy Policy Act

- The 2006 FY budget calls for new consumer tax credits for energy-efficient hybrid, clean-diesel, and fuel-cell vehicles. The energy bill will provide up to $3,400 per vehicle in tax credits to consumers for purchase of these cars, based on their fuel savings potential.

- A small agri-biodiesel producer tax credit establishes a $.10/gallon tax credit for agri-biodiesel producers. This credit is applicable up to 15 million gallons of agri-biodiesel produced and limited to producers under 60 million gallons of annual production.

- The bill creates a credit for alternative fuel refueling installations that dispenses biodiesel-blended fuel (B20 minimum).

Federal Tax Incentives

The American Jobs Creation Act of 2004 (JOBS Bill) became law on October 22, 2004 and effective January 1, 2005. It includes excise tax provisions for E85 and many other important tax provisions for biofuels.

- The biodiesel excise tax credit was extended through December 2008 which provides an incentive to fuel distributors to blend biodiesel into diesel fuel and helps reduce the cost to consumers. The credit amounts to a dollar per gallon for "agri-biodiesel," and 50 cents per gallon for biodiesel made from recycled cooking oil. Both on-road (dyed) and off-road (undyed) fuels qualify for the tax credit.

- The Volumetric Ethanol Excise Tax Credit (VEETC) is extended for using ethanol-blended gasoline until 2010. A $0.51 per gallon of ethanol blended with gasoline credit is given up to an E85 blend (85% ethanol + 15% gasoline).

2005 North Carolina State Legislation:

Several significant bills were filed in the N.C. General Assembly to promote the use of alternative fuels during the 2004-2005 session and are assigned to the different committees as this document is being prepared. Worth noting from the 2004 report, S.L. 2004-153 provides two new income or franchise tax credits for construction of renewable fuel facilities effective beginning in 2005. The sunset for these two new credits is 2008. This act became effective for taxable years beginning on or after January 1, 2005.

S1149 passed the legislature toward the end of the 2005 session and is now state law, **SL 2005-413 Energy Credit Banking/Selling Program/Fund.** This is an act to allow the State Energy Office to sell excess Energy Policy Act (EPAct) credits, known as Alternative Fuel Vehicle (AFV) credits, to generate funds for state alternative fuel use. The funds generated will be distributed across state agencies in proportion to the number of credits each agency generates through alternative fuel use. How it works: an alternative fuel revolving fund is created and may be used to pay for the incremental costs of purchasing ethanol and biodiesel fuels, alternative fuel vehicles and related refueling infrastructure. The State currently has 1,110 AFV credits banked, at a value of $800 to $1,000 each. North Carolina will benefit by:

- Generating funds to increase the use of alternative fuels by the state fleet;
- Expanding the use of alternative fuels, which will improve air quality, facilitate economic development and support environmental enhancement goals;
- Making alternative fuel use easy to implement and administer.

Renewable Fuels Motor Fuels Tax Exemption (S1150/H1296), sponsored by Senator Jenkins and Representative Hackney, is an act to exempt biodiesel and ethanol from state motor fuel excise tax. This would create an incentive to use alternative fuels, help reduce dependence on imported petroleum, and improve air quality. Eliminating this tax would have a minimal fiscal impact because there is very little private sector use of these fuels in North Carolina. Neither bill moved during the legislative session.

Mobile Source Emission Reduction Program (S1038/H1595), sponsored by Senator Jenkins and Representatives Alexander and Tolson, is an act to establish a mobile source emissions reduction program funded by an emission-based surcharge on vehicle registration fees. It would require a varying motor vehicle registration surcharge of $2 to $14, based on an EPA score derived from fuel economy and emissions. All vehicles over 8,500 pounds would automatically be charged $14; therefore vehicles that pollute more, pay more. The money raised would fund projects around the state to reduce emissions

and stimulate the use of advanced technologies. Neither bill moved during the legislative session.

Alternative Fuel Vehicle Tax Credit (S1015/H1766), sponsored by Senator Jenkins and Representatives Martin and Harrison, is an act to create a tax credit for the purchase or lease of alternative fuel vehicles. The current federal clean fuel vehicle deduction decreases to $500 next year and then be phased out. This bill would be effective whenever the federal clean fuel vehicle deduction phases out, providing a $2,000 credit for purchases of hybrid electric or other alternative fueled vehicles. Neither bill moved during the legislative session.

State Use of Alternative Fuel Vehicles S1148, sponsored by Senators Jenkins and Albertson, is an act to require that the state fleet use 2 million gallons of biodiesel and ethanol by 2006, 5 million gallons by 2008 and 10 million gallons by 2010. A one and a half gallon credit is awarded for each gallon of renewable fuel used from in-state fuel production. S1148 gives the state an option to purchase hybrid electric vehicles (HEV), instead of using renewable fuels, and get 6,000 gallons of fuel use credits. S1148 establishes a system of credits to monitor achievement of the renewable fuel requirement. The bill did not move during the legislative session. North Carolina would benefit by:

- Reducing pollution from state vehicles, including greenhouse gas emissions;
- Keeping funds in state, supporting economic development through the purchase of renewable fuels produced in-state;
- Encouraging cooperation and planning across state agencies.

Each year, the N.C. Dept. of Transportation (DOT) uses 11 million gallons of diesel fuel and 11 million gallons of gasoline. Currently, state renewable fuel use amounts to 500,000 gallons of 100% Biodiesel (B100). In the Triangle region, the state uses about 200,000 gallons of 85% ethanol (E85) mixed with 15% gasoline, and 700,000 gallons of 10% ethanol (E10). DOT's Motor Fleet Management owns 76 HEVs.

Advanced Vehicle Research Center Incentive S684/H625, sponsored by Senator Holliman and Representative Allen, is an act to provide an investment incentive and an appropriation for an Advanced Vehicle Research Center (AVRC) and automotive proving ground in Northampton County. The bill would provide direct appropriation of $7.5 million for the next two fiscal years for construction and operation of the center, as well as a tax credit equal to the value of private contributions up to $7.5 million in each calendar year. This provision would expire in 2008. Neither bill moved during the legislative session.

Triangle Clean Cities Coalition

In 1999, the state Department of Commerce's Energy Division asked the Triangle J Council of Governments (TJCOG) to coordinate a Clean Cities program in the Triangle. The U.S. Department of Energy (USDOE) Clean Cities Program officially designated the Triangle Clean Cities Coalition (TCCC) as the 80th U.S. Clean Cities Coalition on March

19, 2001. Since that time the coalition has grown to over 70 members, including private companies, municipalities, and private citizens. TCCC has been very successful in securing grants to create incentives and to undertake a public relations campaign. With a grant from N.C. Department of Environment and Natural Resources, it developed a media campaign that included billboards, radio ads, network and cable TV ads, and Internet banners. Listed below are highlights of the TCCC accomplishments in 2004-2005.

- The Environmental and Energy Study Institute recognized Durham Public Schools as a National Clean Bus Leader for establishing a fleet solely operating on B20.

- Refueling America workshop and luncheon was sponsored by TCCC. The workshop informed public officials, fuel providers, fleet managers, and the public on alternative fuel applications and incentives, hybrid vehicle technology, idle reduction equipment and policies, and air quality topics.

- N.C. Biodiesel Education Outreach Program was launched through a grant made possible by the National Clean Cities, Inc., U.S. DOE, and United Soybean Board. The program provides biodiesel experts to give presentations throughout the state with the purpose of stimulating interest in the alternative fuel.

- TJCOG was presented the Sustainable North Carolina Award for the Triangle Clean Cities Biofuels Rebate Program.

- The Triangle Region boosts public biodiesel stations in the following municipalities: Garner, Cary, Durham, Moncure and Mebane. Biodiesel infrastructure exists for Duke University, N.C. State University, Raleigh-Durham International Airport, and Chapel Hill, Carrboro, Cary, and Wake County local governments. NCDOT continues to use B20 in the operation of their on and off-road diesel equipment.

- Two new CNG (compressed natural gas) stations are open to the public in Raleigh and Hillsborough while E85 pumps are available in Durham County and for National Institute of Environmental Health and Safety's (NIEHS) fleet of cars.

- Triangle Region's 2005 annual B20 usage is estimated to be roughly 4.6 million gallons. This number does not include the 1.5 million gallons annually consumed by the City of Greensboro (a member of TCCC).

2005 Biofuels Rebate Program

The Triangle Clean Cities' Biofuels Rebate Program was completed in September. In 2005, the program participants used more than 245,000 gallons of B20 and more than 1,000 gallons of E-85. This resulted in over 50,000 gallons of petroleum displaced. This year was the first year that the program had any ethanol programs. Durham County

installed an E85 pump and Wake County partnered with Motor Fleet Management to share their E85 pump. Over three years, the program participants have used well over 1.3 million gallons of biofuels resulting in more than 280,000 gallons of petroleum displaced. The emissions benefits of this program are being calculated and will be available by the end of 2005. The participants contributed $224,000 in cost share for the project.

Municipalities represent the biggest user of alternative fuels in the Triangle region, although private fleets do sustain the necessary demand for B20 fuel at three commercial biodiesel stations. The following are a few of the private fleets utilizing B20: Shimar Recycling, Connex TCT (NCSU Wolfline buses), and Duke University.

2004 Alternative Fuel Vehicle Incentive Grant

The AFV Incentive project, administered by the Triangle Clean Cities Program, was completed in 2005. This project was funded through a grant from the Department of Administration's State Energy Office. Five projects received awards ranging from $8,550 to $49,000 to help buy down the incremental costs of the fuel, vehicle purchase, or to construct an alternative refueling site. The project goal was to displace petroleum use through the use of alternative fuels as well as to educate the public about the benefits of these fuels and technologies. This project generated more than $248,000 in cost share.

Project profiles:

- The City of Raleigh purchased three dedicated CNG vehicles as well as 1,542 gallons of E85 for their expanding fleet of E85 capable flex-fuel vehicles (FFVs). The city made arrangements with the state's Motor Fleet Management Division to purchase E85 at their downtown Peace and Person Street station and at their Blueridge Road site. Fuel keys will be issued to the city's FFV drivers that will only allow refueling with E85.

- Duke University Facilities Management Division purchased seven GEM Neighborhood Electric Vehicles for use on campus. These zero emission vehicles replaced gasoline vehicles and are easily recharged using 110v outlets. The university installed two new 110v outlets at its Facility Center and provided mechanic training for the new vehicles.

- Orange County is installing a Fuel Maker CNG fast-fill fueling station. With a location between two major interstate corridors, I-40 and I-85, this publicly accessible station will add another link in a chain of CNG stations growing across the state.

- The Department of Public Instruction helped offset a portion of the incremental cost of purchasing biodiesel for Chatham Public School's fleet of 100 buses during the 2004-2005 school year. The fleet covers about 1.2 million miles each year and tested a low blend of the fuel before switching to B20.

- Piedmont Biofuels, Inc. has purchased five 500-gallon tanks, pumps and fuel filters to be leased at no cost to various businesses and organizations in the region for on-site biodiesel fueling. Tanks were sited in Moncure, Pittsboro, Carrboro, Mebane, and Durham. The tanks are filled by Piedmont Biofuels, which recently purchased a 1,600- gallon tanker truck for biodiesel distribution. Piedmont Biofuels also supported the project by providing educational outreach and murals or signs on the refueling tanks.

Centralina Clean Cities Program

The USDOE's National Clean Cities Program designated the Centralina Clean Fuels Coalition (CCFC) program on October 15, 2004. The Centralina Council of Governments (COG) supports the CCFC for the past four years. Its new Web site is http://www.4cleanfuels.com.

CCFC stakeholders include local governments and state agencies as well as businesses such as major fuel providers and vehicle manufacturers. The following are just some of the current regional initiatives underway:

- The City of Salisbury received a $25,000 Mobile Source Emissions Reduction Grant (MSERG) for the installation of a B20 pump at Superior Oil Company's Penn Mart Station. More than 75 diesel-powered vehicles operated by the city are refueled on the cleaner-burning biofuel.

- Thomas Petroleum Company has opened five retail multi-biofuel pump in Shelby and Charlotte. Drivers owning flexible-fuel vehicles, such as the Dodge minivans and Ford Tauruses, are able to purchase E-85 now. B20 is the other alternative fuel available at the pump.

- Homer's Truck Stop in Statesville, just off Exit 146 on I-40, has six B20 pumps and sells both E85 and E10.

- The City of Charlotte, Mecklenburg County, Centralina Clean Fuels Coalition and N.C. Air Awareness hosted a "Try & Drive Day" on June 10, 2005 to connect fleet managers, purchasing personnel and air quality experts with a broad range of alternative fuel and vehicle vendors. More than 16 vendors and 100 city, county and area participants came to the event and were able to test drive hybrid and alternative fueled vehicles as well as gather information on advanced technologies. The City of Charlotte continues to push toward hybrid technology and soon will have a fleet of 19 hybrids vehicles.

Sustainable Environment and Quality of Life (SEQL)

Centralina Council of Governments was awarded a $100,000 grant from the U.S. Environmental Protection Agency to assist in funding a truck stop electrification project at Derrick's Travel Plaza off Interstate 85 in Salisbury. Extended truck idling

significantly impacts local air quality when truck drivers stop for the 10-hours/day mandatory rest period. IdleAire Technologies Corp. produces the Advanced Travel Center Electrification system that offers a solution for air conditioning, heat and power for on-board appliances and satellite television and Internet service.

Land-of-Sky Clean Vehicles Coalition

In 2004, the Land-of-Sky Regional Council coordinated efforts to obtain USDOE Clean Cities designation for a five county region around Asheville (Buncombe, Haywood, Henderson, Madison and Transylvania counties). Steady progress has been achieved with enthusiasm for alternative fuels and advanced technology vehicles in the region. Specific accomplishments include:

- Held the Clean Cities Project Kickoff Event in Asheville on April 8, 2004. Fifty-five stakeholders attended while the event showcased a propane-powered school bus on a national tour.

- Established a diverse Clean Vehicles Coalition (CVC) with meetings schedule throughout 2005. The goal was to increase awareness of AFVs and to plan coalition activities.

- Developed and implemented a comprehensive alternative fuels/Clean Cities education and outreach program working in partnership with the Regional Clean Air Campaign and other groups.

- Distributed four CVC E-Newsletters to over 300 stakeholders, city/county officials and community leaders.

- Developed a CVC Web site and gave presentations to groups representing business, environmental, local government, and transportation planning.

- Promoted AFVs through public events including the Bele Chere Festival, Clean Air Car Fair and Energy Expo, Earth Day events, and Ozone Kickoff Event. Over 100 participants attended the Clean Vehicles for Clean Cities Workshop on September 22, 2005 in Asheville featuring speakers from across the United States.

- Implemented a Honda Civic Compressed Natural Gas (CNG) Vehicle Demonstration Program. Seven organizations borrowed and test-drove the CNG fueled vehicle during the year. The City of Asheville will open a CNG Fueling Station in October 2005.

- Assisted stakeholders in securing funds for their alternative fuel projects. The N.C. Solar Center and N.C. Div. of Air Quality Mobile Source Emissions Reduction Grants Program awarded grants to several Western North Carolina partners.

- Completed a regional inventory with approximately 200 AFVs. Clean Cities designation requires a minimum of 400 vehicles. The following organizations currently operate either AFVs or advanced technology vehicles:
  - Metropolitan Sewerage District
  - City of Asheville
  - Buncombe County
  - Town of Waynesville
  - Hart Distributing
  - WNC Regional Air Quality Agency
  - Warren Wilson College
  - Blue Ridge Biofuels
  - Pisgah Inn
  - DAQ Regional Office
  - Blue Ridge Parkway
  - Swann's
  - Home Energy Partners
  - Blossman Gas
  - Public Service of NC

- Blue Ridge Biofuels opened the region's first public biodiesel pump in Asheville on July 2005, and Grace Fuel Company sells biodiesel in the region.

The Council expects a substantial increase in the use of biodiesel and expects to reach 400 vehicles within the next 12 months.

Mobile Source Emissions Reduction Grant Program

The purpose of the Mobile Source Emissions Reduction Grants (MSERG) is to achieve actual reductions from mobile source related emissions in North Carolina to assist the state in maintaining the National Air Quality Standards for primarily ozone and carbon monoxide. In 1993, the North Carolina General Assembly passed clean air legislation, which provided that beginning on January 1, 1995, certain portions of those taxes on the sale of gasoline in North Carolina would be used to fund portions of the state air quality program. Funding for these grants is provided by a tax of 1/64 of a cent per gallon of gasoline sold, which currently generates about $800,000 annually.

Grants are awarded by DENR with the assistance of a grant review committee. Each year the committee selects a focus for the upcoming grant year. The goal for the 2005 grants is to reduce emissions from diesel engines. Projects can achieve such reductions through retrofit technology and alternative fuels. The following applications were awarded funds in 2005 to retrofit school buses, expand the use of biodiesel and to purchase hybrid electric school buses and vehicles:

- Advanced Energy, Wake County, $140,000 to purchase two hybrid electric school buses;

- Asheville Public Works Dept., Buncombe County, $12,000 for purchasing electric vehicles;
- Blue Ridge Biofuels, Buncombe County, $25,000 for biodiesel collection and distribution equipment;
- Charlotte/Mecklenburg County Schools $100,000 for school bus retrofits;
- Charlotte/Mecklenburg County, $100,000 for retrofitting solid waste vehicles;
- Filter Specialty Inc., Sampson County, $24,370 to expand use of biodiesel fuel;
- Henderson County Public Schools, $100,000 for school bus retrofits;
- North Carolina Zoo, Randolph County, $23,000 for equipment to produce biodiesel fuel;
- Rowan County School District, $73,150 for school bus retrofits;
- Wake County Public Schools, $100,000 for school bus retrofits.

Southeast Alternative Fuels Task Force

In 2001, the Governors of Georgia, North Carolina, South Carolina and Tennessee entered into a Southern Air Principles agreement, which recognized that regional air quality problems must be addressed through regional approaches. The Southeastern Alternative Fuels Task Force (SEAFTF) was organized with three work groups – Infrastructure, Outreach, and Vehicles/Fleets – that have representatives from state agencies and the private sector. Near-term 2010 goals are to have strategically located public accessible fueling facilities for biodiesel and ethanol fuels along major interstate highways, which will allow the use of these fuels between major destinations across the four states. SEAFTF focus is on biofuels because there are a large number of vehicles already on the road that can use these fuels as well as the relatively low cost of infrastructure development.

Guided by the steering committee, the Outreach committee hosted the 2005 Southeast Biofuels Workshop held in Gatlinburg, Tennessee on June 6-7, 2005. The intent of the workshop was to address key barriers and questions to the supply and use of biofuels. The event drew over 200 people with nearly a quarter traveling from North Carolina. The SEAFTF and work groups continue to meet on a monthly basis via conference calls.

North Carolina Solar Center Alternative Fuels Incentive Program

In 2004 the State Energy Office awarded $175,000 to the North Carolina Solar Center (NCSC) for the Alternative Fuel Incentive Project (AFIP), providing funding for initiatives around the state to increase the use of alternative fuels. An estimated 89,463 kilograms of emissions will be reduced throughout the life of the projects, while 207,427 gallons of B20 biodiesel fuel was purchased through the grant program.

- Superior Oil Company's Penn Mart station in Salisbury was able to sell B20 for the same price as petroleum diesel.
- Blue Ridge Biofuels, LLC purchased a fuel dispenser and storage tanks for biodiesel fuel. The new pump at The Gas Up in West Asheville is the first fully commercial location to provide B99 in western NC.
- Forsyth County and the City of Greensboro used AFIP funds to purchase B20 to fuel fleet vehicles. Funds were also used to help purchase B20 for Greensboro's landfill fueling site, which dispenses 250,000 gallons of fuel per year.
- The NC Zoo (Asheboro) purchased B100, blending its own B20 to fuel the buses and trams that carry over 700,000 visitors annually. The Zoo is currently in the process of constructing a mobile biofuel processor previously funded through a $23,000 MSERG awarded in March 2005. The process will provide 12,000 gallons per year of B20.
- Pitt County Memorial Hospital's AFIP grant went toward the purchase of B20 for the hospital's diesel vehicles, including ambulances. PCMH recently became the first hospital in the nation to install its own biodiesel fueling station.
- UNC-Charlotte and Wilson Technical Community College used grant funds to purchase Global Electric Motorcars, replacing older gas-powered vehicles. Both schools are committed to becoming more energy efficient, with the purchase of more GEMs at UNCC and the installation of a solar charging station at Wilson Tech.
- The Western N.C. Regional Air Quality Agency purchased a 2005 Chevy Astro van with a Compressed Natural Gas conversion kit, and Buncombe County is building a centrally located biodiesel-fueling center where fleet vehicles will have convenient access to B20.

NCSC coordinates the N.C. Alternative Fuels consortium with the State Energy Office. This past year NCSC organized a teleconference for all state university and colleges to educate about alternative fuel options for state fleets required to meet Energy Policy Act requirements.

NCSC also worked with state legislators, Energy Policy Council, Clean Cities Coalitions and other stakeholders on proposed state alternative fuels related legislation.

The Refueling America workshop and luncheon held at the McKimmon Center on September 21, 2005, was hosted by NCSC and attracted over 250 participants from the commercial truck owners/operators, fuel providers, and fleet managers sectors. The event was part of a weeklong Energy Independence Days series and the luncheon keynote speaker Paul Roberts, the author of The End of Oil, spoke to 320 attendees. More than 20 sponsors supported both events.

North Carolina State Energy Office

The N.C. State Energy Office (SEO) is the lead agency for energy programs and serves as the official source of energy information and assistance for consumers, businesses, government agencies, and policy makers. The SEO also administers several programs related to alternative fuels and vehicles and education and outreach. Listed below are highlights of some funded projects:

Three requests for proposals were awarded by the SEO:

- **Blue Ridge Biofuels**, located in Asheville, was awarded funds to increase their production of biodiesel to produce at least 200,000 gallons of biodiesel annually.

- **Filter Specialty Inc.**, whose primary business is the recycling of used oil filters and the collection of waste oil, was awarded funds to design, construct and operate a 500,000 gallon per year biodiesel facility. The design of the facility will allow expansion to the ultimate goal of 1.6 million gallons per year. They are located in Autryville.

- **Piedmont Biofuels Industrial, LLC**, in Moncure was awarded funds to open a commercial-scale, 1,000,000 gallon per year biodiesel production plant in Pittsboro.

The **Alternative Fuel Demonstration Center** opened at the North Carolina Solar Center. The center's garage has integrated photovoltaic roof panels, which use solar energy to charge electric car batteries. It also has a demonstration ethanol distillery and biodiesel reactor. Biodiesel burns cleaner than regular diesel and can be produced from traditional agricultural feedstocks such as soybeans. Even waste oil can be converted to usable biodiesel. The SEO has helped support publicly accessible pumps in Garner, Cary, Durham and Salisbury.

The SEO coordinated the 2nd annual **Sustainable Energy Conference** on March 22, 2005 where more than 600 attended representing state government, universities, business, and industry, schools and nonprofits. Energy Leadership Awards were presented. Among those recognized for their efforts were:

- **N.C. Department of Transportation, Equipment Unit** for leading the development of a statewide purchasing contract for B-20 that facilitates the fuel use by other state and local government fleets. NC DOT uses nearly 2 million

gallons of B20 annually in their diesel equipment for on and off-road work in 23 counties.

- **The N.C. Department of Administration, Motor Fleet Management Division** for leading in purchases of alternative fuel vehicles and other vehicles that produce less air pollutants.

Piedmont Triad Early Action Compact

In December 2002 eleven Piedmont Triad counties and twenty municipalities formed the Triad Early Action Compact (EAC). The EAC is voluntary commitment to adopt and implement ozone emissions-reducing strategies. In return for this action, EPA will defer designating the region as nonattainment for the 8-hour ozone standard until December 31, 2007. The Triad EAC has working partnerships with:

- The Piedmont Triad Council of Governments and the Northwest Piedmont Council of Governments;
- 11 counties and 20 municipal participants in the EAC;
- Piedmont Authority for Regional Transportation;
- Forsyth County Environmental Affairs Department;
- Triad Air Awareness Program;
- 4 metropolitan planning organizations and 2 rural planning organizations in the region;
- Alternative Fuels Program at the N.C. Solar Center.

A strong regional coalition headed by a stakeholders group developed an array of strategies aimed at lowering ozone-causing emissions. Increased use of alternative fuel vehicles (AFVs) is a key mobile source strategy. The table below summarizes AFVs purchased by local governments in the past year.

Jurisdiction	Type of Vehicle or Equipment	Number of Vehicles	Model Year	Type of Alternative Fuel Used (if applicable)
Greensboro	¾ Ton Pickups/Vans	7	2005	Biodiesel
	1 Ton Pickups/Vans	6	2005	Biodiesel
	Med/Heavy Trucks	10	2005	Biodiesel
	Garbage Trucks	15	2005	Biodiesel
	Vactor Truck	1	2005	Biodiesel
Forsyth County	Hybrid Honda Civic	2	2005	Gas/Electric Hybrid
Winston-Salem	Misc staff cars	10		Natural gas
	Buses	2	2005	Gas/electric hybrid
Davidson County	Natural Gas Vehicle	2	2005	Natural gas
Lexington	Natural Gas Vehicle	2	2005	Natural gas

Greensboro continues to be a biodiesel leader in the state, using B-20 in all city diesel vehicles, approximately 1.5 million gallons per year. In addition, it sells biodiesel for use in all diesel vehicles and equipment at the University of North Carolina at Greensboro, North Carolina A & T State University, and Guilford County.

Grant funds are being used to purchase biodiesel fuel for the city's landfill fueling site, which dispenses an average of about 250,000 gallons of fuel per year. B20 fuel from this site powers the more than 80 refuse trucks and off-road vehicles used for landfill maintenance. The availability of B20 at the landfill fueling site has allowed two local universities, UNC-Greensboro and N.C. A&T, to purchase biodiesel fuel from the city to power their own diesel vehicles.

The City of Greensboro has been recognized by the U.S. Department of Energy for its dedication to the use of alternative fuels as the recipient of a National Partner Award.

As of January 2005, Forsyth County has begun to use biodiesel in the county's 25-truck fleet. A $5000 state grant helps buy down the cost of the fuel. Officials plan to make use of biodiesel in lieu of petroleum diesel a permanent change. Forsyth County uses an average of 72,000 gallons of diesel fuel every year.

The North Carolina Zoo (Randolph County) received a $23,000 Mobile Source Emission Reduction Grant in March 2005 for design and construction of a biofuel processor capable of converting used vegetable oil from the zoo's food operations into a clean-burning, renewable B20 biodiesel. The process will provide 12,000 gallons per year of B20. This will fuel a majority of the zoo's trams, buses and other equipment.

Education Efforts - In April 2004, the Triad EAC, Piedmont Triad COG, Northwest Piedmont COG and Triangle Clean Cities Coalition co-sponsored the *Alternative Vehicles Road Show* at the Greensboro Coliseum Special Events Center. This event involved local elected officials and staff and stimulated much interest. This has been translated into introduction of biodiesel in Forsyth County, area universities, and further use at the N.C. Zoo.

Beginning in September 2005 an Introduction to Biofuels class will be taught at Guilford Technical College. The intent is to stimulate interest and encourage demand for retail sale of biodiesel in the area.

In September 2005, the Piedmont Triad Council of Governments co-hosted a session with the Alternative Fuels Program at the N.C. Solar Center for Triad area petroleum marketers. The session featured Dr. Richard Nelson of Kansas State University and the National Biodiesel Board. The meeting will focus on biodiesel use, distribution and storage in the region.

Fayetteville Metropolitan Statistical Area Early Action Compact

Through a stakeholders' and public involvement process, the Fayetteville Metropolitan Statistical Area Early Action Compact (Fayetteville MSA-EAC) submitted to all of the County's jurisdictions and Fort Bragg a list of proposed strategies to implement in the effort to decrease NOx and VOC emissions. Included in the strategies are alternative fuels and alternative fueled vehicles. Fort Bragg, a stakeholder, has developed a plan to convert its nontactical fleet to B20. Fort Bragg estimates its FY05 usage to be 30,000 gallons. This project also includes an E85 refueling station where a fleet of 185 flexible fuel vehicles will use approximately 55,000 gallons per year. This strategy is expected to reduce volatile organic compounds (VOCs), hazardous air pollutants (HAPs), NOx and particulate matter.

Advanced Energy Hybrid Electric School Bus Project

Hybrid vehicle technology has proven air quality benefits and fuel efficiency improvements in passenger cars. School bus manufacturers do not currently offer this technology. The Hybrid Electric School Bus (HESB) Project is an effort to change the school bus market and introduce plug-in hybrid school buses. The project has several phases that include feasibility studies, initial product specification, and fleet deployment. Advanced Energy, a non-profit located in Raleigh, is leading a team of school districts, environmental organizations, local utilities and energy efficiency advocates in this effort.

Phase I of the HESB Project included several feasibility studies. The Technical Feasibility used computer software to predict the performance of hybrid school buses. Inputs to the program included the vehicle drive cycle, engine size, battery type, electric motor characteristics and emission controls. The model predicted fuel economy and emissions for a baseline bus and several hybrid drivetrain configurations. It showed that plug-in hybrid school buses would have significantly improved performance over the baseline bus as well as standard hybrid technology. The Business Feasibility Study addressed the economics from the perspective of a school district. It evaluated the impact of initial cost, fuel economy, emissions value and operating costs on the life-cycle cost of the vehicle. This study showed that plug-in hybrid electric school buses have a lower life-cycle cost than conventional diesel school buses. This portion of the project was funded in part by Duke Power, Progress Energy, and the N.C. State Energy Office.

Phase II of the HESB Project was to organize a group purchase of plug-in hybrid buses. The Buyers' Consortium is a group of school districts that have committed funding to purchase a hybrid school bus when it becomes available. This group includes districts from North Carolina, South Carolina, Florida, New York, California, Iowa, Washington, Arkansas and Pennsylvania. This group is seeking grant funding to cover the anticipated incremental cost for the hybrid over a conventional school bus. They will also issue a vehicle specification for the manufacturers that includes fuel economy and stringent emission limits.

DENR's Division of Air Quality awarded a Mobile Source Emission Reduction Grant to the HESB Project in the amount of $140,000. This funding will help cover the incremental cost for two hybrid school buses purchased by the N.C. Department of Public Instruction.

Later phases of the project include larger fleet deployment and eventual full market penetration. Advanced Energy plans to collect performance data on the buses as they operate in the field and use this information to verify the initial simulations performed under the Technical Feasibility Study. The long-term benefits of this project include reduced fuel consumption, lower operating costs for our school districts and improved air quality for our nation's children.

North Carolina Fuel Cell Alliance & Hydrogen Economy Roadmap

The North Carolina Fuel Cell Alliance (NCFCA) is an informal public-private partnership composed of industry, academia, and government stakeholders in the fuel cell industry. The alliance was established in the summer of 2004 by the Appalachian State University Energy Center at the direction of the N.C. Energy Policy Council during the implementation phase of the N.C. State Energy Plan (the State Energy Plan is a project of the State Energy Office, N.C. Department of Administration). Currently, the alliance is an open organization with no formal membership requirements. Participants have collaborated on a number of initiatives thus far including, drafting a letter of support for interconnection standards for connecting fuel cells to the electricity grid and providing research and other support for a distributed generation technology manufacturers' tax credit.

The NCFCA is industry-focused and receives active participation from a variety of fuel cell companies including DuPont, Microcell, Porvair, INI Power, John Deere, and Scribner & Associates. University & community college participants include Appalachian State, N.C. A&T, N.C. State, and Wake Technical and Cape Fear community colleges. The alliance has recently embarked on an initiative to draft a Hydrogen Economy Roadmap for the state that will derive a strategy for North Carolina to pursue further development of the fuel cell industry from a series of public meetings and stakeholder interviews.

Other activities ongoing in the state related to hydrogen and fuel cells include a citizen-led initiative called the Hydrogen Economy Advancement Team, or HEAT. HEAT began in the Mooresville Chamber of Commerce and has recently established a Charlotte team; both teams are composed entirely of volunteers. The HEAT teams' first success was the production of the First International Hydrail Conference in Charlotte. This conference featured presentations from Japan, Canada, Denmark and the United Kingdom, and has been featured in several prominent fuel cell industry publications. The HEAT teams are currently pursuing hydrogen demonstration projects at several sites in the state, planning a second International Hydrail Conference, and outreach and awareness programs.

The Advanced Vehicle Research Center of North Carolina (AVRC)

The AVRC is a planned 630-acre independent non-profit automotive proving ground. It has been planned since 2001, and as demonstrated by the Transportation Research Center Inc. in Ohio, the AVRC will be a catalyst for investment and job creation in North Carolina and will be a transforming project for the eastern region of the state.

The center will be the first independent automotive test center in the US with on-site hydrogen refueling capabilities that will encourage hydrogen and fuel cell development in North Carolina as well as serve as a resource for research activities conducted by many companies in the eastern United States. AVRC is partnering with North Carolina State University and other educational institutions in the state on future educational and applied research opportunities.

In 2005, the N.C. General Assembly approved $7.5 million dollars for the AVRC. In October, Lotus Engineering and the AVRC made a joint announcement at the Detroit Automotive Testing and Measurement Expo. Lotus has committed to do the track design and specification work at no charge to the AVRC. The first stage of this design work is now about 50% complete.

A federal earmark appropriation was approved for the AVRC to complete work on a hydrogen refueling station to be located at the AVRC site. It will be constructed with the help of the NCSU Solar Center. The grant will also allow for the outfitting of a fuel cell lab on-site at the AVRC.

The AVRC, Lotus Engineering, and faculty from NCSU will undertake a project to convert a conventional gasoline powered automobile to a bi-fuel gasoline/hydrogen using a super cooled charge technology developed by Lotus. The technology will allow for near-zero emissions from the hydrogen fueled internal combustion engine.

Initially, the center will include:

- A two and a half mile test track.
- Working garages, equipped as needed, that may be leased by the day, the month, or the year.
- Dynamometers and emissions testing equipment.
- Offices, conference and training center for clients/members.
- Special testing and refueling facilities for alternative fuel vehicles using fuels such as bio-diesel and hydrogen.

Energy independence is a critical national issue and will continue to grow in importance. A national effort for automotive research on energy efficient transportation is needed. The AVRC can be a cornerstone of any national effort by providing the needed resource for smaller research and development companies.

Students Fueling the Future - Fuel Cell Technology

Students Fueling the Future, a nonprofit organization, was funded by the State Energy Office to expand the fuel cell educational program to students throughout the state into twenty schools. Middle school and high school students ages 11- 18 learned about renewable energy, alternate fuels, and built model fuel cell cars for two statewide competitions. Four students from Chapel Hill were invited to participate in the U.S. Department of Energy Middle School Science Bowl at NREL in Golden, Colorado in June 2005, and they took first place honors in the nation with their fuel cell model car design. The North Carolina pilot fuel cell educational program laid a solid foundation for national expansion in 2006.

2006 Model Year AFV/Advanced Technology Vehicles

Alternative fuel vehicles are widely available for public and fleet purchase. For more details on the availability as well as information related to these vehicles, go to the Alternative Fuel Data Center Web site:
http://www.eere.energy.gov/afdc/afv/afvehicles.html

The list of 2006 model year AFVs is available at
http://www.eere.energy.gov/afdc/afv/models.html

For additional information related to this report, contact DAQ's Vicki Chandler at ***vicki.chandler@ncmail.net*** *or 919-715-0972.*

EXHIBIT F

Report on Implementation of Senate Bill 953
North Carolina Department of Transportation
Statewide Transportation Demand Management Plan
February 14, 2006

The General Assembly passed Senate Bill 953, Ambient Air Quality Improvement Action of 1999, requiring the Departments of Transportation, Environment and Natural Resources, and the Office of State Personnel to develop a plan that would address reducing the number of expected growth in vehicle miles traveled for both public and private sector employees, and NOx (Nitrogen Oxide) emissions by 25% by the year 2009.

Secretary Tippett announced the completion of the Statewide Transportation Demand Management Program in April 2004. The plan was the culmination of work guided by a panel of 16 representatives appointed by Governor Easley. Transportation Demand Management (TDM) strategies influence travel behavior by mode, time of day, cost, frequency and other related activities to reduce traffic congestion, enhance mobility, and improve air quality. The panel consisted of existing representatives of TDM programs, local elected officials, developers, major employers in the state, marketing professionals and federal and state environmental agencies to guide the development of the statewide TDM plan. The work involved an analysis of the existing rideshare/TDM programs, and an evaluation of comparable program efforts in locations such as California, Washington, Maryland, Florida and Connecticut.

From this work, a series of guidelines were developed for the North Carolina Department of Transportation (NCDOT). The guidelines, further refined by the consultant, NCDOT and panel, include 20 action items that could be undertaken by NCDOT and local TDM programs in several areas to improve TDM statewide. The Panel prioritized the guidelines and developed a three-year action plan, including the establishment of a Commuter Assistance Program within the NCDOT, that would focus on demand management techniques and TDM initiatives for North Carolina.

Activities and accomplishments during the past year are summarized below.

1. Activity: <u>Statewide Best Workplaces for Commuters Program</u>

Established several years ago by the US Environmental Protection Agency (EPA) and the US Department of Transportation (DOT) to publicly recognize employers whose commuter benefits reach the *National Standard of Excellence* (www.bwc.gov), the Best Workplaces for Commuters[SM] (BWC) program highlights the efforts of many top employers to help get employees to work safely, on time, and free of commute-related stress. US EPA believes that providing commuter benefits helps employers address limited or expensive parking, reduce traffic congestion, improve employee recruiting and retention, and minimize the environmental impacts associated with drive-alone commuting. Participating companies earn the designation "Best Workplaces for Commuters[SM]"—a mark of excellence for environmentally and employee-friendly organizations.

Accomplishment: <u>The Second Annual List of Triangle Best Workplaces for Commuters[SM] was announced and employers recognized at a Campaign Celebration at the American Tobacco Complex in Durham in November 2005.</u>

- Seven new Triangle area employers that provide outstanding commuter benefits to their employees were designated by US EPA, representing about 1,350 employees The 2005 list includes 2Plus, Inc, EMC Corporation, First Environment, News and Observer, NC League of Municipalities, The Redwoods Group, and Sygenta Biotechnology, Inc.
- A total of 31 Triangle area employers have been designated as BWC organizations representing a combined total of approximately 71,350 employees.
- The NC Department of Administration recently received its BWC designation.

2. Activity: <u>Commuter Choice Professional Development Training Program</u>

The Center for Urban Transportation Research (CUTR) at the University of South Florida has expanded its Commuter Choice Professional Development Training Program to include NCDOT transportation professionals. The goal is to improve the effectiveness of transportation professionals in North Carolina by providing training and technology transfer related to transportation demand management strategies.

Accomplishment: <u>NCDOT arranged with CUTR to provide a training session entitled Developing A Long Range Transportation Demand Management (TDM) Plan. This web-based training was held in January 2005 and TDM planners from across the State participated in the session.</u>

- The purpose of the course was to identify the reasons for developing a long-range TDM plan and the use of EPA's Commuter Model to quantify the impacts of TDM Programs for long range planning. The course examined reasons why TDM strategies and programs should be included in long range transportation plans, and the steps of developing a long range TDM plan. It also discussed developing TDM scenarios at countywide, activity center, and employer levels. Using EPA's Commuter Model, it was demonstrated how one can quantify and forecast the impacts of TDM Programs on mode share, vehicle trips, vehicle miles traveled, and auto emissions. Finally, the course showed how TDM related goals can be incorporated into objectives and policies of long range transportation plans and Comprehensive Plans.
- As a result of this training session, the two Metropolitan Planning Organizations (MPO's) in the Triangle area are discussing budgeting money in their 2007 work plans for development of a Long Range TDM Plan.
- Five courses have been held since 2004 for local TDM program staff and MPO planners.

3. Activity: <u>Expansion of Local TDM Programs</u>

The Statewide TDM Plan recommended establishing a local TDM program in Asheville, focused primarily on smart growth and air quality goals.

Accomplishment: New TDM Program Implemented in Asheville

- Asheville hired a TDM Planner in August 2005, with financial assistance from NCDOT, to develop and implement a local program.
- The TDM Planner has developed an emergency ride home proposal for the City of Asheville and has geo-coded employee home addresses for Mission Hospital to investigate potential vanpool opportunities.
- The program has registered 434 persons in the statewide ridematching program database, ShareTheRideNC.org.

4. Activity: Fare Free Transit

In September 2003, the North Carolina Department of Administration entered into agreement with Capital Area Transit (CAT) that would allow state employees to use transit services at no cost to the employee. Program marketing and enhancement opportunities were identified and implemented.

AppalCART, the transit system that serves the Town of Boone, including Appalachian State University, began offering fare free transit this fiscal year on it fixed route buses.

Accomplishments: Utilization of this outstanding commuter benefit for Raleigh-based state employees continues to increase. The program was expanded to include Triangle Transit Authority (TTA), effective October 2005. NCDOT increased its marketing and outreach efforts.

- Ridership on CAT has increased since inception of the program by 77%, with over 13,000 trips per month, on average, by Raleigh-area based state employees. The highest ridership was in September 2005 with 17,243 passenger trips made by state employees.
- State employee *GoPass* ridership on TTA for October, 2005 was 1,705 (81 boardings per day), November ridership was 1,749 (87 boardings per day), and December ridership was 1,511 (75 boardings per day). This compares very favorably with the contract estimate of 62 boardings per day. The TTA service includes 2 express routes from downtown Durham and Chapel Hill.
- The total cost of the service for the current fiscal year is $70,650 and is funded by the North Carolina Department of Administration with revenue from state employee parking fees.
- *GoPass* transit passes replaced the use of state agency employee identification cards to ride CAT and TTA in October 2005. The *GoPass* cards, which are swiped in the farebox of the buses, identify the cardholder as a state government employee and the actual bus route.
- A web-based database is being established for the parking coordinators to enter data about state employees that are issued a *GoPass*. This has the advantage of developing a database of users that can be utilized for planning and marketing purposes.
- A meeting was held in September 2005 with all of the state agency parking coordinators to provide an overview of the program and solicit feedback in marketing the program.
- To date, approximately 1,800 *GoPass* cards have been distributed to Triangle-based state employees.

- NCDOT designed and funded the printing of *GoPass* posters that are placed in participating state agency office buildings and inside of CAT and TTA buses to notify eligible state employees about the program and how to obtain a *GoPass* card.

5. Activity: Expand the Triangle Area SmartCommute Challenge

The annual SmartCommute Challenge was held during August and September 2005. The challenge, sponsored in part by NCDOT, was expanded to include all employees of Wake, Durham, and Orange Counties. The goal of the campaign was to increase awareness of the benefits using commute alternatives and encourage employees to try telecommuting, carpooling, vanpooling, taking the bus, biking or walking for at least one day between August 15 to September 30, 2005.

Accomplishment: There were 12, 071 persons who took the challenge.

- Resulted in 668,000 vehicle miles of travel reduced and 750 kg of NOx reduced in the Triangle area over a 45-day period.
- 27,800 gallons of gas were saved.
- There were 92 participating employers, including NCDOT.
- Staff from NCDOT held informational sessions during the SmartCommute Challenge at the Highway Building, Century Center, and the Division of Motor Vehicles on New Bern Avenue.
- Follow up surveys of the participants showed that 40% of new alternative commuters are still using that alternative mode.

6. Activity: Increase Awareness of Web-based Rideshare Matching Software

NCDOT funded the implementation of a web-based rideshare matching software program, ShareTheRideNC.org. This program allows individuals to enter information online regarding their address and work location/hours and to instantly receive a list of persons who might be potential matches for carpooling, vanpooling or biking. The software also links to transit services in the area and allows local TDM programs to generate reports.

Accomplishment: A total of 9,172 persons have registered in the ShareTheRideNC database (as of 12/31/05). The software assumes that 20% of the successful match reports result in a rideshare arrangement. The annualized benefits are based on the number of assumed successful matches.

- Carpool matches attempted: 5,018
- Vanpool matches attempted: 3,985
- Bike matches attempted: 272

Annualized Benefits:

- Reduction in vehicle miles of travel: 23,256,391 miles
- Reduction in tons of nitrogen oxides (NOx): 57.9 tons
- Reduction in commuting cost: $5,581,422

- Reduction in required parking spaces: 2,261

- Information was prepared for the State Budget Officer in September 2005 for transmittal to all state agencies advising employees of commute alternatives.
- A news release was prepared by NCDOT regarding the web-based ridematching software.

7. **Activity: Employee Commuter Survey**

Best Workplaces for Commuters[SM] requires that designated employers certify that at least 14% of their employees are using an alternate form of commuting within 18 months of receiving their designation.

Accomplishment: During the fall of 2004 and the spring of 2005, many employers in the Triangle area participated in employee commuter surveys. The web-based, survey conducted by TTA, asked questions about commuting patterns such as length of commute and type of mode used. It also asked for vehicle type and age to quantify air quality impacts.

- This survey revealed that 16.9% of NCDOT employees use some form of alternate commuting. Of this number, 10.4% carpool, 4% vanpool, 1.1% ride the bus. Other commuting alternatives included walking and biking to work.
- The survey also revealed that NCDOT employees travel long distances to work. Of the employees surveyed, 28.4% live more than 25 miles from their worksite and travel more than 40 minutes to work.
- The top two advantages that employees gave for not driving alone were that it saves money and reduces maintenance/wear and tear on their vehicle. The next three advantages in order of importance were that it reduces traffic congestion, reduces air pollution, and reduces stress.

8. **Activity: Expand Statewide Rural Vanpool Program**

The N.C. Rural Vanpool Program was originally designed to provide transportation for low-income individuals and citizens without reliable transportation to travel to work. USDOT Federal Transit Administration and state funds, along with passenger fares and employer contributions, support the service.

Accomplishment: The program experienced substantial growth during the past year, nearly doubling the number of rural vanpools in operation in northeastern and southeastern areas of the state. The program recently expanded into western North Carolina counties.

- 30 vanpools are currently in operation, transporting nearly 200 low-income people daily to employment sites

9. Activity: Creation of Office of Commuter Assistance

One of the recommendations of the Statewide TDM Plan was the creation of a new position within the NCDOT to staff and manage the Office of Commuter Assistance. The creation of this full time position will improve the department's oversight of the eight local TDM programs and the rural vanpool program, and enable greater technical assistance to other state agencies and local programs.

Accomplishment: The Public Transportation Division of NCDOT received approval for a Congestion Mitigation Air Quality (CMAQ) grant to create a Commuter Assistance Program Manager position.

- The grant will provide 80% federal funding to be matched with 20% state funds from the Public Transportation Division for the next three years.
- Grant funds will also support a statewide commuter assistance and transit awareness marketing campaign.

10. Activity: 2005 Total Transportation Demand Management and Urban Transit System Reductions in Vehicle Miles Traveled (VMT) and Nitrogen Oxide (NOx) Emissions

Accomplishment: Transit usage statewide continues to grow as transit continues to play an increasing role in providing access to jobs, educational opportunities and health care. The NCDOT has developed a methodology to calculate the estimated reductions in both vehicle miles traveled and nitrogen oxide emissions due to vanpooling, carpooling and transit usage in urban areas.

- Transit ridership statewide has increased 29% since 1999, with over 51 million passenger trips provided annually.
- The total estimated reduction in VMT during the period July 1, 2004-June 30, 2005 is estimated at 157,036,117 miles, representing approximately a 7% reduction in the expected growth of VMT in the state.
- This resulted in an estimated 391-ton reduction in NOx emissions.

11. Activity: Introduction of alternative fuel vehicles into transit system vehicle fleets.

Accomplishment: Chapel Hill Transit and the Durham Area Transit Authority are scheduled to purchase hybrid electric buses over the next several years. Chapel Hill will purchase 3 buses, while Durham will purchase 5 hybrid buses.

Submitted by:
Miriam Perry, Director
Public Transportation Division-
NCDOT
919-733-4713, ext. 243
mperry@dot.state.nc.us
2/06

EXHIBIT G

NCDENR

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

October 15, 2005

TO: Senator Dan Clodfelter
Senator Charlie Albertson
Representative Pryor Gibson

FROM: William G. Ross Jr., Secretary

RE: Fish Kills Report

G.S. 143B-279.7 (c) requires the Department of Environment and Natural Resources to report to the Environmental Review Commission each year a report on fish kills within the preceding year. Attached is this year's report. If you have any questions please contact Mark Hale at (919) 733-6946.

Attachment

cc: Alan W. Klimek, P.E.

1601 Mail Service Center, Raleigh, North Carolina 27699-1601
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One North Carolina Naturally

North Carolina Division of Water Quality
Annual Report of Fish Kill Events
2005

Division of Water Quality
Environmental Sciences Section
Raleigh, NC

December 2005

Introduction

The investigation of fish kill activity across North Carolina currently involves protocols established by the North Carolina Division of Water Quality (DWQ) in 1996. The protocols were developed with assistance from DWQ Regional Office staff, North Carolina Wildlife Resources Commission biologists, and Division of Marine Fisheries personnel as a means to improve the tracking and reporting of fish kill events throughout the state. Fish kill and fish health investigation data are recorded on a standardized form and sent to the Division's Environmental Sciences Section (ESS) where the data are reviewed and compiled. Data from fish kill investigation forms, laboratory test results and supplemental information sent to the ESS are entered into a central database where the information can be managed, queried and reported. The procedure also requires the notification of appropriate state officials and scientists associated with the investigation of such events. In addition, reported kill information is updated weekly on the ESS website at: **http://h2o.enr.state.nc.us/esb/Fishkill/fishkillmain.htm**.

DWQ fish kill protocols have proven successful in standardizing the methods for investigations and enhancing the quality and quantity of information reported from kill events. Meaningful conclusions about where and why fish kills occur across North Carolina demand accurate and timely data. It is the intent of DWQ to generate accurate information through the current investigation process.

This document is a summary of fish kill events reported to the DWQ from January to mid December, 2005. The report is mandated under Section 4 of Chapter 633 of the 1995 North Carolina General Assembly Session Laws.

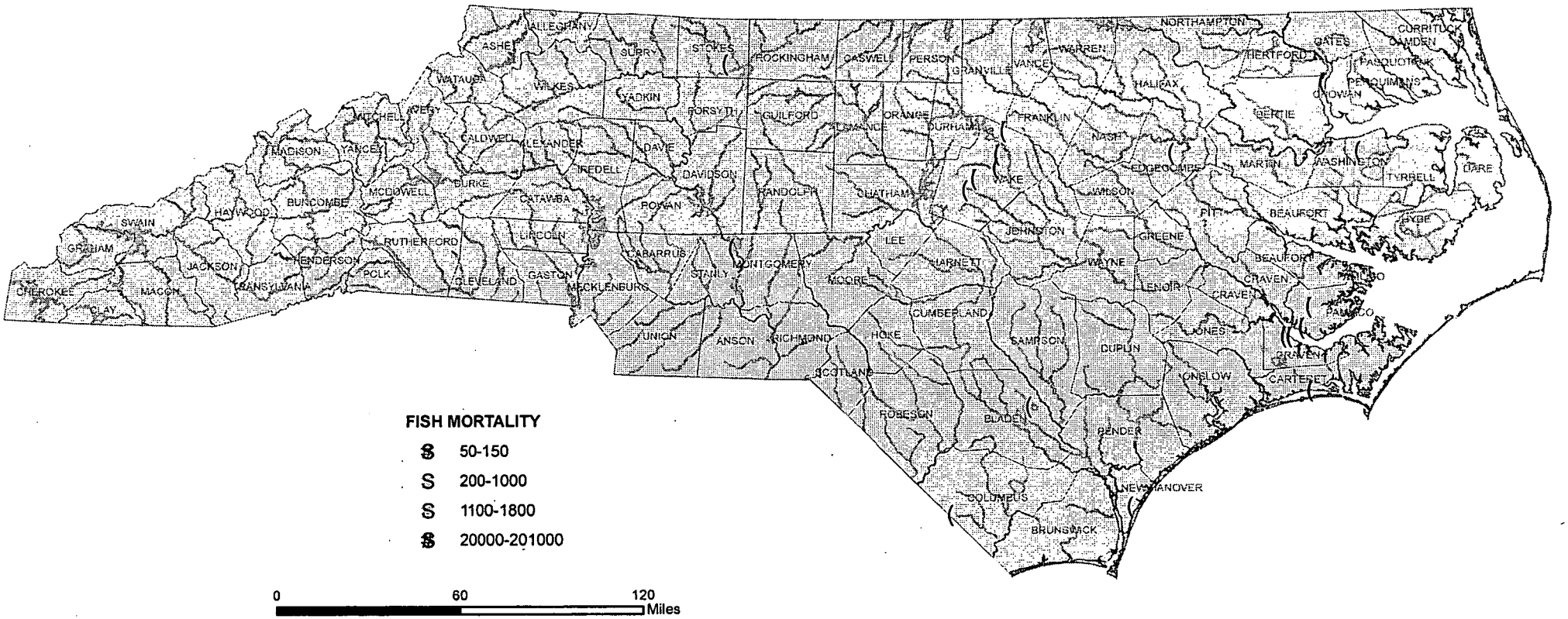
2005 Fish Kill Summary

Field investigators reported 19 fish kill events from January to December, 2005. Kill events were reported from coastal waters westward to the Piedmont as far as Stokes County. Kill activity was documented during the year in 9 of the state's 17 major river basins. The ESS tracks fish kill events when at least 25 fish are affected and the event is confirmed by trained investigators.

The cumulative fish mortality for all 2005 reports was 258,927. This figure represents a continued downward trend in total annual fish mortality reported since 2003. Mortality counts for individual events ranged from 50 to 201,000 with a median mortality of 510. The majority of events were observed in fresh waterbodies, however, the three largest events for the year occurred in estuarine waters. One event was observed in the Atlantic Ocean.

• **Total Kill Events for 2005**	**19**
• **Cumulative Mortality for 2005**	**258,927**
▪ *Estuarine*	*250,670*
▪ *Freshwater*	*6,657*
▪ *Ocean*	*1,600*
• **Report Mortality Range**	**50 to 201,000**
• **Report Median Mortality**	**510**
• **Basins with Activity**	**9 (of 17)**
• **Freshwater Kills**	**14**
• **Estuarine Kills**	**4**
• **Ocean Kills**	**1**

Figure 1 : Fish Kill Events and Observed Mortality Reported to NCDWQ During 2005



Basin Activity

Investigators reported fish kill events in 9 of the state's 17 major river basins during 2005 (Figure 1, Table 1). Nearly one-half of the year's kills occurred in the Neuse Basin with the year's largest events occurring below New Bern in the Neuse River estuary. This area has been historically plagued by adverse environmental factors such as low dissolved oxygen, high water temperatures, and fluctuating salinities. Activity in other river basins across the state remained light throughout the season although a sizable event was reported at Badin Lake in the Yadkin basin. Since 1996 annual totals of statewide events peaked in 2001 with 77 reports but have decreased and remained relatively low during the last four years (Table1).

Table 1: Fish kill reports by basin, 1996 – 2005

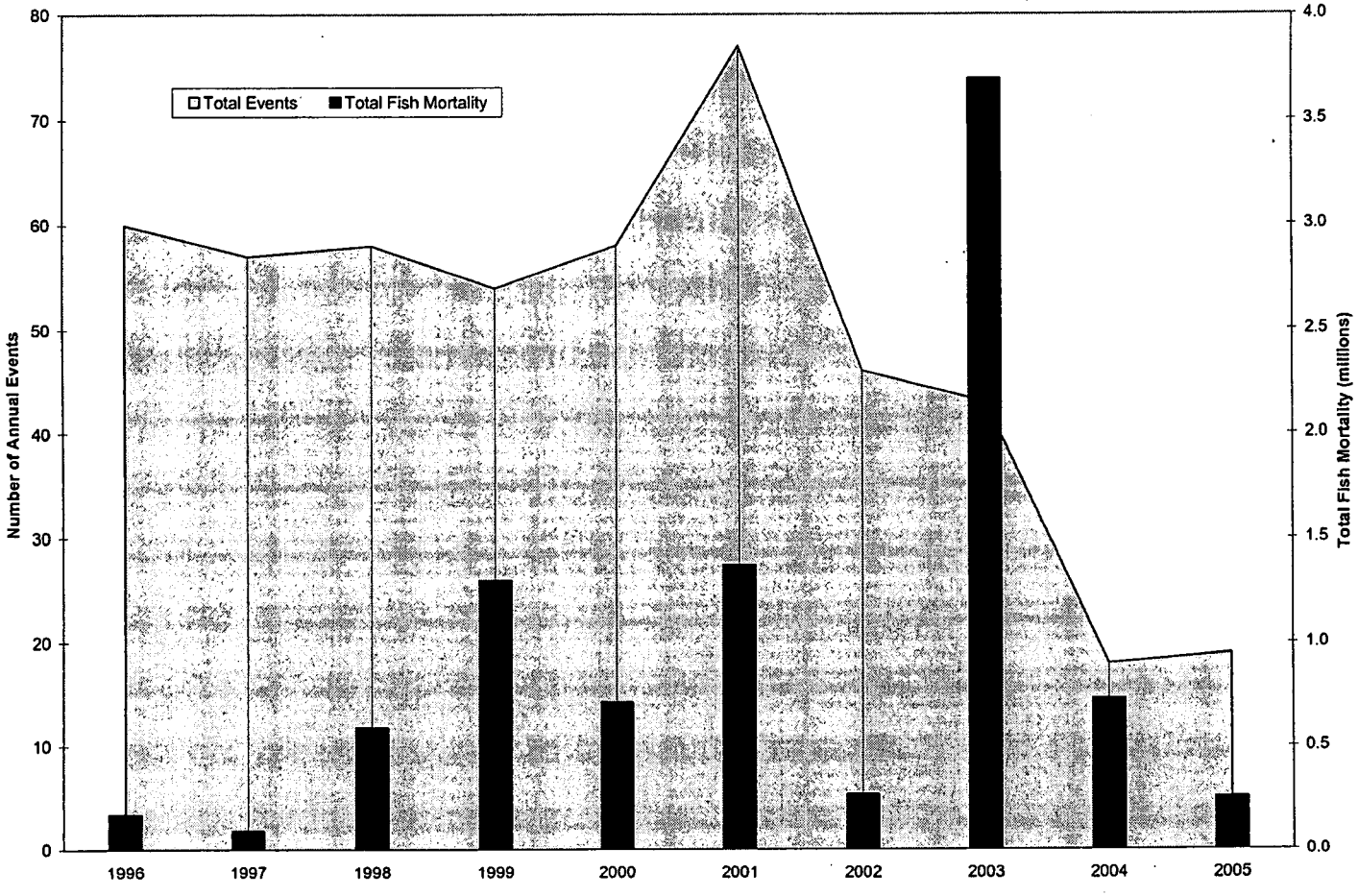
	YEAR										
River Basin*	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Basin Total
Broad	None	None	None	1	None	None	None	None	None	None	1
Cape Fear	21	16	23	14	12	5	8	3	1	2	105
Catawba	None	3	1	3	2	4	1	None	None	None	14
Chowan	2	2	1	1	None	1	2	2	1	1	13
French Broad	None	2	3	1	None	None	1	1	None	None	8
Neuse	14	12	8	16	23	37	9	21	8	9	157
Lumber	4	3	5	None	2	None	None	2	1	1	18
Pasquotank	10	2	8	2	None	1	6	2	None	2	33
Roanoke	2	None	1	None	None	None	None	2	1	1	7
Tar/Pamlico	3	6	5	11	14	23	8	6	2	1	79
New/Watauga	None	None	None	1	None	None	None	2	None	None	3
White Oak	3	3	1	3	3	3	3	None	None	1	20
Yadkin	1	10	2	1	2	3	8	2	3	1	33
Yearly Totals	60	59	58	54	58	77	46	43	17	19	491

** No fish kill reports have been received from the Hiwassee, Little Tennessee., and Savannah basins since 1996.*

Fish Mortality

The 2005 season produced a cumulative fish mortality of just over one quarter million individuals (Figure 2). The majority of the year's total was reported from two events in the lower Neuse River near Flanner's Beach. The 2005 total represents the lowest count observed since 1997. Fish mortality figures on 2005 reports ranged from 50 to 201,000 with a median mortality count of 510 fish.

Figure 2: Reported annual fish kill events and mortality, 1996 to 2005

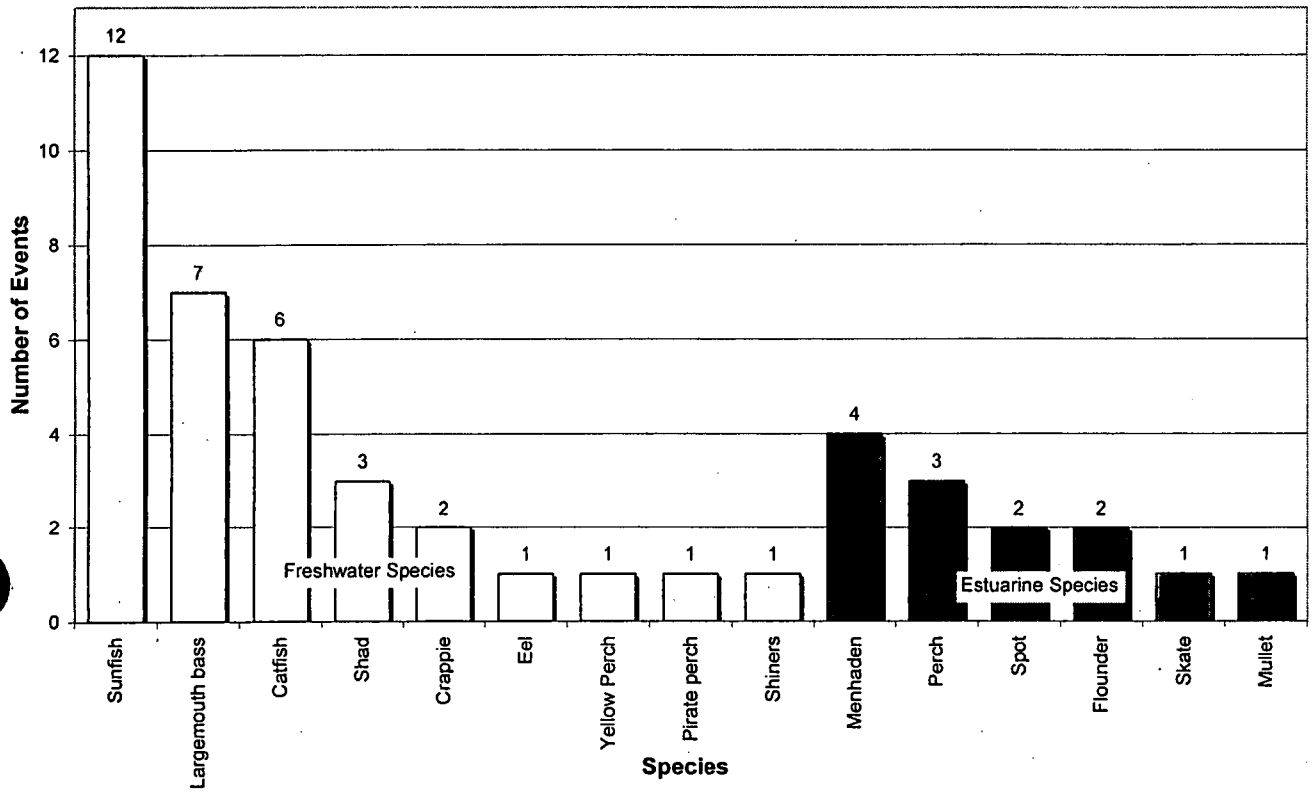


Finfish and Other Species Reported

Fish kill events in 2004 involved 15 different species of fish in both estuarine and fresh waters (Figure 3). Freshwater species most commonly identified during investigations included sunfishes, largemouth bass, and catfish. Estuarine species most commonly reported included menhaden and perch. Atlantic menhaden have historically been involved in a majority of estuarine kill events and have exhibited stress and disease in conjunction with fish kills.

Reports of non-finfish species involved in fish kills were infrequent during 2005. Over 3000 blue crab were included in one of the year's large events on the lower Neuse River. Other species appearing on reports included turtles and tadpoles.

Figure 3: Finfish observed during 2005 fish kill events



Suspected Causes of 2005 Events

Specific causes of fish kill events may or may not be obvious to investigators depending on a number of factors. Causes are often identified, but others remain unconfirmed or unclear due to an investigation occurring hours or days after the actual event. Kill events often result from many environmental factors, and sorting out the major reason(s) why a fish kill occurs is frequently a difficult and often subjective task. Investigators generally monitor environmental conditions surrounding an event and are encouraged to submit suspected causes on reports along with supporting information. This information aids in evaluating potential water quality trends and problems, and assist scientists and decision-makers with formulating future courses of action. Reported causes should not be viewed as a definitive label for a particular event.

Reported causes of 2004 kill events included dissolved oxygen (DO) depletion, sewage and chlorine spills, and suspected bycatch from fishing operations. Those events where no specific causes could be determined were reported as "unknown" (Table 2).

Table 2: Major causes reported for 2005 fish kill events

Reported Cause	Number of Events
Unknown	8
Dissolved Oxygen Depletion	6
Spills	3
Bycatch	2
Algae Blooms	None

Unknown Causes: Causes for kill events are reported as unknown when investigators fail to cite specific reasons for an event. Investigations may not provide definitive causes when they are conducted too long after an event and no clear factors are determined, or when causes are suspected but not confirmed. Investigators failed to cite or confirm causes for eight of the year's events. Events with unknown causes were reported mainly from freshwater ponds or lakes during 2005. Often the investigations yielded few clues and water quality measurements appeared normal.

Dissolved Oxygen Depletion: Low dissolved oxygen was cited as a factor in six kill events during 2004. DO depletion was reported as a factor in the year's largest fish kills observed in the lower Neuse estuary during July and September (see Notable Events). Events in the lower Neuse were associated with upwelling of hypoxic water from the river bottom or depletion of DO in warm shallow areas.

Spills: Toxic spills may deplete DO levels in receiving streams or induce kills outright through physical or chemical toxicity. During 2005 investigators reported a large sewage spill into Hewletts Creek in Wilmington. An estimated 3 million gallons of raw sewage flowed into the middle branch of the creek causing a kill of at least 200 fish. Investigators suspected many more fish were affected but could not be counted due to access difficulties within the watershed. An additional sewage spill was reported during the year in Pamlico County near Grantsboro as well as a chlorinated water line break in Wake County at Perry Creek. Both events together involved about 200 fish.

Bycatch: Discarded fish from nearby fishing operations was reported as a cause in two kill events during the year. A relatively large event involving mainly spot in the Atlantic Ocean (Currituck County) was linked to a seine net dump. Spot were observed scattered over a three-mile section of beach near the Currnitck National Wildlife Refuge. A second suspected bycatch event was documented on the Chowan River near Arrowhead

Beach (Chowan County). Investigators observed catfish with lesions and noted some fishing activity in the area.

Harmful Algae: Although there were no reports of harmful algae being a factor in 2005 fish kill events, ESS staff routinely examine water samples associated with kills for the presence of harmful species. Algal samples that contain significant amounts of Pfiesteria-likes or other potentially harmful algae are often sent to research laboratories throughout the state. The Center for Applied Aquatic Ecology in Raleigh has the ability to examine samples under scanning electron microscopy. Laboratories at the University of North Carolina at Greensboro and the National Oceanic and Atmospheric Administration laboratory in Beaufort can examine samples with molecular probes. Laboratories at UNC-Chapel Hill and UNC-Wilmington provide valuable taxonomic expertise. Algal samples and results are collected, exchanged, and discussed between DWQ and research laboratories as a professional courtesy.

Notable Events

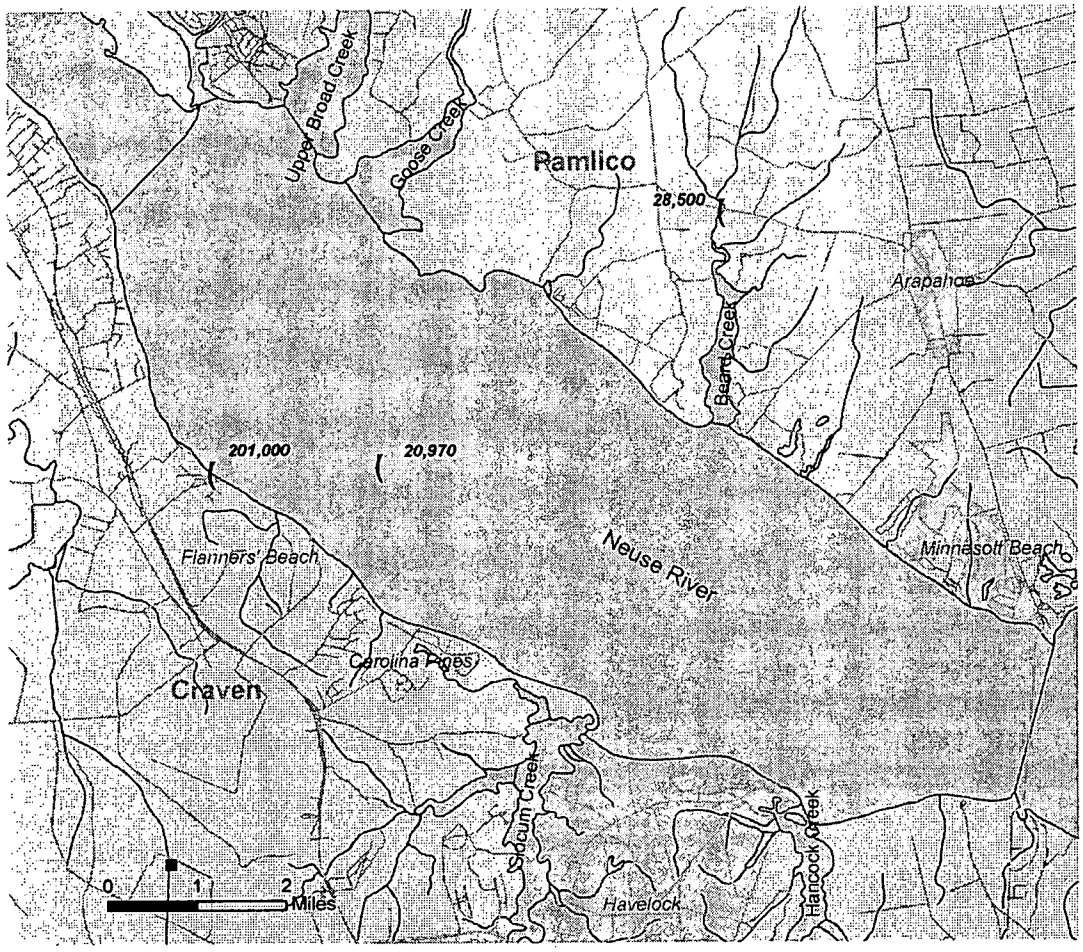
Neuse River and Beard Creek, July and September (Figure 4): The lower Neuse River below New Bern has historically been a trouble spot for fish kill activity. During July 2005, the Neuse River Response Team (NRRT) investigated two large fish kill events near Flanners Beach (Craven County). Together the events involved at least 221,970 individuals comprised mainly of atlantic menhaden and represented over 85% of the fish mortality reported statewide for the year.

Prior to the two events, data from US Geological Survey monitoring equipment in the area indicated a drop in DO levels and associated hypoxia in the water column. Hypoxic conditions have historically occurred in North Carolina's estuaries as nutrient and organic loading coupled with water column stratification deplete DO levels during warm months. Sudden shifts in wind direction and velocity when these conditions are present can cause mixing of the water column or an upwelling of the hypoxic layers.

During September, NRRT members also documented a large menhaden kill in Beard Creek, a tributary on the north side of the Neuse River near Arapahoe. Effects from Hurricane Ophelia were blamed for the event. Investigators reported that in the wake of the storm water from surrounding wetlands drained into the creek and depleted DO levels to a point that triggered a kill of over 28,000 fish.

Badin Lake, August: Badin Lake (Montgomery County) has experienced significant fish kills in recent years and the trend continued in 2005 with investigators reporting a kill of at least 1500 largemouth bass, and sunfish. Factors surrounding this year's event are similar to observations made at previous events on Badin, namely rapid water column destratification and anoxic conditions that squeeze adequate physical habitat for the lake's fish populations.

Figure 4: Large fish kill events and fish mortality reported on lower Neuse River and Beard Creek – July and September, 2005



2005 Summary

Investigators reported fish kill events in 9 of the state's major river basins during 2005. In general, kill activity in basins across the state was light when compared to yearly activity reported since 1996. The number of fish kills reported during 2005 totaled 19, on par with the lowest count of 17 reported in 2004. Reported fish mortality also remained at the lowest level since 1997 with just over one quarter million fish killed. The vast majority of the year's mortality (85%) occurred during two events in the lower Neuse River.

Notable events included the familiar phenomenon of fish kills in the Neuse River near Flanners Beach. This area continued to exhibit the water column stratification and subsequent hypoxia that plague shallow, poorly flushed estuaries. As a result, investigators documented large and events in the area during July. Hurricane Ophelia produced only one event, a menhaden kill in Beard Creek (Pamlico County) as a result of wetland drainage in the aftermath of the storm.

Since fish kills may represent the endpoint of a myriad of environmental factors, reasons for the drop in both mortality and kill events during 2004, and again in 2005, remain unclear. More favorable environmental conditions (ie: weather, hydrology, water chemistry) have been documented during periods of low fish kill activity, especially in the states coastal waters. Determining if a decrease in fish kill reports reflects natural changes or is the result of improved water quality requires continued long term monitoring and research.

Addendum - Division of Water Quality Annual Report of Fish Kill Events December, 2005

This addendum summarizes several large menhaden kill events along the North Carolina coast that occurred last December after finalization of the annual report. The events occurred from December 18 to 26 and were among the largest of the 2005 calendar year, affecting over 2 million fish. Counting these additional events, 2005 produced 23 fish kill events (reported to DWQ) and a cumulative mortality of over 2.25 million fish.

Notable Events

Wrightsville Beach, December 18, 2005: Division of Water Quality and Division of Marine Fisheries investigators reported a kill at Wrightsville Beach (New Hanover County) where a large number of small (4-5 inches in length) menhaden were observed on the beach side. Dead fish were observed down the entire length of Wrightsville Beach a distance of four miles. Further investigation revealed an extremely heavy concentration of dead menhaden in the old Mason's Inlet Channel behind Shell Island on the north end of Wrightsville Beach (Map 1). This area was completely blanketed by dead fish at low tide with additional fish in the water below the low water line. Investigators suspected that large schools of menhaden were migrating south down the beach and a portion of the school entered Mason's Inlet and became entrapped in the small water body behind Shell Island. These fish died of suffocation either from a lack of oxygen or being physically stranded on the banks. The next falling tide carried some of these fish back into the ocean and down Wrightsville Beach although it was presumed that some of the fish on the beach side could have died in the ocean as well. The fish did not have the sores or lesions historically associated with fish health events. Samples of menhaden and water from the kill site were sent to Dr. Carm Tomas at UNCW for analyses of harmful components. Results of all samples were negative for toxins and harmful algae species associated with fish kill events. Investigators estimated that at least two million menhaden were involved in the Wrightsville Beach event.

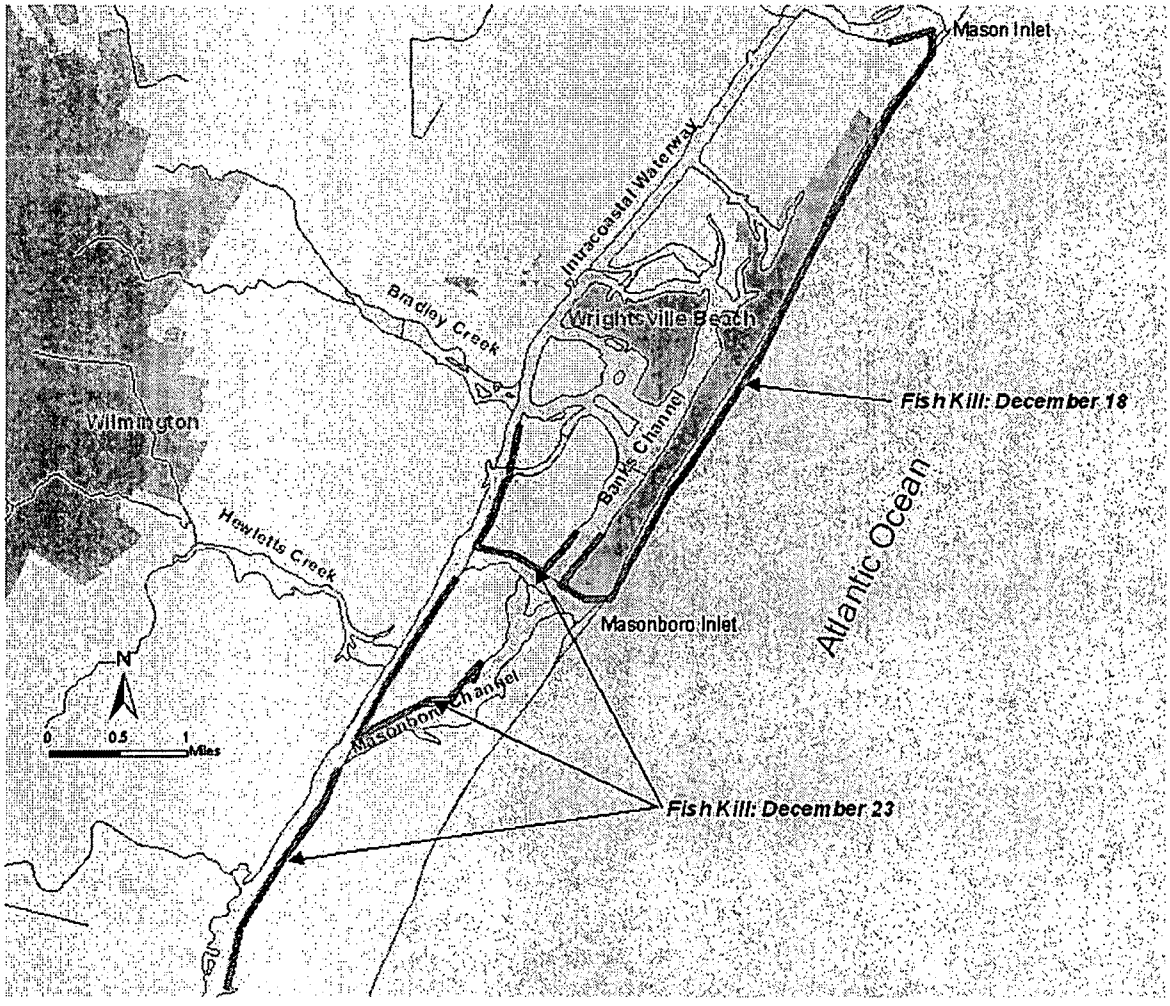
Masonboro Island, December 23, 2005: Division of Marine Fisheries investigators observed dead and dying menhaden in Old Masonboro Channel, the Intracoastal Waterway, Shinn Creek and Banks Channel in New Hanover County (Map 1). The fish were observed dead either on the bottom or along the shorelines. Fish were also seen alive but in distress exhibiting behavior that has been associated with "spinning disease", a viral infection that acts to disorient fish so that they swim in circles. The kill was composed entirely of very young menhaden. Water temperature, salinity and dissolved oxygen readings collected at the location of the kills were all within the range expected at that time of year. Investigators speculated that the kill involved tens of thousands of fish, however, it is possible that these fish were actually part of a larger school that entered Masonboro Inlet and that many more fish may have died in the ocean.

Topsail Island, Lea and Hutaff Islands, December 26, 2005: A fish kill was reported December 26 on the south end of Topsail Beach in Pender County. Marine patrol officers indicated that the fish were on a three mile stretch of the ocean beach in significant numbers and extended around the southern end of the island and a short distance up Bank's Channel (Map 2) . Fish were also reported by citizens on the ocean side of Lea and Hutaff islands south of Topsail indicating that the kill may have occurred off Topsail Beach and spread down the coast. Only 4-5 inch menhaden were observed and the number of fish involved was estimated to be in the tens of thousands.

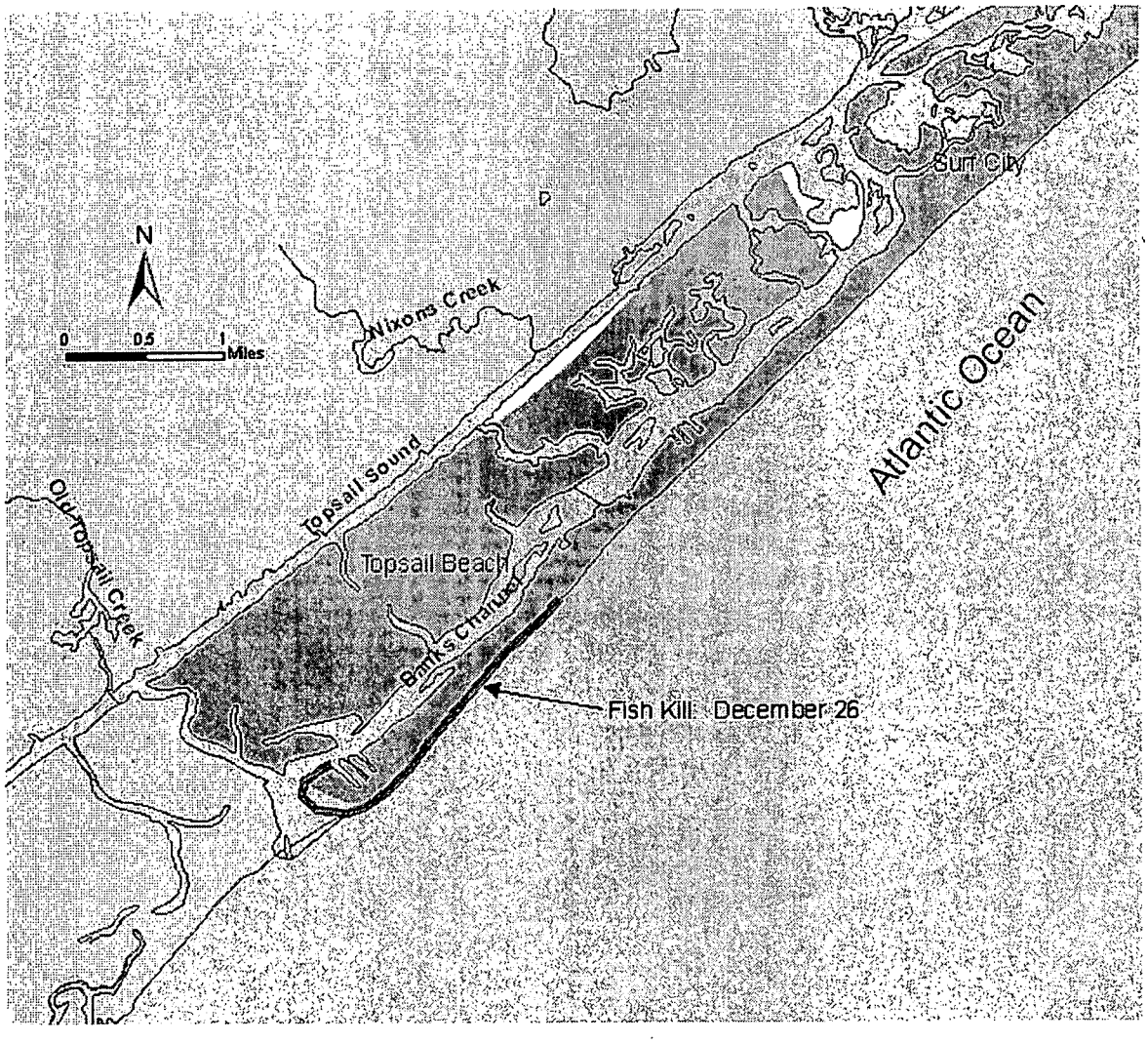
The menhaden kills reported in December around Wrightsville Beach and Topsail Island were linked to extremely high densities of small menhaden as they migrated down the coast. Bycatch from fishing operations was ruled out since the two known fishing companies, Beaufort Fisheries and Omega Protein, had not fished in the southern portion of North Carolina since the Spring. There was no evidence of harmful dinoflagellates or toxic algae nor was there any indication of pollutants that could cause such massive mortalities. No other species other than a few spiny dogfish were seen in association with the menhaden and is evidence that agents toxic to multiple fish species were not present.

Scientific literature describes an incident in 1997 that has many similarities to the December menhaden kills. The 1997 kill was attributed to suffocation of 4-5 inch menhaden as they migrated down the coast in dense schools. Suffocation, either by lack of oxygen or sheer physical stress, was linked to the extreme density of the fish. Similarly, fisheries experts reported a very strong 2005 menhaden year class along the entire east coast. Concentrations similar to those observed in 1997 were reported in the area of the fish kills by fishermen and surfers. Observers reported large schools of apparently healthy menhaden seen under dead fish on the surface. The number of fish involved in the December kills is probably much higher than those actually reported as some of the fish were never stranded on the beaches and banks.

Map 1: Menhaden fish kill locations near Wrightsville Beach – December 18 and 23, 2005



Map 2: Menhaden fish kill location near Topsail Island – December 26, 2005



Short Tutorial on Federal Tier II and CA LEV Vehicle Standards

Environmental Review Commission

February 14, 2006

Brock M. Nicholson, P.E.
Deputy Director
Division of Air Quality

DIVISION OF AIR QUALITY

EXHIBIT H

Vehicle Emissions Standards in the US

- **Federal – Currently "Tier II"**
  - Adopted in 1999
  - Phased in 2004 – 2009
  - Covers all States
  - Federal Clean Air Act (CAA) Section 209(a) "preempts" states from establishing separate standards

- **California – Currently "CA LEV – II"**
  - CAA Section 209(b) exempts California from the Sec 209(a) preemption
  - However, CA must obtain a waiver from EPA for state standards to be effective
    - CA standards must be equal to or more stringent than the Federal standards

Features of the Federal Tier II Standards

- Emissions certified in 8 Categories ("BINS") – NOx limits at 120,000 miles Range from 0.20 to 0.00
- Manufacturers must meet a fleet average for NOx of 0.07 grams per mile – compliance determined at time of Certification with Manufacturer
- Warranty - 8 years / 80,000 miles – emissions components

What are the Components and Features of the CA Vehicle Standards?

- **LEV–II: "Low Emitting Vehicles"**
  - Reduces "Criteria" and Precursors to Address Ambient Air Quality
  - Phased in Between MY 2004 and 2010
  - Sec 209 Waiver Granted

- **"Pavley": Standards**
  - Address CO2 and other Green House Gases (GHG) from Vehicles
  - Sec 209 Waiver Applied for in December 2005 – Not yet Granted
  - Not Effective Until Waiver Granted
  - Originally Hoped to be Effective with MY 2009 – Currently can not be any Earlier than MY 2010
  - Several Law Suits Filed – No Stays in Effect

Components and Features of the CA Vehicle Standards Cont'd

- **LEV**
  - Technology Classifications – LEV II, ULEV, SULEV, ZEV, PZEV, ATPZEV
  - Cars Plus Medium Duty up to 14,000 pounds
  - Required Statewide Fleet Average for Hydrocarbons (NMOG in CA)
  - Enforceable at the State Level
  - Warranty – 3 years / 50,000 miles – 7 years / 70,000 miles
- **"Zero Emitting Vehicles" (ZEV)**
  - Phased in MY 2005 – MY 2018
  - Can be True ZEVs or ZEV Equivalents
    - PZEVs – Very Low emissions and Zero Evaporative Emissions
      - 15 years / 150,000 mile warranty
    - ATPZEVs – Advanced Technology – Hybrids and True ZEVs
- **PAVLEY**
  - Regulates CO2, Methane, Nitrous Oxide, HFC (R 134a)
  - Phased in MY 200? – MY 2016
  - Cars / light Duty – to 8500 pounds – Medium Duty to 10,000 pounds

How Can Other States Adopt CA Standards?

- Section 177 of CAA Allows States to Adopt CA Standards
- Most States Can Adopt the CA Standards If:
  - EPA has Granted CA a Waiver und Sec 209
  - The Adoption Does Not Create a "Third Vehicle" Requirement
- Does a State Have to Adopt All of the CA Program?
  - Some Debate on This Issue
  - It Depends
  - Hinges on Whether a "Third Vehicle" Requirement is Created
- Does the Pavley Provision Bring up the Issue of a Third Vehicle? – Yes
  - If Pavley Prevails, States must have Pavley
  - If Pavley Fails to Become Part of the CA Program, State Cannot Adopt it

State Program Options

Option	Program Type	Program Description
1	Federal Tier 2	■Default Program ■No legislation required
2	California LEVII – (a)	■All MY 2010 and later vehicles sold or registered
3	California LEVII – (b)	■All MY 2010 and later vehicles sold or registered ■Fleet average requirement to maximize emission reductions
Add on to option 2 / option 3	California LEVII & ZEV	■ZEV (Zero Emission) ■PZEV (5 PZEV = 1 ZEV ■AT-PZEV (~2.5 AT-PZEV = 1 ZEV)

Consideration of the CA - Pavley Standards in NC

- **Adopt LEV Standard as Outlined Above – Without Pavley**
  - If Pavley Waiver is Not Granted and No Court Overturns EPA Decision – No Further Action by Legislature
  - If Pavley Become Effective, Legislature Must Add Pavley to NC Standards
- **Adopt LEV Standard as Outlined Above – With Pavley**
  - If Pavley Waiver is Not Granted and No Court Overturns EPA Decision –Action by Legislature to Remove Pavley is Required
  - If Pavley Become Effective, No Further Action by Legislature
- **Perhaps an Escape Clause in the Legislation would Prevent Having to Return to Legislature to "Correct" the Pavley portion**

EXHIBIT I

Legal Issues Pertaining to the Adoption of California Auto Emission Standards (Including GHG Standards) by Other States

Prepared by:

David Bookbinder, Sierra Club

January 3, 2006

This memo briefly describes how other states can adopt California's auto emission standards under Section 177 of the Clean Air Act, including discussion of the impact of California's proposed regulations adding greenhouse gas ("GHG") limits to the current "LEV II" standards.

California's authority to set its own vehicle emission standards.

Section 209(a) of the Clean Air Act prohibits any state from establishing motor vehicle emission standards. However, Section 209(b) exempts California from this preemption, allowing it to adopt vehicle emission standards that are more stringent than the federal ones. (The current federal emissions standards are called the "Tier 2" standards.) When California does so, it must apply to EPA for a "waiver of preemption." EPA may deny this waiver only in very limited circumstances, and has never yet done so.

Which states can adopt California's automobile emission standards?

Section 177 of the Act allows any state that either (a) currently does not meet any of the National Ambient Air Quality Standards ("NAAQS"), or (b) was out of compliance but now meets a NAAQS, to adopt California's auto emission standards. NAAQS exist for six "criteria" pollutants: carbon monoxide, nitrogen dioxide, ozone, lead, sulfur dioxide and particulate matter ("PM").[1]

Currently, almost every state (except Florida, Hawaii, Iowa, Kansas, Mississippi, Nebraska, North Dakota and South Dakota) is eligible to adopt California's standards because at least part of each such state is in "nonattainment" of one or more of these NAAQS (EPA Greenbook (www.epa.gov/oar/oaqps/greenbk), as of September 29, 2005), or has recently come into "attainment" of the NAAQS and so remains eligible to adopt California's standards. For purposes of this memo, "177 State" means any state that is eligible to adopt California's standards.

It is important to note that EPA approval is not needed for any 177 State to adopt California's standards. Furthermore, EPA regulations also allow auto dealers in any state that borders a 177 State that has adopted California standards to sell California-certified cars as well.

What are the air-quality benefits of adopting California's emission standards?

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[1] Specifically, Section 177 allows states with an approved State Implementation Plan ("SIP") – *i.e.,* a plan to achieve or maintain compliance with a NAAQS – to adopt California's standards. Vermont may also adopt California standards even though it is in attainment of all NAAQS because it is part of an "ozone transport region" established under Section 184 of the Act.

For a variety of technical reasons, there is no simple answer to this question, and results will vary depending on the composition of each state's vehicle fleet. However, these benefits can be estimated by looking at the analysis that was done for three states that have already adopted the LEV II standards, New York, Massachusetts and Vermont. The results ("HC" is hydrocarbons) are as follows:

Annual Emissions Benefits of the LEV II Program in 2020

State	HC reduced (tons)	% HC reduction Over Tier 2	Toxics reduced (tons)	% Toxics Reduction Over Tier 2
NY	10,020	15%	502	25% for each toxin
MA	3,300	17%	185	25% for each toxin
VT	510	14%	29	19% for each toxin
Total	13,830	Average reduction 15.3%	716	Average reduction 23%

May a 177 State adopt only a single California emission standard, e.g., for NOx or GHGs?

No. A 177 State must adopt *all* of California's emissions standards as a package. Section 177 is based on the idea that automakers will not have to cope with more than two sets of emissions standards, *i.e.,* federal standards and California standards. If a 177 State were to adopt California's NOx standard but not the rest of the California standards, this would result in what Section 177 calls a "third vehicle", a car which would have to meet California's standards for some pollutants, but federal standards as to other ones. Section 177 guarantees the automakers that they will not have to meet more than two regulatory regimes by explicitly prohibiting any requirements that result in such "third vehicles".

What is the status of California's Greenhouse Gas ("GHG") standards?

California has completed its GHG rulemaking, and on December 27, 2005 submitted its proposed regulations to EPA for review under Section 209(b) of the Clean Air Act. Although the regulations contemplate becoming effective as of Model Year 2009, this date is somewhat unrealistic. It will take a considerable amount of time for EPA to complete its review, and whatever EPA's decision is, it will almost certainly be appealed to the U.S. Court of Appeals for the District of Columbia Circuit. Unlike previous regulations, the auto industry maintains that the GHG regulations are illegal and will not comply with them until EPA -- or the D.C. Circuit -- approves them. In addition, the industry has sued CARB over the GHG regulations in federal court in California, and that case is still pending.

May a 177 State adopt California's emissions standards, but not the Zero Emission Vehicle ("ZEV") sales mandate?

Legally, the answer is probably not, because two courts have held that the ZEV sales mandate is an "emission standard" under Section 177; as such, a state must adopt it along with the rest of California's standards. *AAMA VI*, 208 F.3d 1, 6-7 (1st Cir. 2000); *MVMA VII*, 152 F.2d 196, 200-201 (2d Cir. 1998). As a practical matter, however, EPA has taken the position that a state can adopt California's standards without the ZEV mandate (60 FR 4728-29), and some 177 States (e.g., Vermont prior to 2004, and Maine) have done so. The auto industry has not been willing to sue these states for excluding the ZEV sales mandate, and environmental groups are unwilling to risk losing the LEV II standards on the basis that they are incomplete without the ZEV mandate. It is also difficult to imagine how the auto industry could show how they are injured (necessary for Constitutional standing purposes) by the absence of the ZEV mandate.

May a 177 State adopt California's emissions standards, but without the "fleet average" provision?

Certain LEV II standards (*e.g.*, the "NMOG" standard covering non-methane hydrocarbons) are set in the form of a sales-weighted average to be met across a manufacturer's entire fleet, and it is clear that a 177 State may adopt these fleet average standards. The question is whether a 177 State may ignore the fleet average and simply elect to require that any vehicle sold within its borders must be a vehicle certified for sale in California. This approach may be more attractive in states that have a significantly different mix of vehicle models than California, and it is also the easiest statute to implement and administer.

States have done both; for example, Massachusetts did not adopt the NMOG fleet average, but New York did. Adopting LEV II standards without California's fleet averaging provisions probably violates Section 177's requirement that a 177 State adopt standards "identical" to California's[2], although it is highly unlikely that either side would litigate this issue. On the other hand, the auto industry has grumbled about other states adopting a California fleet average, on the grounds that CARB established the fleet average figure for the California vehicle market, and requiring auto makers to meet this same figure in markets that are both smaller and demographically different from California is unfair. More to the point, when Vermont revised its standards in 2005 to include California's newly-adopted greenhouse gas (GHG) limits, the auto industry sued

[2] While this issue has not been litigated, this conclusion follows from the reasoning that both the First and Second Circuits used to decide that the ZEV sales mandate is an emission standard that 177 States are required to adopt. *MVMA VII*, 152 F.2d at 200; *AAMA V*, 163 F.3d at 84; *AAMA VI*, 208 F.3d at 7.

and claimed -- among other things -- that for these reasons the GHG fleet average violated a provision of Section 177.

May a 177 State adopt California's emissions standards for one class of vehicles but not another?

There are several sets of LEV II standards, one for passenger cars and "light" light duty trucks (up to 3,750 lbs), one for "medium light duty" trucks (3,751-8,500 lbs) medium duty trucks (8,501-10,000 lbs) and heavier medium duty trucks (10,001-14,000 lbs). (Note: Terminology about truck weight classes can be confusing; the best way to refer to these standards is by the actual weight figures.)

Some states have just adopted the passenger car/LDT standards up to 8,500 lbs (e.g., Connecticut, New Jersey); others (Massachusetts, Maine and Vermont) have adopted all of them. The issue has never been litigated, and it would appear that the automakers do not object to a state not adopting the heavier set of standards.

May a 177 State permit, but not mandate, California-certified vehicles?

Yes, but the air-quality benefits will be almost impossible to predict, and thus the state will almost certainly not get any SIP credits from EPA for doing so.

May the 9 states that agreed not to adopt California standards as part of the National Low Emission Vehicle Program now adopt the LEV II standards?

Yes. These nine states (Connecticut, Delaware, Pennsylvania, Maryland, New Hampshire, New Jersey, Rhode Island, Virginia and the District of Columbia) agreed to forebear from adopting California standards only through Model Year 2006 (63 Fed. Reg. 931 (January 7, 1998)). They are free to adopt LEV II for any model year after MY 2006, and four of them (Connecticut, New Jersey, Pennsylvania and Rhode Island) have already done so. The Connecticut and Rhode Island programs are scheduled to be in effect as of Model Year 2008, New Jersey as of MY 2009, and Pennsylvania MY 2011.

When may a 177 State adopt California standards?

177 States may adopt California's emission standards as soon as the California Air Resources Board ("CARB") promulgates them. However, Section 177's "leadtime" requirement bars states from enforcing such standards until Model Years beginning two years after the date of adoption. *MVMA III*, 17 F.3d 521, 533-534 (2d Cir. 1994).

"Model year" has a specific technical meaning under Section 177; a given model year actually begins on January 2 of the *previous* calendar year. In other

words, in order for a 177 State to adopt California standards for model year 2009, the 177 State must adopt those standards 2 years before January 2, 2008, in other words before January 2, 2006. 40 C.F.R. 85.2301-2304.

In which 177 States does current law already authorize adoption of California's standards? In which would additional legislation be needed?

State statutes range from those requiring the state's executive branch to adopt California standards, to laws permitting adoption, to laws forbidding any such action without new legislation.

It is important to note that because each of the four states that currently implement California standards (Maine, Massachusetts, New York and Vermont) adopted those standards as of a specific date, each will have to administratively adopt CARB's proposed GHG limits in order to remain consistent with the California standards.

a. Mandatory adoption

Massachusetts law (Mass. Gen. Laws c. 111 s. 142K), mandates that the state Department of Environmental Protection:

> adopt motor vehicle emissions standards based on the California's duly promulgated motor vehicle emissions standards of the state of California unless, after a public hearing, the department establishes, based on substantial evidence, that said emissions standards and a compliance program similar to the state of California's will not achieve, in the aggregate, greater motor vehicle pollution reductions than the federal standards and compliance program for any such model year.

Likewise, **Connecticut** law (2004 Conn. Pub. Acts. 84) requires "the Commissioner of Environmental Protection ... to implement the light duty motor vehicles emissions standards of the state of California."

b. Specifically authorizing adoption

Other states have specifically "authorized" their environmental agencies to opt-in to the California programs. In **Maine**, for example, the legislature stated that the "Board may adopt and enforce standards that meet the requirements of the federal Clean Air Act, Section 177." 38 Maine Rev. Stat. Ann. 585-D. Maine then used this authority in adopting LEV II.

c. Permitting adoption

Most states have delegated broad authority to the state environmental agency that would allow the agency to adopt the California standards. For

example, **Alabama** law provides ADEM (here referred to as "the commission") with such authority:

> As the state of knowledge and technology relating to the control of emissions from motor vehicles may permit or make appropriate, and in furtherance of the purposes of this chapter, the commission may provide by rules and regulations for the control of emissions from any class or classes of motor vehicles. Al. Code 22-28-12(a).

It is worth noting that several states that have adopted LEV II administratively have used such broad statutory authorization. For example, **Vermont** DEQ adopted LEV under a law providing that DEQ "may provide rules for the control of emissions from motor vehicles." 10 Vermont Stat. Ann. § 567.

Delaware law gives DENREQ extremely broad authority to adopt auto emission standards, and new legislation would not be needed (Del. C. Title 7, § 6703):

> The Department shall have the power to formulate and promulgate, amend and repeal codes, rules and regulations establishing standards and requirements for the control of air contaminants from motor vehicles.

North Carolina authorizes the Environmental Management Commission "to adopt motor vehicle emission standards" (NC Gen. Stat. 143-215.107(a)(6). (N.B.: it is possible to read this authorization as only applying to "standards" used in connection with a vehicle inspection and maintenance program.)

South Carolina appears to give very broad authority to DHEC, which "shall develop and enforce standards as may be necessary governing emissions or discharges into the air, streams, lakes, or coastal waters of the State, including waste water discharges." SC Code 48-1-100(B). While this does not explicitly reference motor vehicle emissions, presumably such emissions are included within "emissions . . . into the air."

Mississippi's statutory language is similar to South Carolina's; the Commission on Environmental Quality may "adopt, modify or repeal and promulgate . . . emission standards for the state under such conditions as the commission may prescribe for the prevention, control and abatement of pollution." Miss. Code Title 17, § 49-17-17(h).

d. Permitting adoption in certain circumstances

Maryland law delegates broad authority to MDE to "adopt rules and regulations for the control of air pollution in this State." Maryland Code Environment Title, § 2-301. However, in 1993 the legislature authorized MDE to adopt California auto emission standards only if one of two contingencies is

satisfied: either (a) four of five states (Delaware, District of Columbia, New Jersey, Pennsylvania and Virginia) have adopted the LEV standards, or (b) enough other states within the Ozone Transport Region have adopted the LEV standards such that 60% or more of new car registrations within the OTR were subject to them, plus at least two of four states (Delaware, District of Columbia, Pennsylvania and Virginia) have done so as well. Id. § 2-703.

At the same time, Maryland also provided that if EPA established Tier II emission standards, then this statutory authorization and any program established thereunder would automatically terminate. Acts 1993, c. 201, Section 2. (Because EPA has done so, this legislation is no longer relevant except to show that despite the broad grant of authority in § 2-301, MDE would probably seek specific authorizing legislation to adopt LEV II.)

Rhode Island takes the approach of generally empowering its agencies to adopt "regulations . . . relating to emission standards for new motor vehicles and new motor vehicle engines" and requires that such regulations "shall not be more stringent than the mandatory standards established by federal law or regulation." However, the agency is specifically empowered to go beyond the federal standard if "the regulations are needed for the attainment or maintenance of air quality standards." RI Gen. Laws 23-23-5 (22). Such a determination was used when Rhode Island adopted the original LEV program and LEV II standards.

e. Prohibiting adoption

Georgia law (Ga. Code 12-9-46(a)(3)) provides that the state Natural Resources Board may "prescribe by rule or regulation emission standards or emission limitations limiting the amounts of allowable exhaust emissions of hydrocarbons, nitrogen oxides, and carbon monoxide and evaporative emissions of hydrocarbons from responsible motor vehicles as defined in this article." Nevertheless:

> In no event shall the emission limitations be stricter than those required by the USEPA pursuant to the federal Clean Air Act, as amended, for the particular vehicle to which such limitations apply.

In other words, forget it.

Louisiana has a similar statute (RS 30:2054(B)(8)), which authorizes DEQ:

> To establish and implement a program for the control and abatement of motor vehicle emissions in accordance with R.S. 30:2060 and other applicable state and federal laws, particularly the Clean Air Act as amended, but not to exceed the requirements provided in such Act unless specifically authorized.

In 2003, the **New Hampshire** legislature removed the ability of the Department of Environmental Services to adopt LEV II or any other California auto emissions regulations without specific legislation; New Hampshire state agencies are not permitted to "propose or adopt a rule . . . that incorporates by reference any code, rule, or document from another state government without specific authority in the authorizing legislation or specific legislative approval for such a rule." New Hampshire Revised Statutes Annotated 541-A:3-b.

Virginia law (Virginia Code Title 10.1 §1307(b)) limits the State Air Pollution Control Board to adopting only certain authorized measures, which in turn are limited to I/M standards. Virginia Code Title 46.2 §§ 1176 et seq.

California Lev-II and EPA Tier 2 Standards

Kay Prince
US EPA Region 4
February 14, 2006

EXHIBIT J

General Requirements for Adopting a "CA Car" Program

- States can adopt anytime, but can only enforce once waiver issued to CA
  - Issued for LEV II
  - Not issued for Pavley Bill (Greenhouse Gas Provision)
- A two year lead time must be provided
- No "third vehicle"

Must also:

- State must commit to enforcement
- Any SIP credit must be modeled appropriately

State Program Options

Option	Program Type	Program Description
1	Federal Tier 2	•Default Program •No legislation required
2	California LEVII – (a)	•All vehicles sold or registered
3	California LEVII – (b)	•All vehicles sold or registered •Distribution requirement to maximize emission reductions
4	California LEVII & ZEV	•ZEV (Zero Emission) •PZEV (5 PZEV = 1 ZEV) •AT-PZEV (~2.5 AT-PZEVs = 1 ZEV)

California LEV II/EPA TIER 2 Comparison

	California Lev II	***EPA Tier 2***
Control Focus	*Hydrocarbon (HC)*	*Nitrogen Oxides (NOx)*
Control Achievement	*Declining Annual Fleet Average for 2 Light Duty (LD) Vehicle Categories*	*Phase In to Average NOx Standard for 2 Light Duty (LD) Vehicle Categories*
Timing	*Average Decline Annually from 2004 to 2010*	*NOx Standard Met:* *2007 – Cars& LD Trucks* *2009 – SUVs & Heavier Trucks*
Mileage Basis	*50,000 Miles*	*120,000 Miles*

California LEV II/EPA TIER 2 Comparison

The California LEV II program sets the fleet HC (NMOG) standards and fleet-wide NOX levels result from the implementation of the program. Average NOX levels are not specified.

The EPA Tier 2 program sets the fleet NOx standards and fleet-wide VOC levels result from the implementation of the program. Average VOC levels are not set.

NOTE: Comparing VOC emissions between programs is difficult because of varying assumptions on fleet mix. The same is true for a comparison of NOx.

Contact Information

- ***www.ncair.org***

- ***Brock.Nicholson@ncmail.net***
  919-715-0587

Overview of Northeast State Low Emission Vehicle Programs

Environmental Review Commission
North Carolina General Assembly
Raleigh, North Carolina
February 14, 2006

Coralie Cooper
Transportation Program Manager
NESCAUM
ccooper@nescaum.org

NESCAUM

About NESCAUM

- Northeast States For Coordinated Air Use Management formed in 1967 by the region's Governors.
- Nonprofit association of air pollution control agencies in the 6 New England States, New York & New Jersey.
- Provide technical assistance and policy guidance to member states on air pollution issues of regional concern.

NESCAUM

LEV Overview

- Section 209 of Clean Air Act allows CA special dispensation to regulate vehicles; other states pre-empted.
- Section 177 lets other states copy CA.
- How: Implementation issues surmountable.
- Why: Greater emission reductions; consumer benefits.
- Seven NESCAUM states have adopted.

NESCAUM

LEV Implementation Dates

- **MA, NY,** and **VT** have had the LEV program since the 1990's; will have the ZEV mandate in place for MY 2007.
- **ME** has had LEV in place since 2001 without ZEV; has just adopted ZEV effective MY 2009.
- **RI** and **CT** will have LEV/ZEV in place for MY 2008.
- **NJ** expected to have LEV/ZEV in place for MY 2009.
- All states will have ZEV in place by 2009.

NESCAUM

State Authority to Adopt LEV

- **NY, VT** have broad authority; did not require legislation to adopt LEV.
- **MA, ME** passed legislation requiring state to adopt LEV.
- **CT** has legislation requiring state to adopt LEV and to maintain the same schedule as CA.
- **NJ** has legislation requiring state to adopt LEV.
- **RI** adopted via Executive Order; did not require legislation.
- Some states choose legislative approach even when not strictly required.

NESCAUM

Zero Emission Vehicle Flexibility

- Manufacturers can comply with ZEV mandate exactly as they do in CA.
- But, Northeast states also give automakers more flexibility (as requested by the manufacturers).
- Two flexibility programs:
  - Alternative Compliance Plan (ACP) – "Ramp up"
  - Proportional Credits – "Bank" of credits; same %'s
- **NY, MA, & VT** use ACP.
- **CT, RI, ME,** and **NJ** will use proportional credits.

NESCAUM

Alternative Compliance Plan

- Manufacturers have been allowed to bank credits beginning in 2002.
- A credit multiplier (extra credit) is applied to all advanced technology vehicles through 2008.
- The programs will be equivalent to CA in 2009 in terms of percentage requirements.
- In New York, 6 of 7 manufacturers chose the alternative compliance plan.

NESCAUM

Proportional Credits

- In NJ, CT, RI, and ME the states are providing manufacturers with a credit bank as a gradual ramp-up to the full ZEV mandate.
- Manufacturers are given a bank of credit calculated on the amount of credit banked in California.
- A ratio of sales in CA and in NJ, CT, RI, and ME is used to calculate actual credits.

NESCAUM

Enforcement of the Standards

- A number of states have provided flexibility to manufacturers in meeting the fleet emissions standards (NMOG).
- A three year grace period for meeting the fleet average standard has been typical.
- All states in the region will enforce the fleet average by 2010.
- A regional enforcement program is being considered.

NESCAUM

LEV Incentives

- **MA, VT**: None
- **NY**: Up to $5,000 rebate for pure electric vehicles. Lower sales tax for pure electrics & hybrids. Proposed budget has $2,000 tax credit for hybrids.
- **ME** – Lower sales tax for hybrids and clean fuel.
- **NJ** – No sales tax for pure electric vehicles
- **CT** – None now; some for alternative fueled.
- **CA** – State & some cities offer various incentives.

NESCAUM

Other Program Aspects of LEV

- **Enforcement** – Most states use registration denial as enforcement mechanism.
- **NMOG Curve** – States discussing possible regional NMOG curve for all Northeast states to replace the NMOG curve requirement in each state.
- **Warranty** – Most states use CA's warranty, often incorporated by reference.
- **Certification** – Most states use CARB executive orders, some incorporated by reference.

NESCAUM

LEV Benefits in the Northeast 2010 - 2025

Year	NOx Benefit*	VOC Benefit*	Region-wide NOx +VOC tons per day
2010	0.5%	3.0%	37
2015	3.9%	7.5%	45
2020	9.1%	11.6%	50
2025	13.2%	14.3%	56

* Representative of states that adopted in 2004 or 2005

A reasonable assessment:

Post-2010 changes to CA LEV could increase its stringency, whereas Tier 2 not likely to change soon.

NESCAUM

Cost History - Auto Emission Controls (incremental per vehicle)

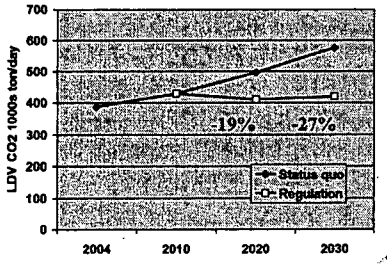
NESCAUM

Northeast LEV Provides GHG Reductions

- NESCAUM Study: GHG reductions of 12-54% possible.
- 25% reduction achievable with current & near-term technologies.
- 54% reduction achievable with advanced technologies.
- Reductions up to 47% achievable with cost ***savings*** to consumers (even at $1.58 per gallon).

NESCAUM

Regulation Reduces Greenhouse Gas Emissions



NESCAUM

Net Savings for Vehicle Purchaser

NESCAUM

Northeast LEV Future

- In 2009 the LEV program will be implemented in the seven NESCAUM LEV states.
- This includes: ZEV requirement, GHG standards, NMOG requirements.
- All seven states will require the same percentages of advanced technology vehicles as CA.
- A regional NMOG curve may be implemented in that year.

NESCAUM

Thank you for your time and attention!

NESCAUM

Cost History - Auto Emission Controls (incremental per vehicle)

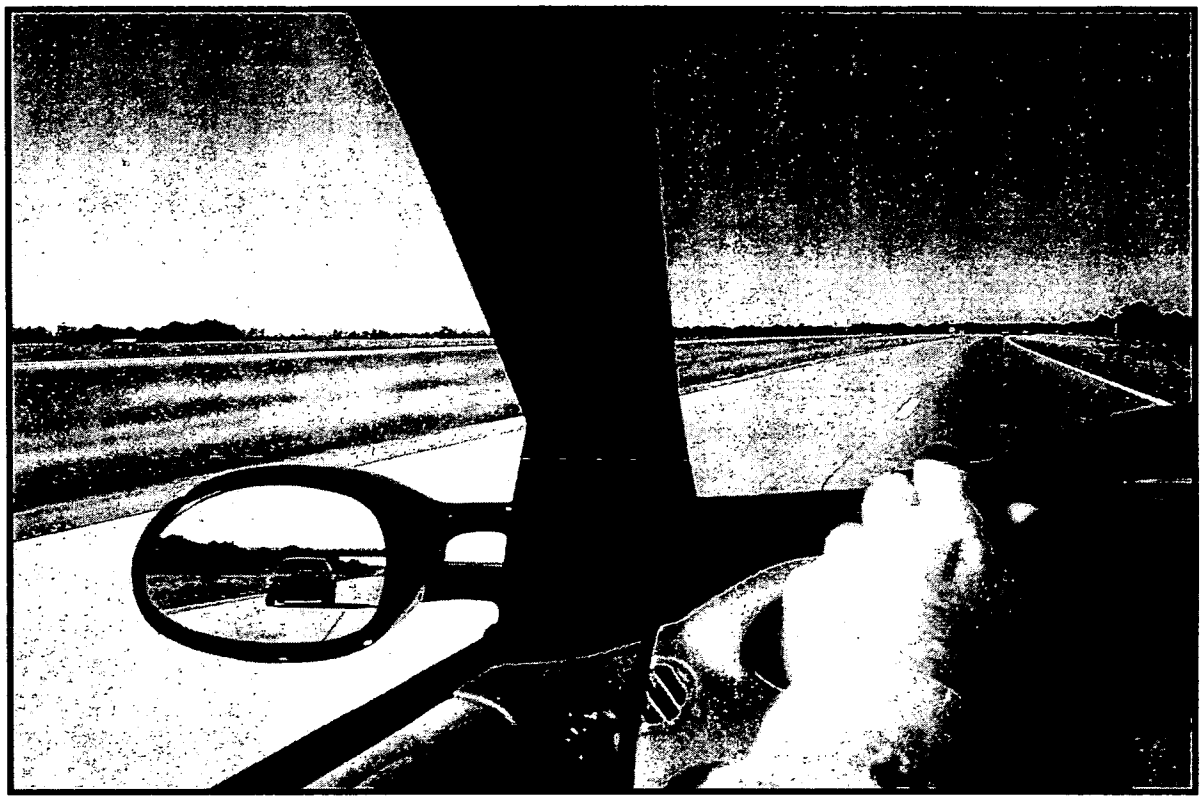
Class	CARB '94	AAMA '94	Actual
TLEV	$72	$298-487	$35
LEV	$120	$911-1343	$83
ULEV	$227	$1666-4005	$251

NESCAUM

Net Savings for Vehicle Purchaser

	Near Term (2012)	Mid Term (2016)
Monthly Payment Increase	$7	$20
Monthly Operating Cost Savings	$18	$23
Monthly Net Savings	**$11**	**$3**

NESCAUM



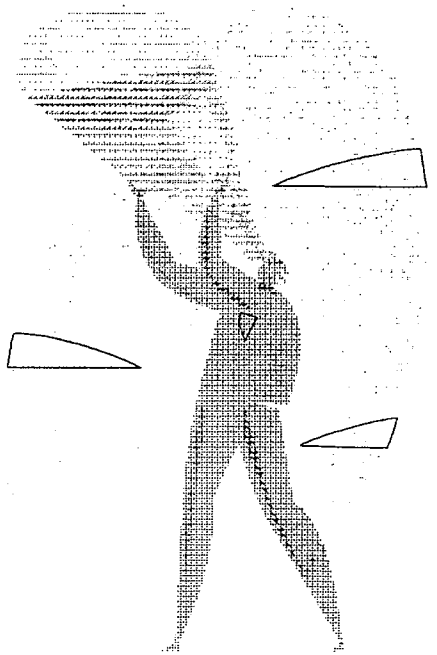
Clean Cars, Cleaner Air for North Carolina

A Presentation by the North Carolina Environmental Community

EXHIBIT L

...Broad support

American Lung Association
American Heart Association
Appalachian Voices
Breathe Easy Coalition
Cleveland County Asthma Coalition
Conservation Council of NC
Environment North Carolina
Guilford County Asthma Coalition
Healthy Alamance Child Asthma Coalition
Madison Community Health Consortium
Mecklenburg County
National Association of Social Workers
NC Conservation Network
NC Environmental Defense
NC Sierra Club
Orange County Asthma Coalition
Pitt County Memorial Hospital
Southern Alliance for Clean Energy (SACE)
Southern Environmental Law Center



The Drive for Clean Air

Clean Vehicle Standards and North Carolina

Brendan Bell

Associate Washington Representative

Sierra Club Global Warming & Energy Program

brendan.bell@sierraclub.org 202.547.1141

SIERRA CLUB

FOUNDED 1892

State Clean Car Standards

- The 1990 Clean Air Act Amendments Gave the State of California Authority to Establish Vehicle Emissions Standards that are More Stringent than the Federal Standards.

- Based Upon California's History of Leadership on Reducing Vehicle Emissions

- Congress Recognized that California and Other States Needed Additional Tools to Improve Air Quality

- California Must Apply to EPA in Order to Change its Emissions Standards. To Date a Waiver Has Never Been Denied.

Adopting the Clean Car Standards

- Any State Can Adopt the Clean Car Standards if it Does Not Meet Any of the National Ambient Air Quality Standards (NAAQS) - *Section 177 of the Clean Air Act*

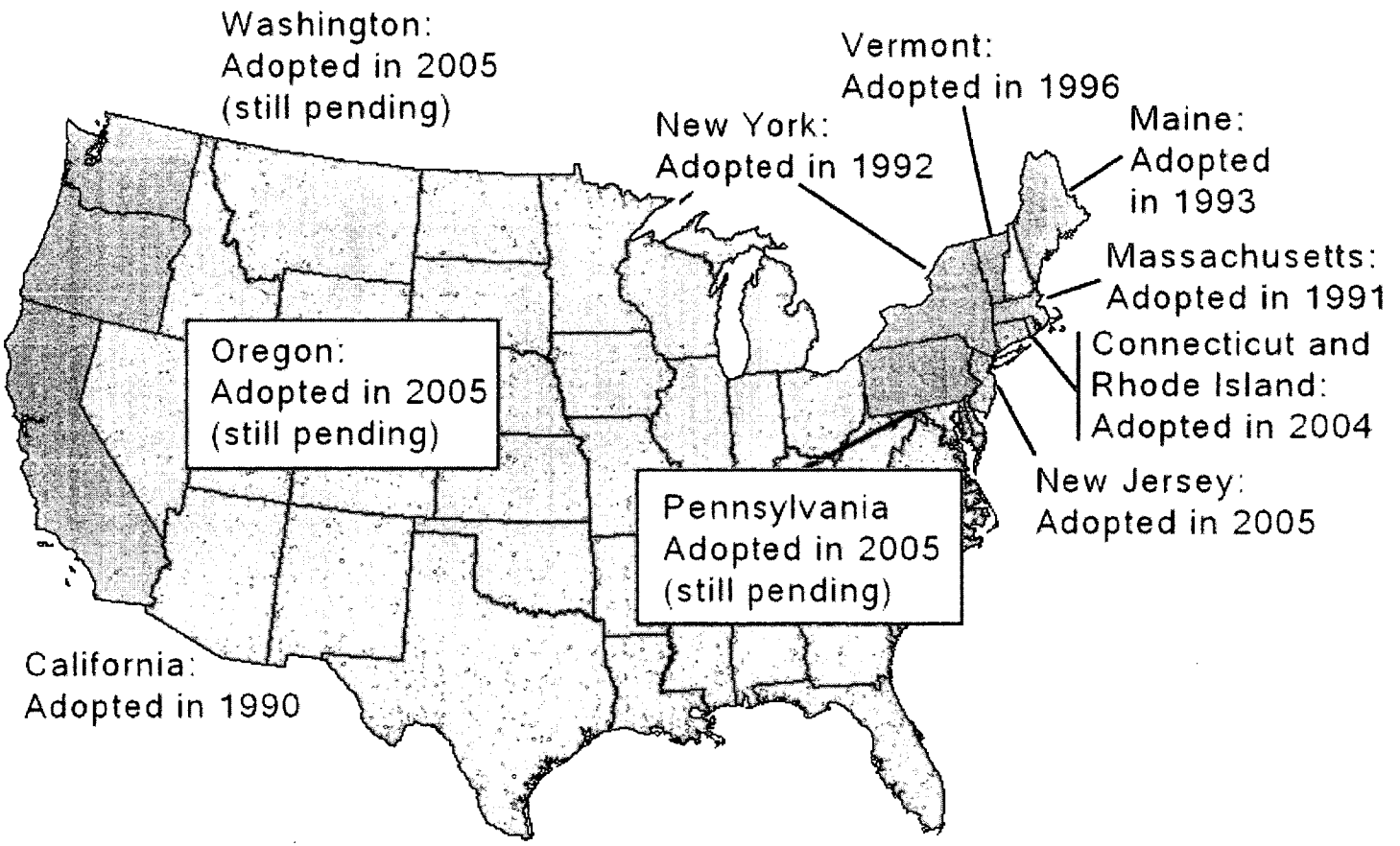
- To Date, Eleven States Nationwide Have Adopted the Clean Car Standards. Many States Have Followed the Standards for Over 10 Years

- EPA Approval is NOT Needed for a Qualified State to Adopt the Standards

Clean Cars Around the Country

Eleven States Nationwide Follow California Standards

CA – WA – OR – ME – VT – MA - CT – RI – NY – NJ – PA



Accounting for 34% of All New Vehicles Sold in the U.S.

How Does North Carolina Compare?

North Carolina Has a Similar Sales Mix of Cars and Light Trucks With Other Clean Car States

How do Clean Car Standards Work?

Low Emissions Vehicle (LEV II) Standards

- Adopted in 1998, the Standards Came into Effect in 2004. Replaced the Previous Low Emissions Vehicle (LEV) Standards.

- Emissions Standards Are Based Upon a Manufacturer's Fleetwide Average.

- Eliminates Separate and Less Stringent Standards for Light Trucks (SUVs, Pickups, Minivans)

How do Clean Car Standards Work?

- **LEV II Standards Are Based Upon a Series of 'Bin' Classifications**
- **Starting in 2004, fleet average emissions must be reduced each through 2010.**
- **The Bin system provides the implementation system for the Clean Car Standards.**

California LEV II Emissions Standards (g/mi) for Light-Duty Vehicles (<8,500-lbs GVWR)

Category	5 Years / 50,000 miles					11 Years / 120,000 miles				
	NMOG	CO	NOx	PM	HCHO	NMOG	CO	NOx	PM	HCHO
LEV	0.075	3.4	0.05	-	0.015	0.090	4.2	0.07	0.01	0.018
ULEV	0.040	1.7	0.05	-	0.008	0.055	2.1	0.07	0.01	0.011
SULEV	-	-	-	-	-	0.010	1.0	0.02	0.01	0.004
ZEV	0.000	0.0	0.0	0.00	0.000	0.000	0.0	0.0	0.00	0.000

Clean Car Standards

- **Zero Emissions Vehicle (ZEV) Standards**
  - Program Has Changed Due to Auto Industry Litigation
  - Allows for Alternative Compliance With Ultra Clean Conventional Vehicles and Advanced Technology Vehicles Like Hybrids
  - Some 177 States Have Adopted ZEV, Some Have Not
- **Greenhouse Gas Emissions Standards**
  - Standards are Not Yet Implemented
  - EPA Has Not Granted the Waiver
  - The Auto Industry is Suing the State of California to Block Implementation of the Standards

State Clean Car Standards:

Proven Air Quality Improvements

Clean Air Benefits: LEV II vs. Tier 2

- Current Clean Car States Are Realizing Substantial Emissions Benefits from LEV II Standards.
- New Modeling Will Be Necessary to Determine North Carolina Specific Emissions Reductions

Table 1: Annual Emissions Benefits of the LEV II Program in 2020

State	HC reduced (tons)	% HC Reduction Over Tier 2	Toxics[14] reduced (tons)	% Toxics Reduction Over Tier 2	CO_2 reduced (tons)	% CO_2 reduced
NY	10,020	15%	502	25% for each toxin	2,500,000	2.25%
MA	3,300	17%	185	25% for each toxin	900,000	2.25%
VT	510	14%	29	19% for each toxin	120,000	2.25%
Total	**13,830**	**Average Reduction 15.3%**	**716**	**Average Reduction 23%**	**3,520,000**	**Average Reduction 2.25%**

Source: Northeast States for Coordinated Air Use Management. *Comparing the Emissions Reductions of the LEV II Program to the Tier 2 Program.* October, 2003.

Clean Air Benefits: LEV II vs. Tier 2

- LEV II requires lower overall emissions. In addition, the three weakest 'bins' in Tier 2 allow for greater emissions than any category in LEV II.

- LEV II Has Tighter Standards for Evaporative Emissions and particulate matter (PM) – also known as soot.

- LEV II Continues to Reduce Emissions Past the Date Where Tier 2 Levels Out.

- LEV II Standards Are More Likely to Be Strengthened as New Technology Comes on the Market.

Clean Car Standards in Practice

Federal Standards



43% Cleaner

Clean Car Standards



2006 GMC Envoy SUV V6 4WD



80% Cleaner



2006 Toyota Tundra Pickup V-8 4WD

State Clean Car Standards:

A Cost-Effective Tool To Protect Public Health

Clean Car Standards: Cost Estimates

Low Emissions Vehicle (LEV II) Standards

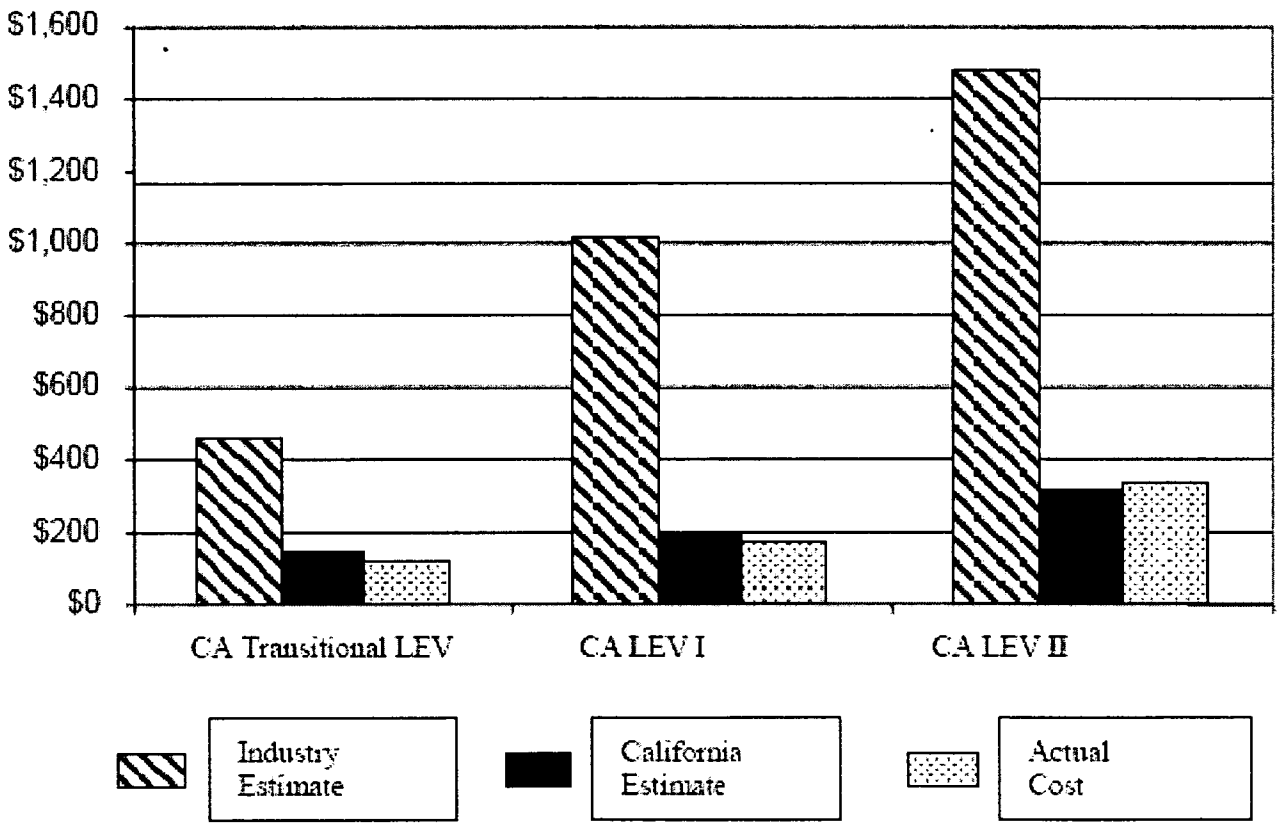
- In General, States that Have Adopted the LEV II Standards Have Experienced Increased Retail Costs of $100-$300 Per Vehicle.
- Actual Cost Will Vary By State

Federal Tier 2 Standards

- EPA Estimates that the additional retail cost for vehicles meeting the proposed Tier 2 emission standards to be $50-$220.
- Additional Costs to North Carolina Consumers Are Negligible

Clean Car Standards: Cost Estimates

- The California Air Resources Board (CARB) Has Routinely Made Accurate Cost Estimates While the Auto Industry Has Grossly Overestimated Compliance Costs



Clean Car Standards: Fact vs. Fiction

- The Auto Industry Has Claimed in the Past that Cutting Emissions Will Destroy the Industry. Those Claims Did Not Come True.

"If GM is forced to introduce catalytic converter systems across-the-board on 1975 models, the prospect of an unreasonable risk of business catastrophe and massive difficulties with these vehicles must be faced. It is conceivable that complete stoppage of the entire production could occur, with the obvious tremendous loss to the company, shareholders, employees, suppliers, and communities. Short of that ultimate risk, there is a distinct possibility of varying degrees of interruption, with sizeable dislocations."

- Former General Motors VP Ernest Starkman, in testimony to a 1972 U.S. Senate committee.

Clean Car Standards: Fact vs. Fiction

- Consumers can still buy the same vehicles as they do today – including trucks and SUVs.
- Large pickup trucks and other work vehicles are not prohibited by the clean car standards. A less stringent emissions standards applies to vehicles over 8,500 pounds Gross Vehicle Weight Rating (GVWR).
- A handful of diesel vehicles under 8,500 pounds – such as the Jeep Liberty diesel and Mercedes diesel E class – currently do not meet Clean Car emissions standards.

"Federal fuel economy standards will result in a product line consisting of either all sub-Pinto-sized vehicles or some mix of vehicles ranging from a sub-sub-compact to perhaps a Maverick."

- Helen Petrauskas, Ford Spokeswoman, in testimony to Congress in 1974

State Clean Car Standards: The Right Choice

- State Clean Car Standards Provide Proven Clean Air Benefits
- The Clean Air Act Purposefully Provides States Order to Provide Provides States with the Opportunity to Adopt these Standards as Another Tool to Improve Air Quality
- Improving Air Quality Will Reduce Health Care Costs for North Carolina and Protect Federal Funding Sources Dependent Upon Attainment Status
- The Clean Car Standards Achieve Substantial Clean Air Benefits for a Marginal Increase in the Retail Cost of New Vehicles.
- Consumers Will Still Have the Ability to Purchase SUVs, Pickup Trucks, and Other Large Vehicles.

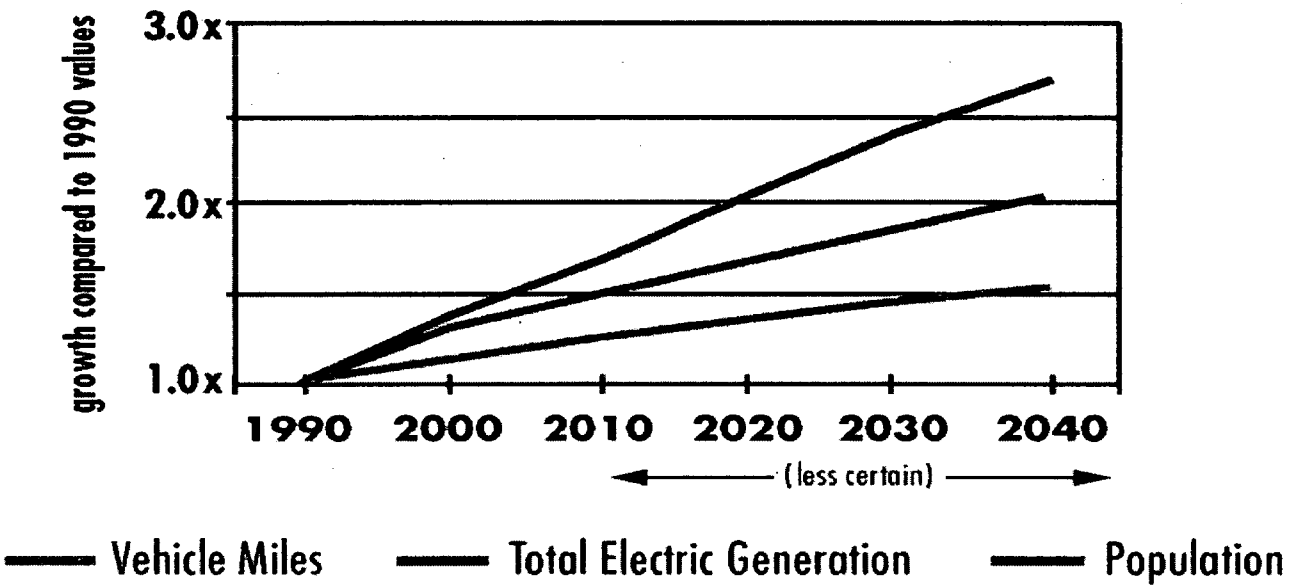
What our citizens deserve...

- **To take the next step for clean healthy air in North Carolina**
- **The cleanest, most efficient cars available on the market.**



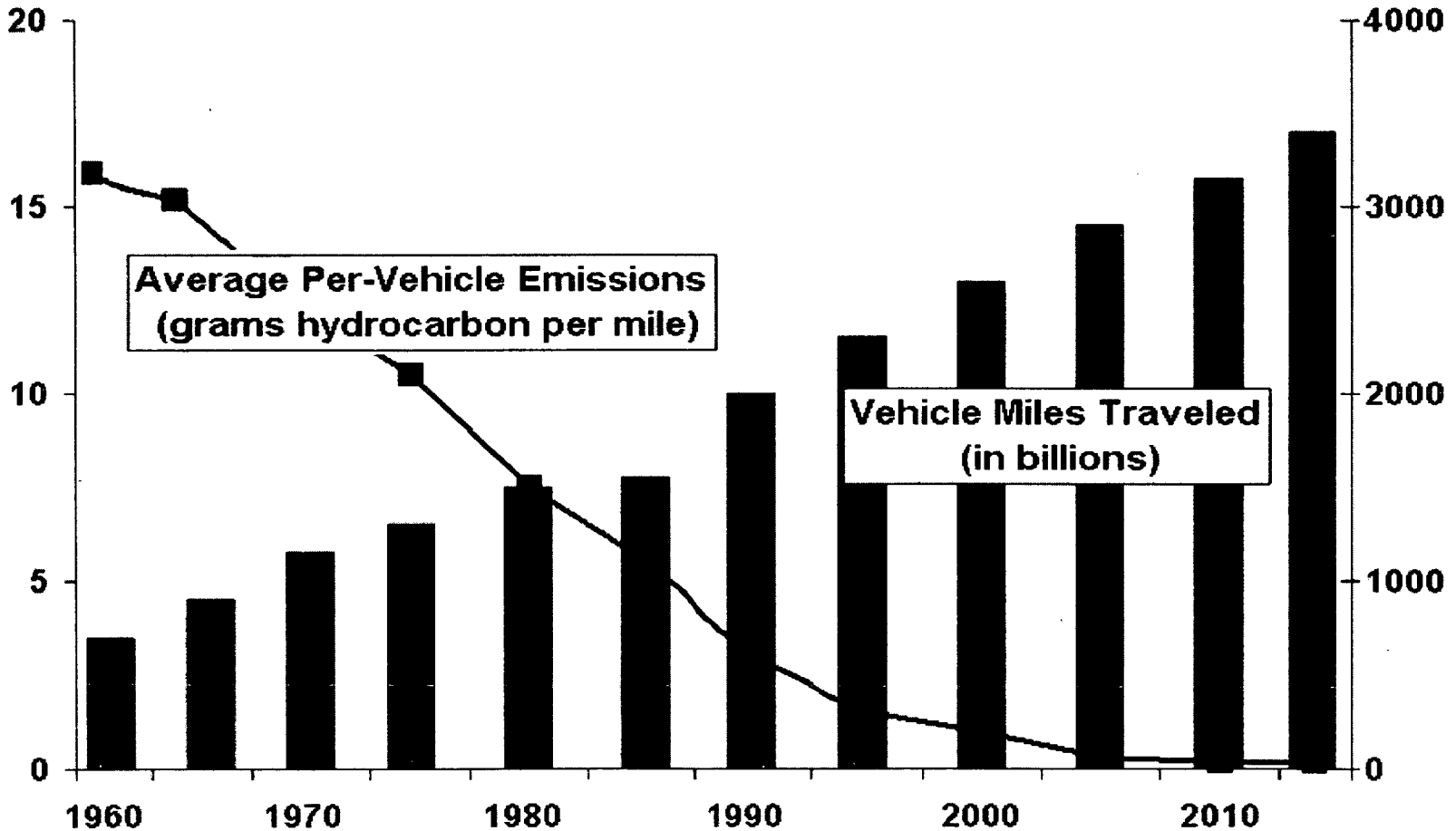
Our growing challenge...

North Carolina is expected to be the 7th most populous state in the nation by the year 2030. Vehicle miles of travel will outpace population growth.

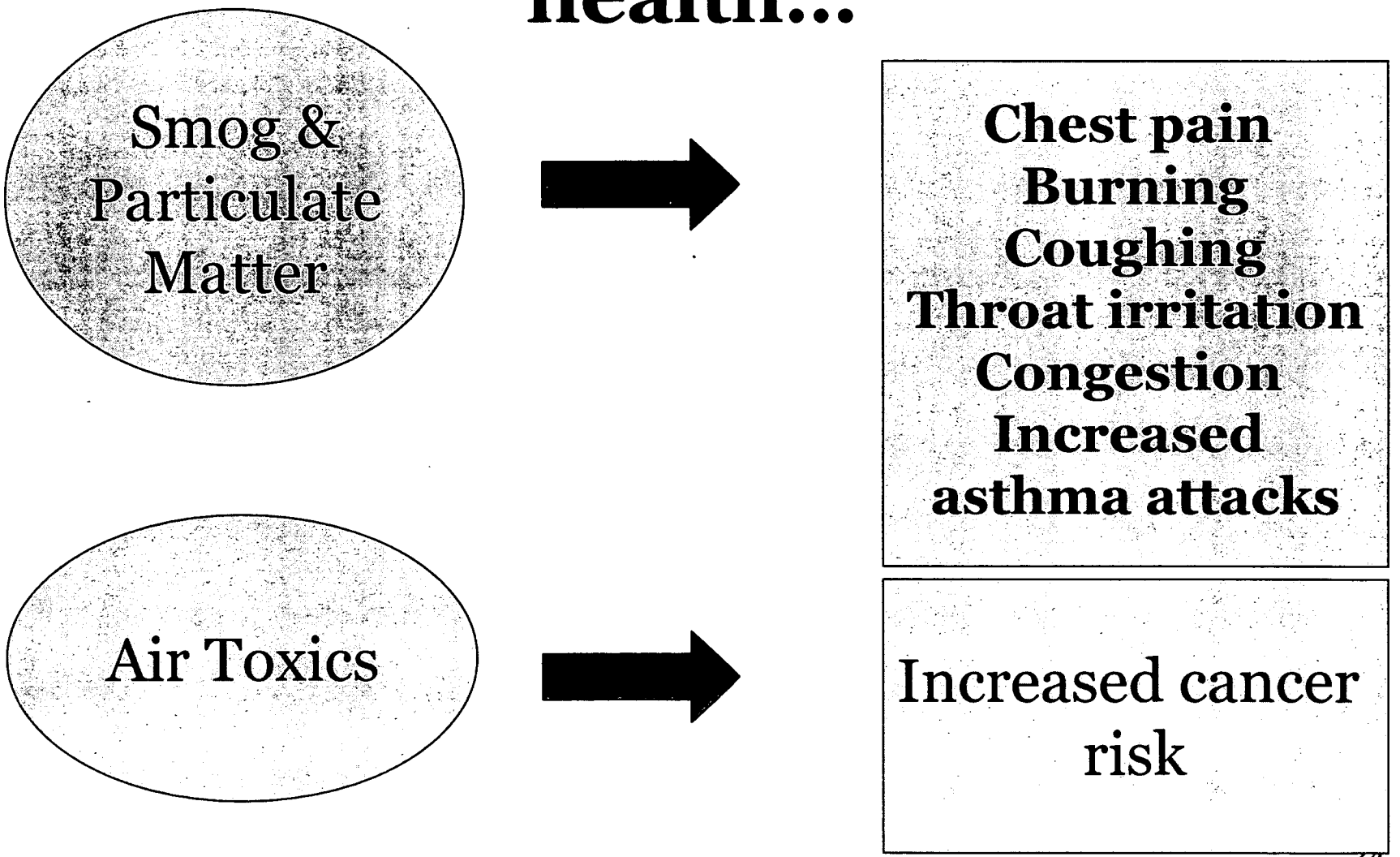


Our growing challenge...

Cars are getting cleaner, but people are driving more, offsetting progress in ozone pollution control

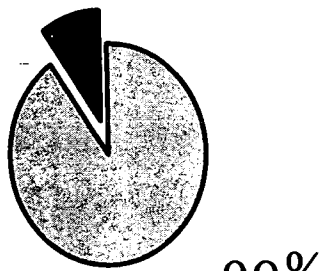


Despite recent gains, air pollution still threatens public health...

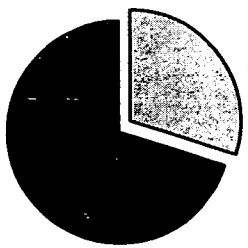


Cars contribute to air pollution..

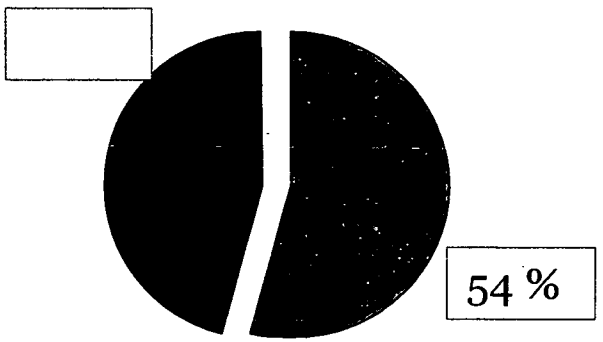
Smog Pollution in Urban Areas



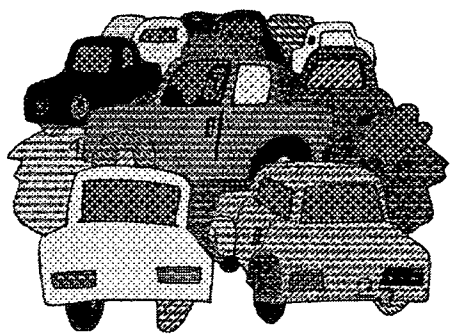
Smog Pollution Statewide



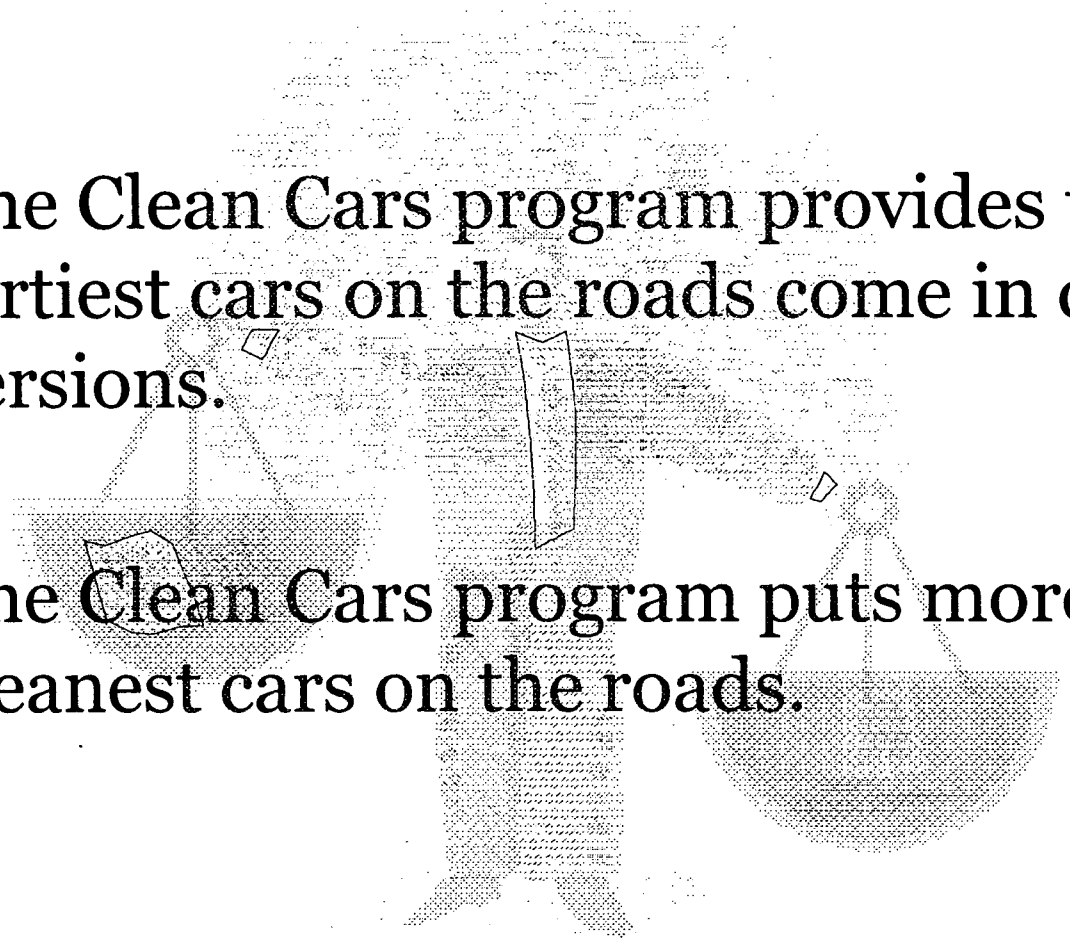
Toxic Pollution Statewide



Data Sources: U.S EPA, NC Division of Air Quality & Mecklenburg County



Cleaner Cars



- The Clean Cars program provides that the dirtiest cars on the roads come in cleaner versions.

- The Clean Cars program puts more of the cleanest cars on the roads.

Advanced Technology Vehicles

- Innovative technologies for conventional gasoline burning cars mean more efficient cars and less air pollution. The Ford Fusion is just one example.
- Increasing availability of popular hybrid electric cars, like the Toyota Prius, on the state's roads will reduce air pollution and promote innovation.

Popular NC Cars

Toyota

Honda

Ford

Chevrolet

Nissan

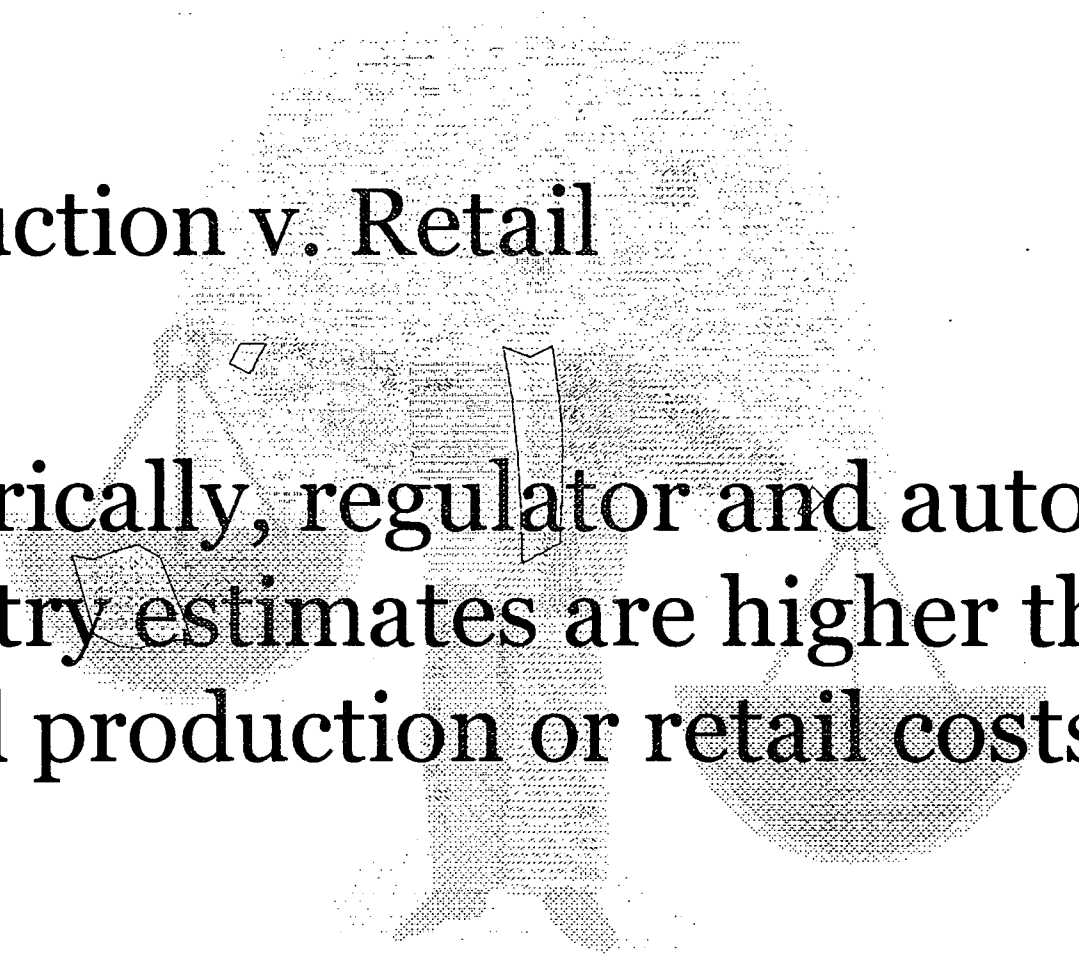
Pontiac

Dodge

The Costs

	Estimated % of new cars sold in 2009	Estimated Differential Cost Per Vehicle
Clean Conventional Cars	95%	~$100-$300
Advanced Technology Cars (i.e. hybrids)	5%	$1000-$3000 (same as today)

The Costs

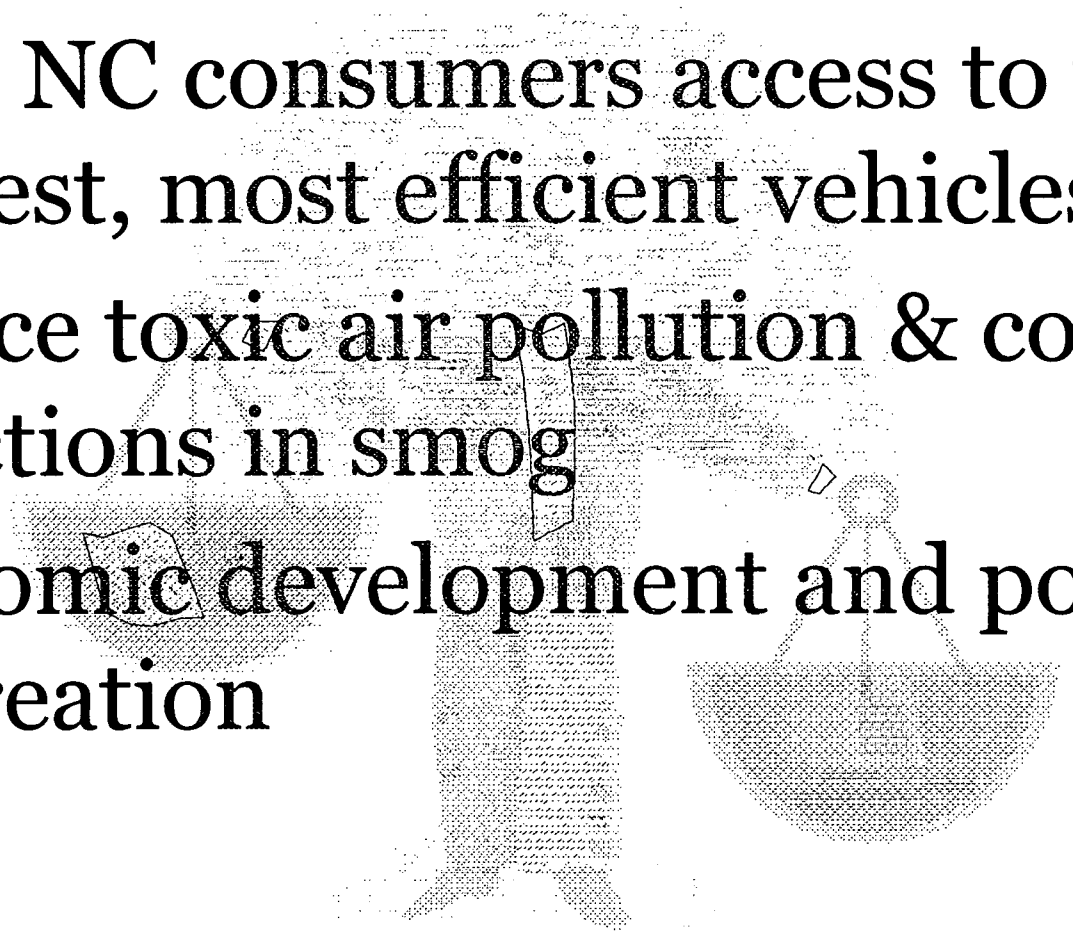


- Production v. Retail

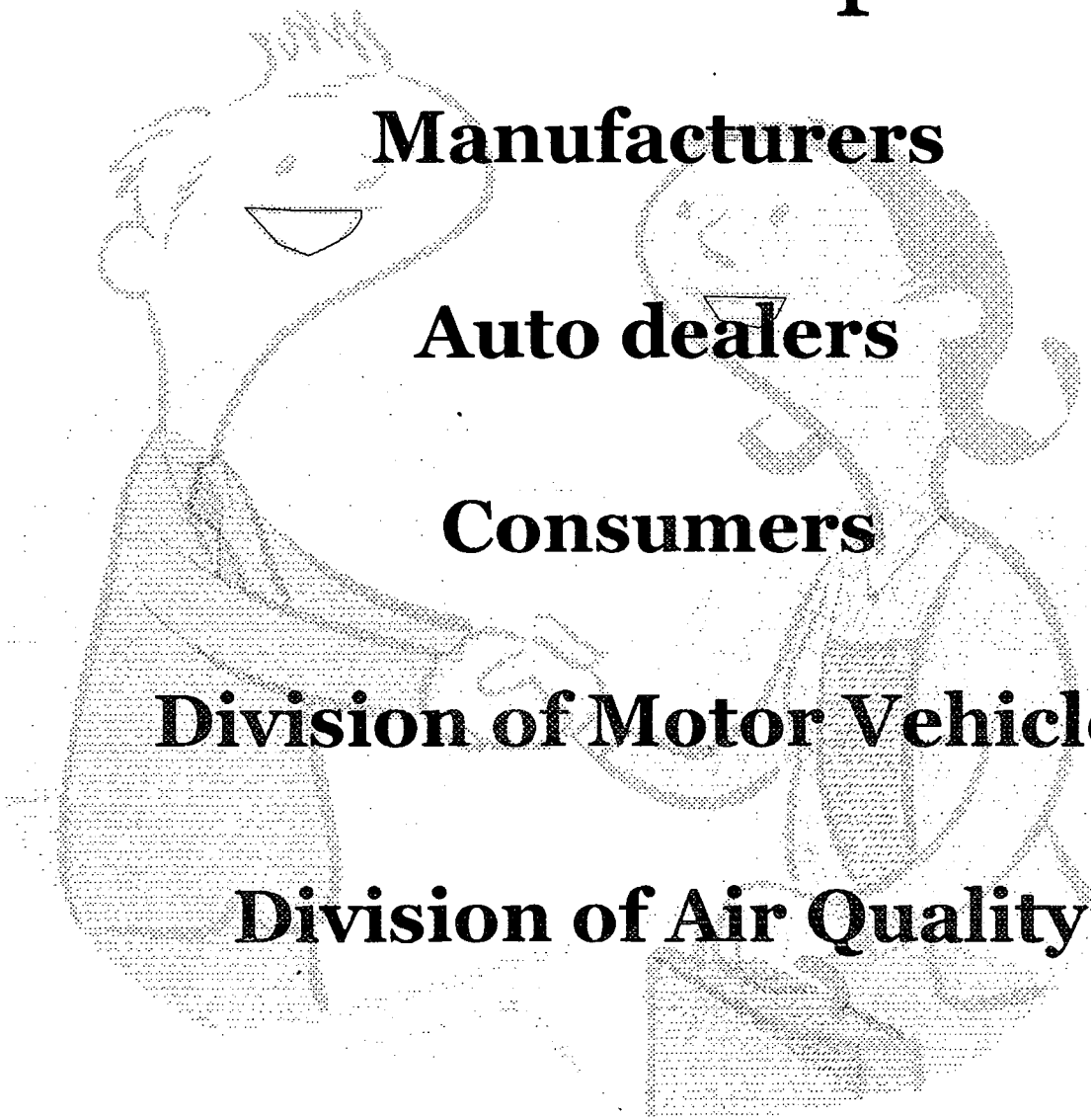
- Historically, regulator and auto industry estimates are higher than actual production or retail costs

The Benefits...

- ✓Gives NC consumers access to the cleanest, most efficient vehicles
- ✓Reduce toxic air pollution & continue reductions in smog
- ✓Economic development and potential job creation



Responsibilities



Manufacturers

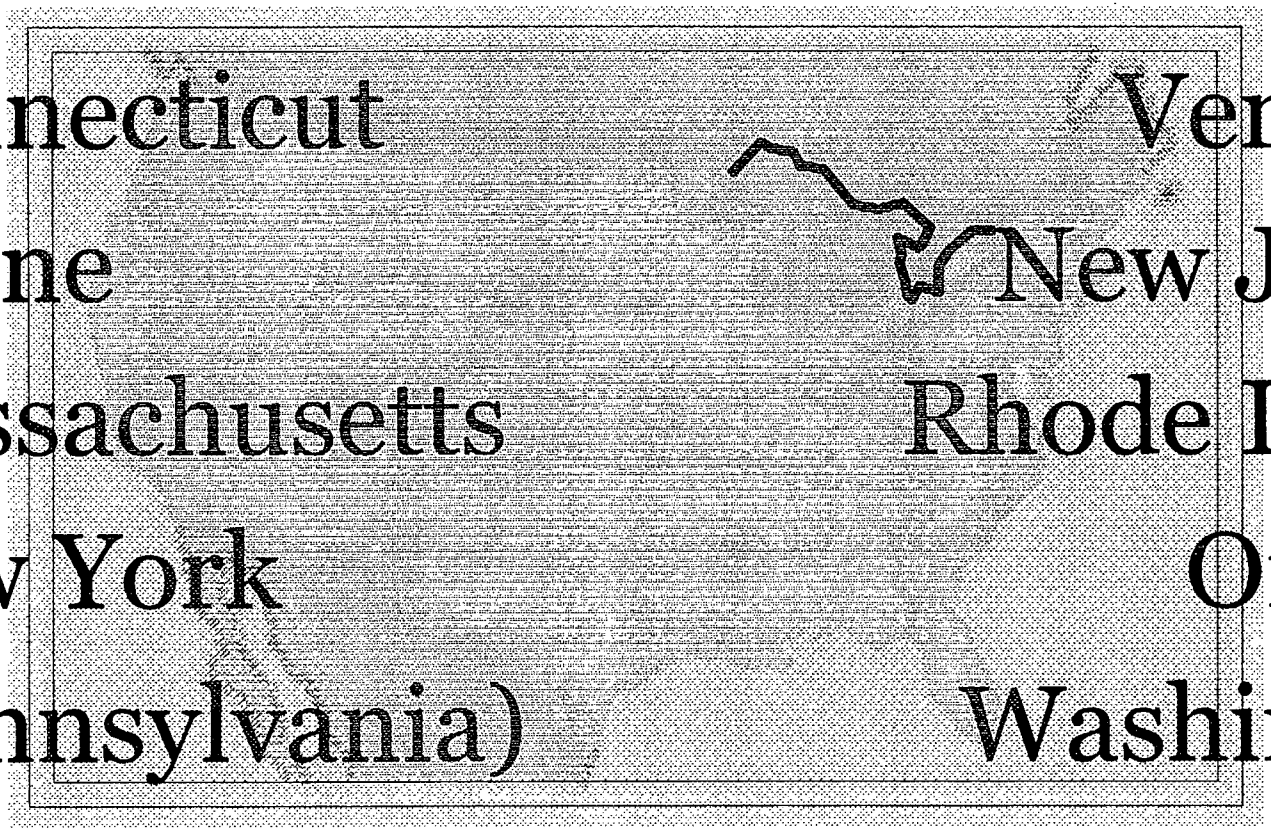
Auto dealers

Consumers

Division of Motor Vehicles

Division of Air Quality

Joining 1/3 of the nation's fleet...



Connecticut

Maine

Massachusetts

New York

(Pennsylvania)

Vermont

New Jersey

Rhode Island

Oregon

Washington

Concerns?

Q: Will the Clean Car Standards ban pickups and SUVs?

A: No, all types of cars and trucks will remain on the market, just in cleaner versions

Q: Will consumers be able to buy non compliant vehicles from neighboring states?

A: No, the bill will ensure that uncertified cars cannot be registered in NC

Conclusion

- Reduce toxic and smog pollution
- North Carolinians deserve the same consumer choices being offered elsewhere in the nation
- Shift the cars and trucks on NC's roads towards cleaner, more efficient vehicles
- NC led the South with clean smokestacks and now has the opportunity to lead again.

Driving towards clean air...



...and a healthy environment!

EXHIBIT M

Clean Car testimony on behalf of
North Carolina health organizations

Given By:
Susan King Cope
American Lung Association of North Carolina

North Carolina Environmental Review Commission
February 14, 2006
Raleigh, NC

revisions have been sitd- will send another copy if needed.

I. Introduction:

Hello, my name is Susan King Cope and I represent the American Lung Association of North Carolina. I am here on behalf of several health organizations and the Clean Car Coalition.

II. Health Professionals Urge Strong Support For Greenhouse Gas Controls

I am here to convey strong support for the Clean Car legislation being proposed in North Carolina. We support these regulations because they are an integral part of our statewide strategy to achieve cleaner air and improved public health in North Carolina.

III. Proposed Greenhouse Gas Controls Will Protect Public Health

~~The draft legislation is well researched and represents a solid scientific~~ proposal ~~for reducing global warming pollution~~. The reductions achieved by the proposal, approximately a 10% reduction in nitrogen oxides, would be an important step forward in the effort to curb global warming pollution and improve air quality in North Carolina. Motor vehicles are one of the prime culprits behind air pollution in North Carolina. Passenger cars and light trucks make up 30% of the state's smog pollution. Some areas – like charlotte, 90%.

~~Slowing the rate of global warming is vital to~~ improving air quality is vital to improving and public health. Several North Carolina communities continually rank in the top 10 for the worst air quality in the country – with more than 4 million North Carolinians in 32 counties living in areas that experience unsafe levels of ozone during the summer months. And bad air takes a huge toll on public health.

Increasing temperatures from global warming will make smog problems worse, in part by increasing ozone formation. This would mean more pollution-related asthma attacks, illnesses, hospital admissions and premature deaths.

Increased air pollution leads to more deaths, more hospitalizations, more emergency room visits, and more school and work absences. In study after study, air pollution has been shown to increase problems with heart and lung disease, impair quality of life, and decrease life expectancy.

Sensitive groups, including seniors, people with heart or lung disease, children and infants are the most vulnerable to the harmful effects of air pollution. One such group is those with asthma. More than 808,000 North Carolinians have asthma. Ozone is both a cause of asthma and a trigger of its flare-ups. Asthma not only affects the health of children, it affects their ability to sleep through the night, to learn, and to participate in sports activities. It affects their entire quality of life.

188,000 NC

While asthma is a problem Nationwide, North Carolina bears a particularly high burden. In fact, the asthma death rate in North Carolina among children 14 and under is over 3 times the national average. 27% of 7th and 8th grade students have asthma or asthma-like symptoms.

As a health advocate, I hear many stories from concerned parents about the effects of air pollution on children in our community. There are more emergency room visits for asthma flare-ups and other respiratory illnesses on unhealthy air days. Patients with asthma and other lung diseases tell me of more breathing problems when air quality is poor.

Children are not only affected in their growing years, they are harmed for life by exposure to air pollution. Research has shown that air pollution impairs lung growth and development. The lungs of children in highly polluted areas actually have less reserve capacity, making them more vulnerable to the onset of lung illnesses or chronic respiratory disease.

Low income communities and communities of color are also especially vulnerable to pollution-0related health impacts due to multiple pollution sources located in these communities – and their often limited access to health care.

On behalf of health organizations across North Carolina, I urge you to move forward to adopt the proposed regulations. The regulations are scientifically sound, cost-effective, readily available, and most importantly they are health protective. North Carolina has an obligation to address ~~the global warming problem~~ air quality to protect the air we breathe, to reduce the suffering of adults and children with asthma and other lung illnesses, and to help children grow up with healthy lungs.

EXHIBIT N

AMERICAN LUNG ASSOCIATION®
1906 • Centennial • 2006 of North Carolina

FACT SHEET

Air Quality and Health Impacts of Greenhouse Gas Emissions and Global Warming

Global warming is well recognized by scientists around the world as a serious public health and environmental concern. As atmospheric concentrations of greenhouse gases rise globally, temperatures on earth are increasing. While the greenhouse effect has been beneficial to maintain global temperatures compatible to human life, recent increases in average temperatures due to human activities are causing great alarm. Hotter temperatures due to global warming are expected to lead to increased weather extremes including heat waves and worsening of air quality.

How Does Global Warming Affect Air Quality?
More than 4 million North Carolinians in 32 counties experience unsafe levels of ozone during the summer months.

***Hotter Days Facilitate Ozone Formation*:** Higher temperatures, strong sunlight and a stable air mass are ideal for formation of ground level ozone. Ozone (O3) is an extremely reactive gas that essentially attacks lung tissue by reacting chemically with it. It is the primary ingredient of smog air pollution and very harmful to breathe. EPA studies and other studies designed to examine the impacts of increased temperatures from global warming have determined that global warming will likely lead to an increase in peak ozone levels. In addition, the National Research Council of the National Academies has linked global warming to increased ozone levels in two recent reports.

***Hotter Days Lead To More Smog Emissions*:** Hotter summer weather leads to increased emissions of ozone precursors, particulate matter and toxic air contaminants from increased energy production, electricity use, fuel evaporation and other sources. During hot summer days, air conditioners are utilized more frequently, leading to increased demand for electric power production and associated increases in smog-forming pollutants, such as nitrogen oxide (NOx) and hydrocarbons. Increased mobile air conditioning usage also leads to higher pollution emissions.

Heat Waves And Public Health: The heat waves in Europe in summer, 2003 provide a case study of heat-related ozone impacts on public health. During the heat waves thousands of excess deaths occurred above the average recorded for that time of year. Epidemiological studies of deaths during the heat waves suggest that a substantial portion of the mortality could be attributed to elevated ozone and particulate levels that occurred during the heat waves. Two studies suggest that 20 percent to 50 percent of the total excess deaths were due to elevated ozone and particle levels.

What are the Health Effects of Air Pollution?
Sensitive groups, including seniors, people with heart or lung disease, children and infants are the most vulnerable to the harmful effects of air pollution. Low-income communities and communities of color are also especially vulnerable to pollution-related health impacts due to the multiple pollution sources located in these communities and their often limited access to health care.

North Carolina's Clean Car legislation will:

Reduce Toxic Air Pollution. Clean Car Standards are predicted to reduce by 10% or more air toxics such as benzene, acetaldehyde, 1,3, butadiene, and formaldehyde-- all carcinogens that threaten public health.

Increase Consumer Choice. Cars like Ford's Hybrid Escape and the Toyota Prius are increasingly popular, especially in the face of rising gas prices. Today, automakers must prioritize selling these cars in the ten states that have adopted Clean Car programs, while some North Carolina consumers wait as long as six months to purchase these advanced technology vehicles. Bringing the Clean Cars program to North Carolina can make these cars more readily available, increasing consumer choice.

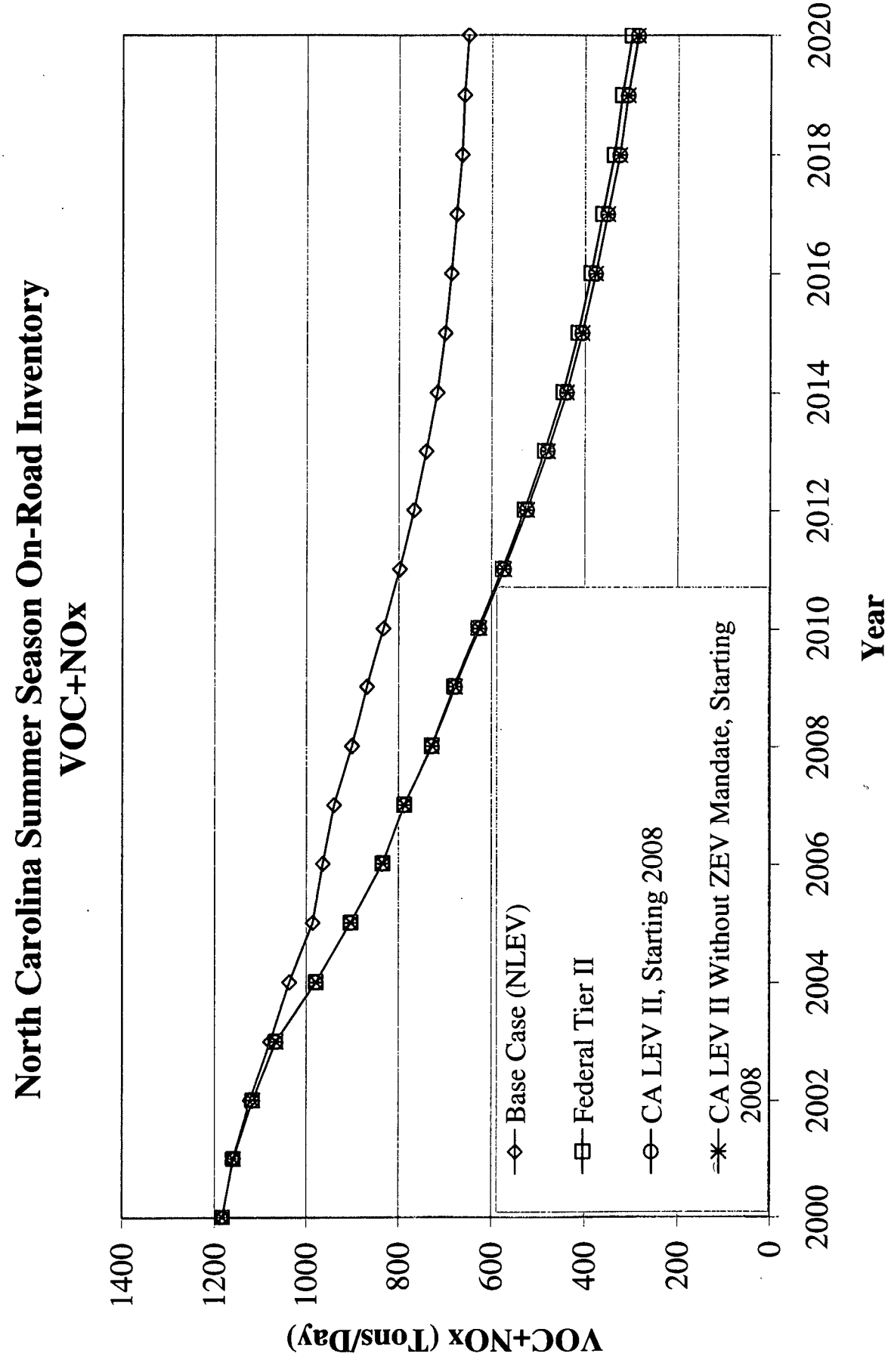
Pave the Way for Less Global Warming Pollution. Advanced vehicle technologies can reduce global warming pollution in North Carolina. By creating additional demand for innovative, super clean vehicles like hybrids, Clean Car standards can pave the way for a new fleet of cars that produce less and less of the pollution that is warming the planet. At the same time, Clean Car standards will take 800,000 tons of global warming pollution out of the state's air.

Tip the Scales for the Nation. Close to a third of the nation's fleet is already subject to Clean Car Standards. North Carolina's adoption of Clean Car standards can be a tipping point that leads the fleet of cars sold nationally towards cleaner standards and helps pave the way for the nation to transition to advanced technology, low-polluting vehicles.

Lead the Southeast. North Carolina has a proud history of leading the Southeast in clean air legislation. By becoming the first in the Southeast to adopt clean cars legislation, we can help spur the introduction of these same cars in South Carolina, Georgia, and Tennessee. With one third of the nation's fleet already becoming cleaner, North Carolina should be ahead of the clean car wave in the region.

Continue Reductions in Smog. Largely due to the Clean Smokestacks Act, North Carolina is predicted, in the long-term, to have significantly fewer high ozone days. But the job is not yet done. Approximately 442,000 adults and 188,000 children statewide still suffer from asthma, and for them, even a single high ozone day is too many. Clean car standards are estimated to reduce emissions of nitrogen oxides by roughly 10%, making a substantial reduction in the pollution that causes ozone. These reductions may also create more flexibility for economic growth in counties that struggle to remain in attainment with federal air quality standards.

EXHIBIT O


North Carolina Summer Season On-Road Inventory
VOC+NOx
VOC+NOx (Tons/Day)
1400
1200
1000
800
600
400
200
0
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
Year
Base Case (NLEV)
Federal Tier II
CA LEV II, Starting 2008
CA LEV II Without ZEV Mandate, Starting 2008

Costs of California Greenhouse Gas Requirements

For the 2016 standards for passenger cars, CARB estimates that these requirements will cost $1,064.

CARB made numerous errors in their cost estimates – The Alliance believes that the true cost for meeting these standards in 2016 is over $3,000.

These significantly higher costs will result in no net savings for consumers as claimed in the CARB regulations.

Some of the reasons for the CARB errors are listed below:

- The prices of passenger cars in the 2009 baseline (no regulation) case is inflated by unrealistic assumptions about expensive technology changes that will be made in the absence of a regulation.
- CARB vehicle cost estimates are based on unrealistic 40% markup factor to vendor-supplied parts prices, which is less than half of the markup required to account for manufacturer costs for research, development, engineering, warranty, overhead, sales and marketing, profit and dealer margin.
- CARB failed to account for the integration costs of certain vendor-supplied components that cannot merely be added without other design changes.
- Cost estimates for technology changes provided by a contractor were arbitrarily discounted by 30% to account for "unforeseen innovations in design and manufacturing."
- Credit was claimed for significant reductions in aerodynamic drag and rolling resistance despite evidence that consumers will not accept such changes and despite the fact that consumers do not routinely use OEM replacement tires.
- CARB assumed that technologies that simultaneously **reduce** vehicle price and **improve** fuel economy will be used only if a regulation is adopted.
- CARB failed to account for California's average 8% sales tax in doing its calculations of net lifetime costs of technology changes.
- The fuel economy benefits of automatic transmission improvements were inadvertently assigned to both manual transmissions and automatic transmissions.
- Fuel cost savings are estimated using a single set of driving cycles and without considering the impact of the relevant technologies based on driving cycles that more accurately represent the way that Californians drive.
- Fuel cost savings were based on inflated estimates of vehicle service life resulting from an obvious mathematical error in CARB's analysis of odometer data from the State's vehicle inspection and maintenance program.
- The fuel savings calculated for light-duty trucks is substantially overstated by CARB's failure to account for the fuel economy improvements required under the 2007 Federal standards and by CARB's failure to account for the effect of minivans on baseline fuel economy.
- Estimated fuel cost savings ignore the "rebound effect," which is the well-documented increase in travel associated with reductions in vehicle fuel costs.

EXHIBIT Q

Alliance OF AUTOMOBILE MANUFACTURERS

October 24, 2005

ADVANCED TECHNOLOGY VEHICLES TAKE TO THE ROAD

Alliance members are producing new technologies to reduce fuel use while providing consumers with utility, safety, performance and comfort. Thanks to Alliance members, more than 60 models of advanced technology vehicles are on sale or in development.

Advanced Technology Vehicles Now on Sale (37)

Hybrids
Chevrolet Silverado Hybrid
Dodge Ram Hybrid
GMC Sierra Hybrid
Ford Escape Hybrid
Lexus 400h Hybrid
Mercury Mariner Hybrid
Toyota Highlander Hybrid
Toyota Prius

Diesels/Bio-diesels
Dodge Ram
Jeep Liberty/Cherokee
Mercedes Benz E320 CDI
Volkswagen Golf TDI
Volkswagen Jetta TDI
Volkswagen New Beetle TDI
Volkswagen Passat TDI

Ethanol (E-85)
Chevrolet Avalanche
Chevrolet Impala
Chevrolet Monte Carlo
Chevrolet Silverado
Chevrolet Suburban
Chevrolet Tahoe
Chrysler Sebring
Chrysler Town & Country
Dodge Caravan/Grand Caravan
Dodge Durango
Dodge Ram
Dodge Stratus
Ford Crown Victoria
Ford F-150 Pick-up Truck GMC Sierra
GMC Yukon
GMC Yukon XL
Lincoln Town Car
Mercedes-Benz C-Class
Mercury Grand Marquis

Natural Gas
Chevrolet Silverado 2500 HD
GMC Sierra 2500 HD

Advanced Technology Vehicles in Development Now (29+)

Hybrids
Audi Q7 Hybrid
Chevrolet Malibu Hybrid
Chevrolet Tahoe Hybrid
Dodge Durango Hybrid
Ford Fusion Hybrid
GMC Yukon Hybrid
Lexus GS Hybrid
Mazda Tribute Hybrid
Mercury Milan Hybrid
Porsche Cayenne Hybrid
Saturn Vue Hybrid
Toyota Camry Hybrid
Volkswagen Jetta Hybrid

Diesels
Audi A8 TDI
BMW (several models considered for US market)
Chrysler Group (several models considered for North American market)
Mercedes-Benz ML 320 CDI
Saab 9-5

Hydrogen Internal Combustion Engine
BMW 760h
Ford Econoline ICE
Ford Model U
Mazda RENESIS

Fuel Cells
Dodge Sprinter
Ford Focus
GM Sequel
Mercedes F-Cell
Toyota FCHV
Volkswagen HY.MOTION

Electric Vehicles
DaimlerChrysler GEM
Mitsubishi Lancer Evolution IX MIEV (Mitsubishi In-Wheel Motor Electric Vehicle)
Mitsubishi "i" MIEV

Commitments and Partnerships

- BMW, DaimlerChrysler and GM announced a partnership to develop hybrid vehicle technology.
- Ford, Mercury and Lincoln will offer hybrid drive trains on half of all products by 2010.
- Porsche and Volkswagen agreed to the joint development of hybrid gasoline-electrics engines.
- Toyota plans to offer hybrid drive trains on many of its products in the future and has set a goal of selling 1 million hybrids annually by 2010.

The information above is all publicly available. For more information, see www.autoalliance.org/innovation

EXHIBIT R

September 15, 2005

CO2/Fuel Economy Key Points

I. GLOBAL CLIMATE: We recognize the concerns and are addressing them in our plants and products.

- In our auto manufacturing plants, automakers have committed to **reducing greenhouse gas intensity by 10%** by 2012.
- Regarding our products, automakers are **investing millions of dollars each year in many different types of fuel-efficient technologies**. Burning fuel creates CO2, so the only ways to reduce CO2 from autos are to reduce the size of the U.S. vehicle fleet, to drive less or to use less fuel in vehicles.
- CA's AB 1493 regulation will have **no measurable effect on global climate**. Even if the California regulation could be achieved in all 50 states (which is not realistic), it would not change the climate in the U.S. because CO2 would only be reduced by about 1% globally.
- **Carbon dioxide is not smog**. Smog is formed by emissions like NOx and HC—not by CO2. Automakers have already reduced smog-forming emissions from autos by 99% since the 1970s. Unlike smog, carbon dioxide poses no health risk. Nonetheless, individual vehicle CO2 emissions have declined 56% from cars and 44% from light trucks during that time.

II. FUEL ECONOMY: Fuel-efficiency is already increasing, today and in the future.

- Automakers sell more than **100 models that achieve more than 30 MPG** on the highway, according to EPA estimates.
- All models on sale today are **available with fuel-efficient technologies**, such as cylinder deactivation, variable valve timing, continuously variable transmissions and more.
- More than 50 models of **advanced technology vehicles** are in development or on sale, including hybrid-electric vehicles, clean diesel, hydrogen internal combustion engines and fuel cells.
- The 2005 Energy Bill includes **consumer tax incentives** to help increase the number of advanced technology vehicles on our roadways. States have adopted their own consumer incentives to further accelerate the introduction of advanced technology autos.
- The federal government is in the process of **increasing nationwide fuel economy standards** for light trucks for seven years in a row (2005-2011).

III. CONSUMERS: It is important to preserve an affordable range of automobiles for families and businesses.

- Under CA's AB 1493 regulation, consumers would **pay an average of at least $3,000** more for a new auto.

- more -

CONSUMERS (continued)

- Only a handful of today's models could meet the CA regulation if it were in effect now, so consumers could expect to see **fewer models to choose from** under the CA regulation
- In 2004, 58% of new vehicle sales were minivans, SUVs and pickups, demonstrating that **consumers favor light trucks**.
- The CA regulation will **hurt those people who depend most on large cars, pickups, SUVs and minivans**, including farmers, trades people, large families and small business owners.

IV. NATIONAL POLICY: We need a consistent national policy for fuel economy, and this nationwide policy cannot be written by a single state or group of states.

- Federal laws exist to avoid a confusing and conflicting mix of state laws. There would be **marketplace chaos** if states mandated which products could be sold within their boundaries. Consumers would suffer higher prices and severely restricted choice of automobiles if each state were deciding for itself which new vehicles can be sold.
- **NHTSA has sole authority to set a uniform, national fuel economy standard**. NHTSA underscored this fact when issuing its notice of CAFE reform on August 23, 2005.
- When setting "maximum feasible" fuel economy standards for the nation, NHTSA considers **technological feasibility, safety, affordability, emissions, consumer choice and effects on American jobs**. By contrast, California did not adequately consider any of these factors. A consistent national policy makes most sense to avoid such policy oversights.
- The **federal Clean Air Act only allows California to regulate specific air pollutants,** such as NOx and HC, in order to address unique pollution challenges found in parts of CA. Carbon dioxide is not a pollutant, not a smog-forming emission and not regulated under the Clean Air Act.

V. ENVIRONMENT: Addressing carbon dioxide should not harm air quality.

- CA's AB 1493 regulation will have the **unintended consequence of resulting in more smog** than would otherwise exist. Because new autos will be more costly under the CA regulation, consumers will hold on to older, higher emitting autos longer, thereby slowing the trend of declining smog-forming pollutants.
- Unintended consequences, such as the negative impact on smog, underscores why a **consistent nationwide policy is needed**. Individual states should defer to the federal government to implement a comprehensive, nationwide energy policy, instead of a patchwork of ineffectual GHG requirements.

MINUTES
ENVIRONMENTAL REVIEW COMMISSION
8 MARCH 2006

The Environmental Review Commission (ERC) met on Wednesday 8 March 2006 at 9:30 a.m. in Room 544 of the Legislative Office Building. Senator Albertson presided.

The following members were present: Senators Albertson, Forrester, Kinnaird, and Weinstein; and Representatives Gibson, Harrell, Harrison, Hunter, Justice, and McComas. Mr. George Givens, Commission Counsel; Mr. Jeffrey Hudson, Assistant Commission Counsel; Ms. Jennifer McGinnis, Assistant Commission Counsel; Ms. Susan Iddings, Assistant Commission Counsel: Mr. Tim Dodge, Commission Analyst; and Ms. Dot Waugaman, Commission Clerk, were also present.

On 17 February 2006, notice was sent to members and interested parties via e-mail and regular mail. A copy of the notice is included in the attachments to these minutes as **Exhibit A**. Copies of the agenda for the meeting and visitor registration sheets are included in the attachments as **Exhibits B** and **C**.

Senator Albertson called the meeting to order and asked Mr. Givens to comment on the agenda. Mr. Givens noted for the record that the planning meeting for this meeting was held on Thursday 2 March. He announced that a package of reports received since the previous meeting was distributed to each member at their desk. The first three reports related to today's agenda (Items 4, 5 and 6, respectively), and eight reports are read only. Three additional reports were received and will be held for future presentations (see **Exhibit D** for a memorandum dated 8 March 2006 describing and attaching the reports numbered D-1 through D-11). Mr. Givens mentioned that the full report of the Development of Environmentally Superior Technologies was over 1,000 pages. It will not be distributed to members because it is too expensive to reproduce. A 65-page summary is included in the package of materials distributed at members' desks as Exhibit D-1, and the complete report will be incorporated into the records of the Commission. He noted with gratitude that Representative McComas had sent a publication, "2000 Emissions: Choosing the Right Technology" to all members as a follow-up to the previous meeting on air quality.

Mr. Givens noted other meetings of interest. The Risk-Based/Limited Liability for Environmental Cleanup Working Group met Monday 6 March. Additional meetings are scheduled as indicated on the agenda for today's meeting. Slow but steady progress is being made in the group. The first meeting of the Phase II Stormwater Issues was held on Wednesday 1 March. Three additional meetings are scheduled as noted on the agenda. He said he is hopeful a resolution will be reached for the Commission's consideration before the short session. He announced that the next meeting of the Commission will be held at the North Carolina Zoological Park in Asheboro. The business meeting will begin at 1:00 p.m. on Tuesday 14 March. Representative Gibson was recognized to explain the extra activities surrounding the meeting at the zoo.

Senator Albertson recognized Dr. Mike Williams, Agreements' Designee, Associate Professor, College of Agriculture and Life Sciences, North Carolina State University (NCSU), to present the findings of the evaluation of alternative animal waste management technologies to determine whether these technologies are environmentally superior and economically feasible.

Dr. Williams expressed his appreciation to Senator Albertson, Senator Clodfelter and Representative Gibson, and Counselor Givens for their cooperation in postponing his presentation from the February meeting so that the final report could be completed (see **Exhibit E** for a copy of his PowerPoint presentation). The report will be on the University website in its entirety by the end of the day. He gave some background to explain how the study came to be. In July 2000, Smithfield Foods entered into an agreement with the North Carolina Attorney General to provide $15 million for the development of "Environmentally Superior Technologies" (ESTs). Two months later, Premium Standard Farms (PSF) entered into an almost identical agreement that provided an additional $2.3 million, also for

the development of ESTs. In addition to the monies for EST development, the agreements also provided monies for environmental enhancement activities, separate from the monies targeted for the EST development. The budget for the development of ESTs was $17.3 million.

In March of 2002, the organization Frontline Farmers entered into an agreement with the State Attorney General so they could have a seat at the table in the EST development process. They agreed to "use their best efforts and influence to encourage their members to convert to economically feasible, environmentally superior technologies." Dr. Williams said the definition of "environmentally superior technology" requires that the technologies meet economically feasible criteria as well as environmental performance criteria.

Through the efforts of researchers at NCSU, the agreements' designee (Dr. Williams) is responsible for making the technology determinations. These determinations are a written report that describes the findings relative to the definition "environmentally superior technology." Thus far there have been three technology determination reports issued and presented to the ERC. The first report was issued in July of 2004. Of the technologies under the umbrella, the researchers had completed the technical performance verification and other research and development for a total of eight of the technologies. The technologies are covered in the July 2004 report, which also includes a definition of the environmental performance standards. The standards are very important relative to the economic feasibility of the technology.

The July 2004 report findings showed there were two of the eight technologies determined to be contingent ESTs, the contingency being that if the two technologies met the economic feasibility criteria. The environmental performance standards had been defined, but at that time, economic feasibility had not been. Developers of one of the technologies (the Super Soils Technology), referred to as the Generation 1 Super Soils Technology, proposed to develop a second generation at a lower cost. The proposal was agreed to. When redesigned, one contingency for the Super Soil 2 Generation Technology was that they would still meet the environmental performance standards as with the first generation technology.

A second technology that was made contingent is the ORBIT High Solids Anaerobic Digester Technology. The contingency is associated with the technology in the report were that (1) the technology would be subject to the economic feasibility findings (when defined), and (2) there was some concern regarding the treatment of a swine waste stream at a steady state operation for the technical performance findings. This technology was required to meet the performance standards for a longer operational time. The economic contingencies still stand with the two technologies.

In July 2005, an additional seven technologies were reported on in the so-called Phase 2 technology determination report. That report included extensive data on the economic cost and returns for the technologies previously covered in the July 2004 report. One of the mandates of the project was to determine the cost and return for each of the technologies. Secondly, the research group was mandated to make a determination on the impact of the implementation of these technologies in relation to the competitiveness of the swine industry in the State. In addition to the cost and returns data on four of the original eight technologies in the Phase 1 technology report, the industry impact economic report is also included in the Phase 2 report. The Phase 1 report is about 1,000 pages; the Phase 2 report is about 1,400 pages. The complete reports are on NCSU's website. The Phase 2 technology determination report findings added three contingent ESTs, bringing the total to five. The economic feasibility criteria were still not defined. Because two of the technologies use a combustion-type process to burn the solids from the waste, issues arose about air quality permitting. Until this time, all the permitting issues of the studied ESTs concerned water quality, and the project had worked with the Division of Water Quality to address those issues.

The Phase 3 report includes detailed findings for two additional technologies to the original eight technologies in the July 2004 report, and the seven in the July 2005 report. They are referenced as the AgriClean Technology and the Environmental Technologies. The report contained an overview of the

remaining 15 technologies relative to the findings for ESTs, including a definition, a rationale, and data behind the determination for economic feasibility.

Dr. Williams said ESTs are defined as "permittable by the appropriate governmental authority; determined to be technically, operationally, and economically feasible for identified categories of farms; and meet the following performance standards." Performance standards are referenced both as technical standards and environmental standards. The technical performance standards are verbatim in the agreements as described in House Bill 1480, General Assembly Session 1997. The five environmental criteria are:

- Eliminate the discharge of animal waste to surface waters and groundwater through direct discharge, seepage, or runoff;
- Substantially eliminate atmospheric emissions of ammonia;
- Substantially eliminate the emission of odor that is detectable beyond the boundaries of the parcel of land on which the swine farm is located;
- Substantially eliminate the release of disease-transmitting vectors and airborne pathogens; and
- Substantially eliminate nutrient and heavy metal contamination of soil and groundwater.

In July of 2004, Dr. Williams recognized that the performance standards would have to be quantified.

The agreements also included a mandate that economic feasibility would be determined. The determination would include the criteria mandated by the agreements:

- The projected ten-year annualized cost of the technology (including capital, operation and maintenance) per 1000 pounds steady state live weight for each category of farm system;
- The cost compared to and determined for the permitted lagoon and spray-field system;
- Any projected revenues, including income from byproducts;
- Available cost-share monies or other financial assistance from federal, state or other public sources; and
- The impact that the adoption of the technology might have on the competitiveness of the state's pork industry.

In addition, based on input from an advisory panel, Dr. Williams agreed to add the following two criteria to the economic feasibility determination:

- ID/quantification (if possible) of emissions to environmental media from each category of farm system implementing the technology as compared to lagoon and spray-field system; and
- Estimate of the economic benefits to North Carolina households arising from the changes in emissions to environmental media resulting from implementation of the technology

Dr. Williams told the Commission he had contracted with RTI International to make a determination on monetizing the benefits of incorporating the technologies to the citizens of the state. That process was not mandated by the original agreements.

In July of 2000, when he was contacted to be the agreements' designee and after it was determined by NCSU that it was appropriate for him to take the responsibility for leadership of the project, Dr. Williams requested that the Office of Attorney General to let him appoint an advisory panel to the process. He designed the advisory panel to be made up of representatives from government, environmental interests, community interests, the parties to the agreement, and individuals with expertise in animal waste management, environmental science and public health, economics, and business management. He appointed a 23-member advisory panel (see list in Exhibit E, page 13 for names of members and their affiliation).

In the fall of 2000, a process began that over the next several years led to the competitive selection from proposals, resulting in 17 technologies being studied in the state as possible ESTs. Most of the technologies were sited on commercial swine-producing facilities. There are a few in the Wake County area on North Carolina State University research stations. Two efforts went on out of state; however, neither of them was supported with funds from the agreements. Each of the two swine producing parties to the agreement has significant efforts in other states in which they are developing environmental technology. One is the biofuel from manure project in Utah (Smithfield Foods); the other is a fertilizer from manure project in the state of Missouri (PSF). Both of the companies in the process indicated they are interested in developing North Carolina models for these technologies. With the consensus of the advisory panel, the two out of state projects were put under the umbrella of the initiative. They are ongoing, and not in the Phase 3 report.

Dr. Williams provided a list of the principal investigators (PI) on the project (see **Exhibit E**, page 16). The comprehensiveness, quality and objectivity of the science and economics conducted during the process has been phenomenal, even among the individuals and stakeholders associated with the swine industry. He stressed the objectivity of the work that has been reported.

Dr. Williams described the process he led. The decisions he made have been based on data that have been measured. The data requirements for all the projects included a project PI report focusing on the treatment system components, including the conversion or removal of solids and organics and the operational feasibility; OPEN team report focusing on emission of odor, pathogens, and ammonia; and ECON team report focusing on technology unit costs/returns and industry impact. The technical environmental feasibility requirements were spelled out in the agreements; operational feasibility requirements were not. The technology determination process is described on Exhibit 3, page 18. The quantification of the performance standards is described in detail in the July 2004 report.

The approach taken by Dr. Williams was to appoint a subcommittee made up of the engineers on the advisory panel. The panel was charged with quantifying the technical performance standards. Paul Sherman, Environmental Engineer, Division of Water Quality, DENR, was chair of the subcommittee. The committee developed ways to quantify the performance standards (see Exhibit E, pages 21-29). He highlighted how the odor standard was quantified. One example was to "substantially eliminate the emission of odor that is detectable beyond the boundaries of the parcel or tract of land on which the swine farm is located." The quantifiable standard is, "odor intensity levels, measured using an index scale from 0-8, should not exceed the established metric of 2 (or equivalent) at a property line on which the swine farm is located." The Eulerian-Lagrangian model, developed by a Duke University researcher, enables a quantification of odor dispersion to be measured from the source at a distance (see **Exhibit E**, page 24). The technology being studied is a covered in-ground ambient anaerobic digester. The waste from the barn is treated on site. The odor shown on page 24 of Exhibit E is from within the building. Per the criteria, the technology would meet the standard of 2 or less at the property line. Because all the swine operations are permitted, based on the knowledge available for odor dispersion with the technologies, the odor at a given distance can be predicted.

Public health representatives on the advisory panel, and other public health experts that have seen the information since it has been published, have consistently made a point that the bar may be set too high on the elimination of the release of disease-transmitting vectors and airborne pathogens. Therefore, it is likely that there will be some changes as the report is discussed beyond the researchers

and advisory panel. However, Dr. Williams said he is confident that there are five technologies that have met the pathogen criteria.

In the July 2004 report, using the economic feasibility determination, the Super Soils contingent EST was determined to cost approximately $400. The cost for a lagoon-spray field system constructed in the year 2004 is approximately $87, less than ¼ of the Super Soils EST. The cost of the second generation Super Soils technology, which the researchers brought to Dr. Williams and the advisory panel in July of 2004, is approximately $100. Dr. Williams said it is logically possible to cut the cost in one-quarter because the environmental performance criteria have been identified. It is not necessary for technology to have the high level of reduction the first generation of the Super Soils technology has. When the process is re-engineered to reduce the level from 99 percent to 80 or 75 percent, it can have a dramatic impact on the cost. Dr. Williams believes it is possible to drastically reduce the cost for two reasons: the criteria to target have now been identified, and the engineers have learned a lot of pertinent information during the research process.

The economists collected invoices, tracked the costs, modeled the impacts, and took the unit costs and put the data into an equilibrium displacement model to measure what the impact would be on the competitiveness of the industry in North Carolina if producers were required to adopt a new technology. The July 2004 report was 1,400 pages because of the report on the economic modeling. Page 33 of Exhibit E shows the annualized incremental cost of the studied technologies and the baseline lagoon and spray-field technology ($87). Dr. Williams pointed out the results of the economic model showing the impact of incremental costs on the industry if a total conversion was implemented. He used the model of the incremental cost of $88.18 to show a 12.5 percent reduction or 12 percent reduction in herd size of marketed hogs in the state, on an annual basis. The dollar amount the remaining producers would incur would be $118,936,000. The economic data is of extreme importance.

The Generation 1 Super Soils cost was approximately $400. The long term impact of adopting the technology state-wide would be that the state would lose approximately 60 percent of the inventory per year in the state.

Dr. Williams said he knew determining a quantifiable definition of economic feasibility would be the most challenging part of the initiative. He appointed an economic advisory panel (subcommittee) with representation from the same groups as the engineer advisory panel (see page 36 of Exhibit E for a list of members). The panel was unable to come to consensus. Dr. Williams requested the subcommittee consider information provided in the costs-returns and market impacts reports, quantitative recommendations relative to mandated economic feasibility requirements, and assessment of how the EST implementation schedule impacts "determination of economic feasibility."

The 11 member economic subcommittee reached consensus on the following points:

- The designee should consider economic versus financial points of view regarding feasibility—e.g. in addition to the financial consequences which focus on payments made by farmers, the Agreements require attention to the true economic consequences, including non-monetized commitment of resources.

- The economic models used to determine the costs-returns and predicted impact on the competitiveness of the industry when utilizing the determined EST costs are well reasoned and well justified and thoroughly conducted, but include uncertainty and many assumptions (the same conclusions were derived by external ad hoc reviewers). Dr. Williams said there was no reason to discount their findings.

- In consideration of who makes up the North Carolina pork industry, the Designee should consider any and all business entities physically located in the state that generate their income from either the production of live swine or the meat packing of pork. Dr. Williams agreed.

- It is economically appropriate to implement the EST in phases, allowing pilot testing and refinement of the technologies before they are adopted industry wide. New farm categories and company-owned farms are appropriate and obvious candidates for this approach. Dr. Williams strongly agrees.

- The time frame for adoption of ESTs is important relative to the time value of money and assessing economic feasibility, e.g. additional time for implementation reduces the economic impacts on the North Carolina swine herd size.

The members of the economic advisory panel did not reach consensus on the following points although a majority of panel members accepted them:

- Competitiveness does not mean maintaining the present North Carolina hog inventory size and it does not mean avoiding any net increase in waste handling costs. The designee should consider that implementation of an EST with a predicted economic consequence of reducing the North Carolina swine herd by 12% would be economically feasible. More than half the members of the panel agreed with this. Their justification is in part based on findings of the General Assembly's adoption of the .0200 Rules, in which there was a predicted result that 12 percent of the state's swine operations not remaining in business. There was an intense level of debate in trying to come to consensus.

- Institutional considerations should be studied in consideration of EST implementation planning. There should be an institution created to oversee the technology transition. A majority of the advisory panel agreed they should consider tradable permits to ensure widespread conversion occurs in the most economically feasible manner possible.

There were three points a minority of panel members agreed with:

- The Agreements did not seek to close farms or otherwise reduce herd size in North Carolina.

- A hog production entity becomes non-competitive when its inability to fund production results in lost market share, and an EST is economically feasible if and only if the commercial application of the technology in only North Carolina has no adverse effect, e.g., there is no net increase in cost to the producer or reduction in herd size

- By-product revenue from an EST must exist to offset any higher operating and capital costs of the EST, and the best opportunity for the candidate ESTs studied is fossil fuel substitutes.

Dr. Williams said he decided on a definition of economic feasibility in relation to ESTs:

Economic feasibility defined: A technology may be economically feasible even though it would impose incremental cost increases on the North Carolina swine industry and potentially result in a reduction in swine herd size in North Carolina. Technologies will be considered candidates for EST determinations only if the maximum predicted reduction in herd size resulting form implementation would not exceed 12 percent. The reason Dr. Williams accepts the 12 percent reduction is the uncertainty associated with the models; however, he is not willing for the uncertainty in the models to push the reduction beyond 12 percent.

The Phase 3 report will reflect the following findings: There are five ESTs for new farm categories. A new farm category is described as farms using ESTs on sites that have not been used previously for the production of swine (greenfields); construction of new swine facilities using the EST on farms which previously housed swine, but which are no longer permitted for that purpose; and expansions (for purposes of increasing permitted herd size) of existing swine farms using the EST to treat waste for new construction on such existing swine farms. In the case of expansions, this determination applies only to the waste generated from the expansion. For existing farm categories, contingent ESTs, as described

in the July 2004 and 2005 technology determination reports, have not (based on Dr. Williams' determination) at the current time met economic feasibility conditions. Some of them have efforts in progress to try to arrive at economic feasibility, but the burden of making an EST economically feasiblt lies outside the parameters of the study.

There are several technologies (five—or components of these would make up four of the five) that are very close to being considered environmentally superior. However, Dr. Williams said he cannot move the standards to allow them to be considered as ESTs. Some of the technologies cost significantly less to operate than the five that have been determined to be ESTs. It would be unwise to not pursue mechanisms so that the technologies can be further considered.

Dr. Williams said a case has been made by certain members of the advisory panel that in looking at the uncertainties, the numbers relative to the impact on the competitiveness may be 40 percent lower or approximately 40 percent higher. If all the factors are taken into consideration, including the impact across all categories of farms, the 12 percent figure at $88 may be as low as 8 percent. At 12 percent, the unit cost number is no longer approximately $88, it goes up to $133. It is a very complex process.

Dr. Williams made the following recommendations:

- Continue, as expeditiously as possible, current efforts by targeted technology suppliers and researchers to improve the treatment processes to reduce the costs of their respective treatment systems, and get the costs to the economic standard.

- Establish a framework or process by which additional technologies may be considered viable ESTs. Since the economic and performance standards have been identified, there are a lot of entrepreneurs interested in pursuing new technologies. There should be a mechanism in place to encourage such entrepreneurship.

- Identify potential institutional incentives, public policies, and markets related to the sale of byproducts (with priority on energy production) that will reward farmers for utilizing technologies identified by this process that are shown to yield improvements and environmental benefits over the current lagoon spray-field system. The optimal method of achieving net cost reductions and even positive revenue flows from alternative technologies is to install targeted technologies on a sufficient number of farms to facilitate engineering improvements, value-added product market development, and other cost-reduction methods.

Dr. Williams said he has seen the recommendations by the Environmental Defense Fund and the Front Line Farmer organization relative to a potential approach to do this. He said he has read the press release and he agrees with the approach the group is recommending.

In summary, after more than five years, five ESTs have been identified. Each meets environmental standards established by the state and each has been quantified during the study. Economic feasibility has been defined. A process for developing and verifying ESTs has been documented. Additional technologies have been verified that with some modification might be capable of meeting EST standards. A process for implementing ESTs has been proposed.

Senator Albertson said the Commission would not be taking any public comment on the report today. Mr. Givens asked the interested parties to let him know if they wish to comment on the report at the April meeting, and encouraged them to attend the public planning meeting on Monday 3 April.

Representative Harrison asked about the external costs above the $87 associated with the lagoon and spray method of getting rid of animal waste. Dr. Williams replied that RTI International conducted the cost benefit analysis. He added that the analysis showed that the major benefit would arise from the reduction of ammonia emissions and the lagoon system does not impact the groundwater. Dr. Williams said he felt obligated to follow the requirements incorporated in the agreements, so he said he did not make the cost considerations. He went on to say that it would be appropriate in looking at the

various technologies, if they found some that met all the criteria and all else was equal, based on the findings of the cost benefit analysis, it would be appropriate to give more weight to one that would reduce the ammonia emissions because of those findings.

Representative Harrison referred to the Missouri consent agreement and asked if there are any other states working on this problem. Dr. Williams said the Missouri process is a completely independent process, but because PSF came into North Carolina, after they had their Missouri process and consent agreement, it was felt it would make sense for them to follow the process. Dr. Williams commented that he is not aware of any other program outside the Missouri (PSF), Utah (Smithfield), and North Carolina initiatives. There are some types of the approach being implemented elsewhere, but nothing of this scale that he is aware of.

Representative Harrison asked if energy was counted as a by product of any of the processes. Dr. Williams replied that some of the technologies do generate electricity from the biogas produced through the technology process. The numbers used by the economists are the numbers the producers would get for a return using the North Carolina rate structure.

Senator Forrester asked, of the five superior technologies, do any of them use the lagoon/spray system in the final phase or during some phase of the system, or are they entirely different? Dr. Williams said they do not use the lagoon spray system at all. Of the five, there is only one that treats the liquid waste stream, the Super Soils Technology. All the remaining four concentrate on the solid treatment system. With the technologies there will still be a liquid waste stream. With the Super Soils technology, the waste is treated in a series of tanks instead of in an earthen structure. If same process could be done in an earthen structure, it would reduce the cost.

Senator Forrester asked about the future funding source for evaluation of how the programs will work. Dr. Williams replied that the $17.3 million is expended. The environmental enhancement monies he has referenced would have to be made available by a decision of the Attorney General and the parties to the agreements. He is not aware of any state monies available.

Representative Justice asked if the advisory panel members have any recommendations of how to implement the technologies in real situations. Dr. Williams said he believed that is beyond the actual scope of the agreement; however, he is aware that those discussions have begun.

In answer to a question from Senator Kinnaird, Dr. Williams said the economists correctly interpreted that this scale of research would not occur in any other state. Some members of the advisory panel have been adamant that they may not have used a logical assumption. If it turns out it is not and there are conversions in other states, it will have an impact on the potential of what the competitiveness would be in this state. Professor Whisnant stated in the recommendation document from the economic subcommittee that the industry should include technology suppliers, and revenues generated from them. Dr. Williams said that he does not feel we are in a crisis with our current system relative to environment and health issues; however, there are legitimate concerns related to the health issues that need to be considered. He believes the technologies will evolve. Change will not be seen on a large scale in the near future, but over the next decade it will begin if the industry is to be viable in the state as well as in the nation.

Representative Gibson asked to have full size documents of the PowerPoint presentation for members of the Commission. He publicly thanked the Department on behalf of farmers for helping them improvement the environment. He further asked to have the people who have been working on this project to bring concurrent investigation they are conducting to improve the animal waste management situation. There are other technologies and developments by the industry and by science that the ERC needs to hear about to be sure the constructive environment is headed the right way. Representative Gibson ended his comments with a commendation for Dr. Williams and others involved for the work they have done. Senator Albertson agreed with his remarks.

The Commission recognized those in the audience who had worked on the project and gave them a round of applause.

Representative McComas said Dr. Williams' method of working with advisory panels composed of people from different perspectives has brought credibility to the process, and he commended him for the objectivity of the study and his leadership.

Senator Albertson recognized Mr. Paul Sherman, Environmental Engineer, DWQ, DENR, to present the annual report on permitting and inspecting animal waste management systems (see **Exhibit F** for a copy of his PowerPoint presentation). Permitting actions include renewals, changes of ownership, major or minor modifications, and some new permits. The State Non-Discharge General Permit, renewed in 2004, makes up the vast majority of the permits reported on. The Division issues two broad categories of permits for animal operations: the State Non-Discharge Permit (began in 1996), and the National Pollutant Discharge Elimination System (NPDES) (an EPA-delegated permit) for larger facilities. The NPDES permit is set to expire in 2007, so in the next few months the Division will be working with stakeholders to develop the next version of the permit. There are a total of 2,524 permitted facilities in the state. Mr. Sherman showed a graph that demonstrates a downward trend in numbers of violations, but in a year with heavy rainfall, there was a large number of violations. Heavy rainfall years do have a large impact on compliance rates.

Senator Forrester asked about the low number of poultry permits. Mr. Sherman commented that they only permitted operations are those with liquid waste management systems. Poultry usually uses dry litter systems, which are permitted by regulation.

Representative Justice asked if there are more farms being inspected by the Division of Water Quality (DWQ) than there are by Soil and Water Conservation (DSWC). Mr. Sherman said there is just a small difference. The DWQ inspects all the permitted facilities. Some have gone below the threshold as listed in the General Statutes. Some of the differences in the numbers would be because DWQ is responsible for complaint calls and when there are non-compliant inspections, they do the follow up. Representative Justice said she had sat in on a meeting where Soil and Water was doing inspections In Pender County that was added to Columbus and Brunswick Counties. She said their visits were to check for problems, but they were there more to help farmers. Mr. Sherman said he had intentionally omitted mention of the pilot programs in some counties for the Division of Soil and Water part of the report because they provide a separate report for the pilot counties. Representative Justice asked for a reproduction of the graph showing violations with the amount of rainfall indicated for each year.

Mr. Givens asked what percentage of the total permitted farms is covered by the pilot program. Mr. Sherman said he would get the answer and report it back to the Commission. He added that the report on the pilot program was in the package of reports as a Read Only report (see **Exhibit D-10**).

Senator Albertson recognized Mr. Paul Rawls, Chief, Surface Water Protection Section, DWQ, DENR, to present an annual report on the compliance/enforcement of water quality laws for facilities that discharge into surface waters (see **Exhibit G** for a copy of his PowerPoint presentation). The data include 1 July 2004 through 30 June 2005. He told the Commission that there were 308 NPDES permits issued. He added that for the first time in years, their backlog is less than 10 percent, a level that Region IV EPA recognizes as acceptable. The group is actually leading the nation in some categories of permitting. The 300 other inspections include audits, bioassays (dealing with whole effluent toxicity), and operation and maintenance. The staff increased efforts in inspection and compliance oversight of spills in 2005. The additional effort resulted fines of almost $245,000, a substantial increase from the previous year. During the last year, the staff completed issuing 300 operation and maintenance permits for the municipalities. They are complex permits that include reporting requirements, capital improvement plans, operation and maintenance criteria. Education to permittees was increased through site visits. They also increased education of staff in what to look for and how to deal with issues. Mr. Rawls reported that the Greensboro Special Order of Consent (SOC) has about $60 million of work spent to address sanitary sewer overflows there. The High Point SOC projected cost is $36.6 million, and High Point has spent an additional $46 million over the past 10 years prior to the SOC.

Representative Justice said she was aware that some municipalities operate their sewer systems as enterprise funds, and that on occasion, some government bodies take some of the proceeds of those funds into their general fund. She asked if there would be a way the legislature could enact a law to prevent them from doing that. She said she believes many of the systems are not being maintained as they need to be, and it could be because the governing body is taking funds out of the enterprise fund into their general fund. Mr. Givens said he would look into that question.

In response to a question from Representative Harrison, Mr. Rawls said a lot of the infrastructure issues have resulted from construction techniques and decisions made back in the 1920s.

Senator Albertson recognized Mr. Manley Wilder, new Director of the Division of Soil and Water Conservation (DSWC), DENR, for a report on the programs, activities, and priorities of the Division. Mr. Wilder gave a brief explanation of his background: native of Nash County, graduate of NC State University, spent 35 years with the Natural Resources Conservation Service (NRCS), working in Nash, Greene and Wayne counties in North Carolina. He also spent some time in Pennsylvania, Virginia and Washington, DC, before retiring to the home farm in Nash County in the mid-1990s.

Mr. Wilder shared some observations and challenges with the Commission. The urbanization, population growth, loss of farmland, tobacco buyout, and niche farming present challenges and opportunities for the Division and those working in soil and water conservation on private agricultural lands. He stressed conservation partnerships at all levels of government and the private sector—NRCS, the Division, the Association of Soil and Water Conservation Districts, the State Soil and Water Conservation Commission, and organizations such as the Farm Bureau, the Environmental Defense Fund, and others. The theme of the NC Association of Soil and Water Conservation Districts for this year is "private land, public benefits: achieving a balance to meet the needs of society and the environment."

One of the challenges is community conservation. There are a lot of soil and conservation water districts that are getting extremely interested and active in community conservation: a holistic program dealing with education, information, technical assistance, and cost sharing as it begins to address the non-agricultural residential part of the state. A few weeks ago he attended a forum in New Hanover County concerning stewardship development with developers. Developers were being recognized and rewarded for developing environmentally friendly projects. The Division has a proposal in to the Clean Water Management Fund for $500,000 for a pilot program to work in 16 Soil and Water Conservation districts on community conservation. There is an opportunity to develop legislation tailored on the order of the agriculture cost share program to allow us to work with soil and water conservation districts.

Another challenge is the animal waste problem. The Division is working on the marketing of byproducts of animal waste management. He met with the Environmental Defense Fund as they work on a conservation innovation grant with NRCS, front-line farmers and supersoils on how the process can move forward.

In the agriculture cost-share program, the Division wants to be on the cutting edge of developing innovative BMPs (best management practices) for farming.

Mr. Wilder told the Commission he had attended a series of meetings in the western part of the state, and a number of conservation districts and others began talking about carbon sequestration. Power companies want to partner with farmers to get carbon credits and carbon sequestration.

In closing, Mr. Wilder said he had been surprised in the amount of interest in farmland preservation.

Senator Albertson recognized Mr. Marc Thigpen, President of Nutec Soils, Inc., to discuss the environmental benefits of utilizing Geographic Information Systems (GIS) technology for precision agricultural practices. Mr. Thigpen explained the use of GIS technology in his farming operation to

maximize his profits. He showed how he increased his return on 185 acres of land and decreased his costs. He realized more cotton with less fertility, less inputs and more profit.

GPS is a way to micromanage a farm. The fields are broken up into small grids and samples of the soil are taken from each grid to determine what needs to be done to the soil to generate the greatest return. The reports let them know how much of what nutrient needs to be applied in exactly what area. It is far superior to a straight rate application. A computer on his picker monitors the yield by GPS as the picker harvests the crop. The data is converted into a map so he can see where the greatest yield with the least use of added product came from.

Mr. Thigpen showed several examples of how he uses this technique in a new business he developed (Nutec Soil). He uses the technology to get optimum turf growth in an environmentally friendly way for less money for golf courses. Benefits are optimum growth, friendly to the environment, complete management, cost savings, reduction of diseases, knowing exactly what you have and where it is, precision technology for uniform growth, precision applications. Mr. Thigpen is able to accomplish this by taking soil samples and reference them to GPS. Then Mr. Thigpen takes the data from the State laboratory and determines what is needed where. He had several before and after photographs to demonstrate how his technique worked on golf courses. Results show quality, production, and uniformity by getting the ingredients to work in harmony. He stressed that the technology does work, now the word needs to be spread so that more farmers will use it. It is a win, win situation—good for saving money for farmers and owners, and good for the environment.

Mr. Thigpen said he saved $30,000 on potash the first year he used the technology. The second year he cut fertilizer by 45 percent. There are several components required to make the technology work: a GPS receiver, the data processor, and the applicator. The truck itself costs $100,000.

Senator Albertson recognized Mr. David Williams, Chief, Non-point Source Program Section, DSWC, DENR to further discuss the environmental benefits of utilizing precision farming in the North Carolina Agricultural Cost Share Program (see **Exhibit I** for a copy of his PowerPoint presentation). In addition to the production benefits and the opportunity to make yields uniform across the whole field, there is a great benefit from a water quality standpoint in taking advantage of the technology because when a crop is growing at its optimum potential, it has the ability to process the applied nutrients for crop production rather than to have the nutrients remain behind and make their way into the surface and groundwaters. Cost-share practices are brought before a technical review committee (TRC). If the TRC looks at a practice and determines there is merit to the technology, a subcommittee will be formed to develop the implementation policies and the framework under which they would provide cost share assistance. A workgroup has been formed to look at precision farming. It has been meeting for several months. Once the workgroup brings a recommendation to the TRC, and it receives favorable consideration, it will go to the Soil and Water Commission for approval as a cost-sharable practice. Precision farming is an incentive practice.

Mr. Givens announced the itinerary for the 14 and 15 March meeting to be held in Asheboro had been handed out. He suggested Commission members keep 11 and 12 April open for a two-day meeting of the Commission to finish its business prior to the beginning of the 2006 session..

The meeting adjourned at 12:40 p.m.

Senator Charlie Albertson, Co-Chair
Presiding

Senator Daniel Clodfelter, Co-Chair

Dot Waugaman, Commission Assistant

Representative Pryor Gibson, Co-Chair

LIST OF EXHIBITS

Exhibit A Notice of Meeting dated 1 February 2006

Exhibit B Agenda of Meeting

Exhibit C List of Attendees

Exhibit D Memorandum dated 8 March re Reports to the Commission, with attachments as noted

D-1 *Development of Environmentally Superior Technologies: Phase 3 Report for Technology Determinations*

D-2 *Animal Waste Compliance Report*

D-3 *Annual report on compliance/enforcement of water quality laws for facilities that discharge into surface waters*

D-4 *Annual report on the cost of the Title V Program.* Division of Air Quality, DENR

D-5 *Report on the feasibility and desirability of acquiring land and establishing a State Recreation Area at Blewett Falls Lake*

D-6 *Report on vehicle use at Fort Fisher State Recreation Area*

D-7 *Annual report on recycling efforts of public schools in the State*

D-8 *Annual Report on Progress in Implementing Coastal Habitat Protection Plans*

D-9 *Interim report on the study of the feasibility and advantages of a coordinated regional approach for the phaseout of methyl tertiary butyl ether as an additive to motor fuel*

D-10 *Report on whether to continue or expand the pilot program to inspect animal waste management systems by the Division of Soil and Water Conservation*

D-11 *Report on the effectiveness of projects funded under the Agriculture Cost-Share Program for Nonpoint Source Pollution Control*

Exhibit E PowerPoint presentation by Dr. Mike Williams Phase 3 Report on the evaluation of alternative animal waste technologies

Exhibit F PowerPoint presentation by Mr. Paul Sherman, Environmental Engineer, Division of Water Quality, DENR

Exhibit G PowerPoint presentation by Mr. Paul Rawls, Chief, Surface Water Protection Section, Division of Water Quality, DENR

Exhibit H PowerPoint presentation by Mr. Marc Thigpen, discussing the environmental benefits of utilizing Geographic Information Systems (GIS) technology for precision agricultural practices

Exhibit I PowerPoint presentation by Mr. David B. Williams, Chief, Non-point Source Program Section, Division of Soil and Water Conservation, DENR

EXHIBIT A

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 733-2578
FAX: (919) 715-5460

SUSAN S. IDDINGS
ASSISTANT COMMISSION COUNSEL
401 LEGISLATIVE OFFICE BUILDING
(919) 733-6660

JENNIFER L. McGINNIS
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

DOT WAUGAMAN
COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 715-2525
FAX (919) 754-3232

JEFF W. HUDSON
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

TIMOTHY R. DODGE
COMMISSION ANALYST
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

17 February 2006

TO: Members of the Environmental Review Commission
Interested Parties

FROM: George F. Givens, Commission Counsel
Dot Waugaman, Commission Clerk

RE: **Commission Meetings**
Planning Meeting

COMMISSION MEETING – 8 March 2006

The Environmental Review Commission (Commission) will meet at 9:30 a.m. Wednesday 8 March 2006 in Room 544 of the Legislative Office Building in Raleigh. At the 8 March meeting, the Commission will hear a report on issues related to the evaluation of alternative animal waste management technologies to determine whether those technologies are environmentally superior and economically feasible, as well as reports from State agencies related to water quality and animal waste management. A formal meeting notice will be forthcoming.

COMMISSION MEETING – 14 and 15 March 2006

The Commission will meet at the North Carolina Zoological Park in Asheboro, North Carolina, on Tuesday 14 March and Wednesday 15 March 2006. This meeting will focus primarily on various matters related to parks and recreation, land conservation, and open space preservation and will be held in connection with a tour of the Zoological Park and other site visits in the area on those days. A formal meeting notice, including a detailed itinerary for the meeting and site visits will be forthcoming. For planning purposes, the Commission Clerk will be contacting members of the Commission over the next week to determine their availability for the meeting and site visits. Information on accommodations will also be forthcoming.

PLANNING MEETING:

To facilitate development of the agenda for the 8 March and the 14 and 15 March meetings of the Commission, to plan for subsequent meetings of the Commission, and to receive input from interested persons regarding the work of the Commission, the Commission Counsel will hold an informal planning meeting at **10:00 a.m. on Thursday 2 March 2006 in Room 605 of the Legislative Office Building**. Persons who wish to participate in the development of the agenda for meetings of the Commission, or who are interested in any matter before the Commission, are invited to attend.

ADDITIONAL INFORMATION:

If you have questions related to the Commission, please feel free to contact the Commission Counsel or other Commission staff at (919) 733-2578.

EXHIBIT B

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEI, NORTH CAROLINA 27603
(919) 733-2578
FAX: (919) 715-5460

SUSAN S. IDDINGS
ASSISTANT COMMISSION COUNSEL
401 LEGISLATIVE OFFICE BUILDING
(919) 733-6660

JENNIFER L. McGINNIS
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

DOROTHY M. WAUGAMAN
COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 715-2525
FAX: (919) 754-3232

JEFF W. HUDSON
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

TIMOTHY R. DODGE
COMMISSION ANALYST
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

AGENDA
9:30 a.m. Wednesday 8 March 2006
Room 544 Legislative Office Building

1. Call to order
   Senator Charles W. Albertson, Presiding

2. Introductory remarks by Cochairs
   Senator Charles W. Albertson
   Senator Daniel G. Clodfelter
   Representative Pryor A. Gibson

3. Report to the Commission and explanation of agenda items
   George F. Givens, Commission Counsel

4. Report on the findings of the evaluation of alternative animal waste management technologies to determine whether those technologies are environmentally superior and economically feasible
   Charles M. "Mike" Williams, Agreements' Designee;
   Associate Professor, College of Agriculture & Life Sciences,
   North Carolina State University

5. Annual report on permitting and inspecting animal waste management systems/Animal Waste Compliance Report (G.S. 143-215.10M)
   M. Paul Sherman, Environmental Engineer
   Division of Water Quality, Department of Environment and Natural Resources (DENR)

6. Annual report on the compliance/enforcement of water quality laws for facilities that discharge into surface waters (G.S. 143-215.9A)
   Paul E. Rawls, Chief
   Surface Water Protection Section, Division of Water Quality, DENR

7. Report on the programs, activities, and priorities of the Division of Soil and Water Conservation

   Manly S. Wilder, Director
   Division of Soil and Water Conservation, DENR

8. Discussion of the environmental benefits of utilizing Geographic Information Systems (GIS) technology for precision agricultural practices

   Marc Thigpen, President
   Nutec Soils, Inc.

   David B. Williams, Chief
   Non-point Source Program Section, Division of Soil and Water Conservation, DENR

9. Commission discussion and announcements

10. Adjourn

SCHEDULE OF FUTURE MEETINGS:

Below is a schedule of meetings of the Commission for March 2006 through May 2006. This schedule is tentative and subject to adjustment. To facilitate development of the agenda for meetings of the Commission and to receive input from interested persons regarding the future work of the Commission, the Commission Counsel holds informal planning meetings for staff and interested parties. The schedule of these public Commission staff planning meetings is also set out below.

1:00 p.m. Tuesday 14 March 2006

Location: Multi-Purpose Conference Room, North Carolina Zoological Park, Asheboro, North Carolina. *The Commission meeting will include a tour of the Zoological Park on Wednesday 15 March 2006 and other site visits in the area on Tuesday and Wednesday. Further information on the site visits will be forthcoming.*

9:30 a.m. Tuesday 11 April and Wednesday 12 April 2006

Location: 544 LOB
Staff Planning Meeting: 2:00 p.m. Monday 3 April 2006 – 605 LOB

Wednesday 3 May 2006

Location: 544 LOB
Staff Planning Meeting: 10:00 a.m. Thursday 27 April 2006 – 605 LOB (This meeting will also serve as the Commission staff planning meeting for the Commission meeting scheduled for 8 May 2006.)

Monday 8 May 2006

Location: 544 LOB

OTHER MEETINGS:

The Commission Counsel will hold meetings of interested parties on specific topics as indicated below:

Phase II Stormwater Management Working Group

10:00 a.m. Friday 10 March 2006 – 605 Legislative Office Building
10:00 a.m. Wednesday 22 March 2006 – 605 Legislative Office Building
10:00 a.m. Monday 3 April 2006 – 605 Legislative Office Building

Risk-Based/Limit Liability for Environmental Cleanups Working Group (HB 1778/HB 1099/SB 1121)

2:00 p.m. Friday 17 March 2006 – 605 Legislative Office Building
2:00 p.m. Monday 10 April 2006 – 605 Legislative Office Building

ADDITIONAL INFORMATION:

Persons having questions about the Commission meeting or other matters related to the Commission may contact Commission Counsel or other Commission staff at (919) 733-2578.

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — March 8, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Glenn Sappie	DENR - Division of Air Quality
Chuck Stoker	Frontier Farmer
Lamont Gilbert	Frontier Farmer
LYNN WORLEY-DAVIS	NCSU APWMC
David Williams	DENR-DSWC
RICHARD WHISNANT	UNC School of Government
Vernon Cox	DENR-DSWC
Tommy Stevens	NCPC
Mrs Rampey	Pork Magazine
AMY PICKLE	SELC

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — March 8, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Pat Harris	DENR
Natalie Jones	DENR
Jim Cummings	NCDACS
Paul Sherman	DENR
Eileen Williams	citizen
Mike Williams	NCSU
Susan Massengale	DWQ
Johanna Reese	DENR
Bob Leker	State Energy Office
Sharon Stroud	State Energy Office
Christine Wunsche	Environment North Carolina

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — March 8, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Steve Wall	DENR
Tom Bean	NCWF NC SEA ENVIRO DEFENSE
Doug Howey	NCPMA
Lisa Martin	NC Home Builders
Anne Coan	NC Farm Bureau Fed
Mia Bailey	Electri Cities of NC
Lisa Schneider	NC DOJ
Gary Saunders	NC DAQ
Bob Ford	NC Poultry Fed
Erin Kinsey	NC Conservation Network
John Mattyl	Gov Office

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — March 8, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Suzanne Griffin	Poyner & Spruill
Alan Klimek	DENR - DWQ
William Peltz	NCDS & NCPTA
[illegible]	JDWLC

EXHIBIT D

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 733-2578
FAX: (919) 715-5460

SUSAN S. IDDINGS
ASSISTANT COMMISSION COUNSEL
401 LEGISLATIVE OFFICE BUILDING
(919) 733-6660

JENNIFER L. McGINNIS
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

DOROTHY M. WAUGAMAN
COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 715-2525
FAX: (919) 754-3232

JEFF W. HUDSON
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

TIMOTHY R. DODGE
COMMISSION ANALYST
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

8 March 2006

MEMORANDUM

To: Members of the Environmental Review Commission
From: Tim Dodge, Commission Analyst
Re: Reports to the Commission

This memorandum lists reports that have been submitted to the Environmental Review Commission by State agencies since the last reports distribution on 14 February 2006.

A. REPORTS RELATED TO TODAY'S AGENDA

The following reports are attached to this memorandum. These reports may be referenced during the course of the 8 March 2006 Commission meeting.

Water Quality:

1. *Development of Environmentally Superior Technologies: Phase 3 Report for Technology Determinations per Agreements Between the Attorney General of North Carolina and Smithfield Foods, Premium Standard Farms, and Frontline Farmers.* Animal and Poultry Waste Management Center, North Carolina State University. 8 March 2006.

2. *Annual report on permitting and inspecting animal waste management systems/Animal Waste Compliance Report.* Division of Water Quality, DENR. 15 October 2005. Statutory Authority: G.S. 143-215.10M.

3. *Annual report on the compliance/enforcement of water quality laws for facilities that discharge into surface waters.* DENR. 1 September 2005. Statutory Authority: G.S. 143-215.9A.

B. READ-ONLY REPORTS

The following reports are attached to this memorandum. These reports are not scheduled for oral presentation.

Air Quality:

4. *Annual report on the cost of the Title V Program.* Division of Air Quality, DENR. 1 November 2005. Statutory Authority: G.S. 143-215.3A(c).

Parks and Recreation / Land Conservation:

5. *Report on the feasibility and desirability of acquiring land and establishing a State Recreation Area at Blewett Falls Lake, including an estimate of the cost of developing the proposed recreation area.* Division of Parks and Recreation, DENR. 1 December 2005. Statutory Authority: S.L. 2004-24, Sec. 2.
6. *Report on vehicle use at Fort Fisher State Recreation Area.* DENR. 1 March 2005. Statutory Authority: S.L. 2004-124, Sec. 12.3(b).

Solid Waste Management:

7. *Annual report on recycling efforts of public schools in the State.* Department of Public Instruction. 15 December 2005. Statutory Authority: S.L. 2001-512, Sec. 11.

Water Quality:

8. *Annual Report on Progress in Implementing Coastal Habitat Protection Plans.* Coastal Resources Commission, Environmental Management Commission, and Marine Fisheries Commission. 3 February 2006. Statutory Authority: G.S. 143B-279.8(e).
9. *Interim report on the study of the feasibility and advantages of a coordinated regional approach for the phaseout of methyl tertiary butyl ether (MTBE) as an additive to motor fuel in the southeast region of the United States, and on progress in developing a coordinated regional approach to the phaseout of methyl tertiary butyl ether (MTBE) as an additive to motor fuel.* Secretary of Environment and Natural Resources and the Commissioner of Agriculture. 1 March 2006. Statutory Authority: S.L. 2005-93, Sec. 4.
10. *Report on whether to continue or expand the pilot program to inspect animal waste management systems by the Division of Soil and Water Conservation.* DENR. 15 October 2005. Statutory Authority: S.L. 2005-276, Sec. 12.7(c)).
11. *Annual report on the effectiveness of projects funded under the Agriculture Cost-Share Program for Nonpoint Source Pollution Control.* Soil and Water Conservation Commission. 1 March 2006. Statutory Authority: G.S. 143-215.74(e).

C. REPORTS HELD FOR FUTURE PRESENTATIONS

The following reports are being held for distribution in conjunction with a potential agenda item at 14 March 2006 meeting of the Commission at the North Carolina Zoological Park in Asheboro.

Parks and Recreation / Land Conservation:

12. *Parks and Recreation Trust Fund Annual Report, Fiscal Year 2004-2005.* Division of Parks and Recreation, DENR. 1 October 2005. Statutory Authority: G.S. 113-44.15(c).
13. *North Carolina Natural Heritage Trust Fund Award Report, Calendar Year 2004.* Division of Parks and Recreation, DENR. 1 September 2005. Statutory Authority: G.S. 113-77.9(e).
14. *Annual report on progress towards attaining the State's goal of protecting one million acres of farmland, open space, and conservation lands.* DENR. 1 October 2005. Statutory Authority: G.S. 113A-241(c).

Please contact George Givens, Jeff Hudson, Jennifer McGinnis, or Tim Dodge at (919) 733-2578 if you have any questions or comments.

EXHIBIT D-1

Development of Environmentally Superior Technologies

Phase 3 Report

for Technology Determinations per Agreements
Between the Attorney General of North Carolina and Smithfield Foods,
Premium Standard Farms, and Frontline Farmers

March 8, 2006

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March 8, 2006

TO ALL INTERESTED PARTIES:

This report was compiled pursuant to Sections III.B.5 and III.B.6 of Agreements, dated July 25, 2000 and September 30, 2000 between the Attorney General of North Carolina and Smithfield Foods, Inc. and Premium Standard Farms, Inc., respectively.

Copies of this report are transmitted on this date to the North Carolina Attorney General, Smithfield Foods, Premium Standard Farms, and Frontline Farmers. A copy is also transmitted to the North Carolina Environmental Review Commission. A full copy of this report is on file in the North Carolina State University (NCSU) Animal & Poultry Waste Management Center (APWMC) administrative office located in room 134 Scott Hall on the NCSU north campus.

A complete electronic copy of this report will be posted on the NCSU College of Agriculture and Life Sciences Waste Management Programs web site http://www.cals.ncsu.edu/waste_mgt/ within 30 business days of today's date.

Respectfully submitted,

C.M. (Mike) Williams, Ph.D.
Agreements' Designee

PREFACE

This report comprises the third in a series of technology determinations for candidate Environmentally Superior Technologies made by the Designee as described and mandated by agreements between the Attorney General of North Carolina, Smithfield Foods, Premium Standard Farms, and Frontline Farmers. Phase 1 and 2 technology determination reports were previously published.[1]

The determinations reported are based on environmental performance data and economic feasibility analyses. Research teams comprised of faculty and staff from North Carolina State University, the University of North Carolina – Chapel Hill, Duke University, University of Georgia, and the United States Department of Agriculture conducted the studies reported and referenced herein. A full-service environmental and agricultural engineering firm, Cavanaugh & Associates, P.A., served as Project Technical Manager, with responsibility of permit and construction management for the candidate technologies located on commercial-scale farms.

An advisory panel appointed by the Designee has provided invaluable input and review to this process. Their participation and oversight has contributed significantly to decisions made by the Designee regarding the technology determinations. The panel is made up of individuals with expertise in animal waste management as well as individuals with an interest in the development of Environmentally Superior Technologies. The panel's representation is comprised of academic research scientists, engineers, public health and public law experts, and economists. In addition, individuals representing community interests, environmental interests, North Carolina Department of Environment and Natural Resources, United States Environmental Protection Agency, agribusiness, farm owners and swine contract growers (Frontline Farmers), and the companies (Smithfield Foods and Premium Standard Farms) are on the appointed panel.

The following abbreviations and acronyms are used frequently throughout this report:

- Agreements – Agreements between the Attorney General of North Carolina and Smithfield Foods, Premium Standard Farms, and Frontline Farmers
- EST – Environmentally Superior Technologies
- Designee – C.M. (Mike) Williams, as appointed per the Agreements
- NCDENR – North Carolina Department of Environment and Natural Resources
- PSF – Premium Standard Farms
- Smithfield – Smithfield Foods and Subsidiaries

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[1] Development of Environmentally Superior Technologies. 2004. Phase 1 Technology Determination Report, published by NCSU College of Agriculture and Life Sciences, 941 pgs, on file with NCSU Animal and Poultry Waste Management Center (July 26, 2004). Also available at www.cals.ncsu.edu/waste_mgt/

Development of Environmentally Superior Technologies. 2005. Phase 2 Technology Determination Report, published by NCSU College of Agriculture and Life Sciences, 1,428 pgs, on file with NCSU Animal and Poultry Waste Management Center (July 25, 2005). Also available at www.cals.ncsu.edu/waste_mgt/

Summary

Efforts to identify and implement "Environmentally Superior Technologies" (EST) onto swine farms in North Carolina were initiated in 2000 by the Attorney General of North Carolina through agreements with Smithfield Foods (SF) and Premium Standard Farms PSF). A third and related agreement was established with Frontline Farmers in 2002. This report documents the "Technology Determinations" as described in the Agreements: a written determination by the Agreements' Designee that contains findings relative to a technology or combination of technologies as an EST.

Considerations for EST, which were mandated by the Agreements, included technical, operational, and economic criteria. Technical (Environmental) performance standards (previously established by the North Carolina General Assembly) targeted the discharge of animal waste to surface waters and groundwater, emission of ammonia, emission of odor, release of disease-transmitting vectors and airborne pathogens, and nutrient and heavy metal contamination of soil and groundwater. The determination of economic feasibility included consideration of technology costs and the estimated impact that the adoption of EST could have on the competitiveness of the North Carolina pork industry. A cost-benefit analysis was also conducted; this was done to compare the relative advantages of the different candidate technologies but was not included in the determination of economic feasibility.

An advisory panel appointed by the Designee provided input and oversight to this initiative. The panel was composed of academic research scientists, engineers, public health and public law experts, and economists. In addition, individuals representing community interests, environmental interests, North Carolina Department of Environment and Natural Resources, U.S. Environmental Protection Agency (USEPA), agribusiness, farm owners and swine contract growers (Frontline Farmers), and the companies (SF and PSF) were represented.

Candidate technologies studied in North Carolina included a covered in-ground anaerobic digester with biological trickling filters and greenhouse vegetable production system, a sequencing batch reactor system, two belt manure removal systems, several solids separation systems, a constructed wetland system, a reciprocating wetland system, an upflow biological aerated filter system, a gasification system, a fluidized bed combustion system, an insect biomass conversion system, mesophilic and thermophilic anaerobic digesters, a water reuse system, permeable lagoon covers with aerobic blanket system, a nitrification and denitrification soluble phosphorus removal system, a centralized composting system, and a closed loop chemical treatment system. In addition to these systems, technologies not funded directly by this initiative but under development by SF in Utah (bio-diesel fuel from manure project), PSF in Missouri (manure to fertilizer project and several other technologies per a consent agreement between PSF and the state of Missouri and USEPA) are under consideration as candidate EST.

Analyses and review of economic data compiled for all candidate EST showed the projected additional annualized (10 years) costs of retrofitting existing lagoon spray field farms with EST for a complete treatment system (liquid and solids treatment) ranges between approximately $90 to over $400 per 1,000 lbs. steady state live weight per year. This compares to a predicted approximate cost of $85 per 1,000 lbs. steady state live

weight per year for constructing a permitted lagoon spray field system in North Carolina in 2004. The economic analysis also showed that adopting candidate EST may result in annual reductions in the North Carolina inventory of pork. In addition, the study concluded that sources of financial support, including cost share programs to help finance the additional costs may be available in the future, with the most promising opportunities for technologies that generate energy; however, no significant sources of such support are currently available.

Following extensive review of the economic data and associated issues, discussion, debate, and input by the referenced advisory panel (documented herein), economic feasibility was defined by the Designee as follows: *A technology may be economically feasible even though it would impose incremental cost increases on the North Carolina swine industry and potentially result in a reduction in swine herd size in North Carolina. Technologies will be considered candidates for EST Determinations only if the maximum predicted reduction in herd size resulting from implementation would not exceed 12 percent. The Designee will be responsible for determining whether the predicted herd size reduction that would result from the implementation of a technology is sufficiently accurate to consider it a candidate for determination as an EST. The Designee will also be responsible for determining, and limiting his determination and implementation recommendations to a category, or categories of farms, to ensure that an EST Determination would not result in unintended negative impacts and consequences for other farms which are dependent on the EST farms for their ongoing supply of production animals.*

Based on the criteria for the technical and economic standards, review of all available data, and advisory panel inputs, the following Technology Determinations are made at this time:

New farm category: Designee concludes that the solids separation / nitrification–denitrification / soluble phosphorus removal system ("Super Soils" technology as described in a previously published {July 26, 2004} technology determination report) in combination with any one of the following four solids treatment systems: the high solids anaerobic digester ("ORBIT" technology as described in the July 26, 2004 report); "Super Soil Systems" centralized composting system; gasification for elimination of swine waste solids with recovery of value-added products system; and "BEST" – fluidized bed combustion of solids system (the latter 3 systems as described in a previously published {July 25, 2005} technology determination report) comprise an unconditional Environmentally Superior Technology for new farms which are permitted and constructed for the first time after the date of this report. This determination is limited to the following types of farms: farms using EST on sites that have not been used previously for the production of swine ("Greenfields"); construction of new swine facilities using the EST on farms which previously housed swine, but which are no longer permitted for that purpose; and expansions (for purposes of increasing permitted herd size) of existing swine farms using the EST to treat waste for new construction on such existing swine farms. In the case of expansions, this determination applies only to the waste generated from the expansion.

Existing farm categories: Designee concludes that contingent EST, as described in the July 2004 and 2005 technology determination reports, have not at the current time met economic feasibility conditions required for unconditional EST to be implemented onto existing farm categories in North Carolina.

The scope of the Technology Determinations herein is considered final and inclusive of the candidate technologies described in this report. Any subsequent Technology Determinations, including contingent determinations that have been described in the referenced July 2004 and July 2005 reports, and also including technologies under development by parties to the Agreements that were referenced in those reports, that may be made by the Designee will be based on available data and appropriate outside critical review and inputs resulting from efforts that go beyond those described in this report.

The results reported herein collectively show that this initiative has resulted in a combination of 5 technologies that meet environmental performance standards that have been established by the North Carolina General Assembly. The data also show that with technical modifications and improvements (some of which may only be minor), several of the additional technologies considered in this initiative may meet the environmental performance criteria. However, the technologies studied which have been shown to meet the environmental performance standards and would be required for a complete liquid and solids treatment system currently exceed the threshold cost for economic feasibility as defined herein for existing categories of farms.

Based on these findings the following next steps are recommended:

Continue, as expeditiously as possible, current efforts by targeted technology suppliers and researchers to improve upon their treatment processes to reduce the costs of their respective treatment systems.

Establish a framework or process by which additional technologies may be considered viable Environmentally Superior Technologies. This would include technologies that can be improved upon (technically and / or operationally and / or economically) as a result of information derived from this initiative, as well as technologies that were not part of this funded initiative.

Identify potential institutional incentives, public policies, and markets related to the sale of byproducts (with priority on energy production) that will reward farmers for utilizing technologies identified by this process that are shown to yield improvements and environmental benefits over the current lagoon spray field system. The optimal method of achieving net cost reductions and even positive revenue flows from alternative technologies is to install targeted technologies on a sufficient number of farms to facilitate engineering improvements, value-added product market development, and other cost reduction methods.

1.0 Introduction and Overview

Agreements: Efforts to identify and implement "Environmentally Superior Technologies" (EST) onto swine farms in North Carolina were initiated in July 2000 by the Attorney General of North Carolina by an agreement with Smithfield Foods and its subsidiaries and a similar agreement (in September 2000) with Premium Standard Farms. A third and related agreement was established with Frontline Farmers in 2002.[2]

Performance standards and economic feasibility: Technical environmental performance standards defined in the Agreements and previously established by the North Carolina General Assembly[3] mandate that successful EST address the discharge of animal waste to surface waters and groundwater; emission of ammonia; emission of odor; release of disease-transmitting vectors and airborne pathogens; and nutrient and heavy metal contamination of soil and groundwater. Although not a component of the referenced Session Law 1998-188, House Bill 1480, comprehensive determinations of economic feasibility are mandated by the terms and conditions of the Agreements. Targeted economic variables include projected 10-year annualized costs and returns analysis for each technology; projected revenues from byproduct utilization; consideration of available cost-share monies; and the impact that the adoption of the EST may have on the competitiveness of the North Carolina pork industry as compared to the pork industry in other states.

Advisory panel: The Agreements mandate that an advisory panel provides input and peer review of this overall initiative. The panel is made up of individuals with expertise in animal waste management as well as individuals with an interest in the development of Environmentally Superior Technologies. The panel's representation is comprised of academic research scientists, engineers, public health and public law experts, and economists. In addition, individuals representing community interests, environmental interests, North Carolina Department of Environment and Natural Resources, U.S. Environmental Protection Agency, agribusiness, farm owners and swine contract growers (Frontline Farmers), and the companies (Smithfield Foods and Premium Standard Farms) are on the appointed panel (see Appendix E for names and affiliations of panel members).

Candidate technologies: Beginning in 2000 candidate EST technologies were competitively selected. They included solids separation systems, a covered in-ground anaerobic digester with biological trickling filters and greenhouse vegetable production, mesophilic and thermophilic anaerobic digesters, a sequencing batch reactor, an upflow biological aerated filter system, a gasification system, belt manure removal systems, and wetland systems. In addition to these systems, technologies not funded directly by this initiative but under development by Smithfield Foods in Utah (biodiesel fuel from manure project), Premium Standard Farms in Missouri (manure to fertilizer project and several other technologies per a consent decree between Premium Standard Farms and

[2] See Agreements between Attorney General of North Carolina and SF, PSF, and Frontline Farmers (North Carolina Department of Justice, on file with Ryke Longest, 2000 & 2002). Also available at www.cals.ncsu.edu/waste_mgt/

[3] See General Assembly of North Carolina, Session 1997, Session Law 1998-188, House Bill 1480

the state of Missouri and USEPA), Sustainable North Carolina and Frontline Farmers (closed-loop swine waste management system located in Eastern North Carolina) are considered candidate EST. Table 1 shows the technology names and status of the environmental and economic studies. Technical and economic data procurement for all of the projects located in North Carolina and funded under the initial July 2000 Agreements and has been completed to date.

Detail progress reports describing the EST initiative between the dates of July 25, 2000 and July 25, 2003 have been published.[4] In July 2004 and July 2005 Technology Determination Reports were issued.[5] These reports comprised written determinations relative to a technology's or combination of technologies' candidacy as an EST. The July 2004 report focused on eight of the candidate EST, and two were shown to be capable of meeting the Agreements' technical performance standards and were declared to be contingent EST. Those technologies were: 1) the solids separation/nitrification–denitrification/soluble phosphorus removal system ("Super Soils" technology) and 2) the high solids anaerobic digester system ("ORBIT" technology). The July 2005 report focused on an additional eight funded technology candidates not covered in the July 2004 report and showed that three of those technologies also met the identified technical performance standards and were declared to be contingent EST; those technologies were: 1) "Super Soil Systems" centralized composting system, 2) gasification for elimination of swine waste solids with recovery of value-added products system, and 3) "BEST" – fluidized bed combustion of solids system. It is noted that these latter three technologies as well as the "ORBIT" technology described in the 2004 report are specific for the treatment of swine manure solids only. Each of these technologies must be combined with a system that successfully removes solids and also successfully treats (meets EST technical performance criteria) the liquid components of the waste stream (urine and/or flushed manure slurry).

Some of the candidate technologies studied as part of both the Phase 1 and Phase 2 determinations met many of the technical feasibility performance criteria. For these technologies it is possible that making technology modifications and/or combining treatment unit processes between other candidate EST may enable them to meet all of the EST technical feasibility performance criteria. An Engineering Subcommittee made up of nine of the above referenced panel members carefully studied the possible combination of candidate EST technology treatment unit processes for the purpose of making a

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[4] See Development of Environmentally Superior Technologies: One, Two, and Three Year Progress Reports, published by NCSU College of Agriculture and Life Sciences, on file with NCSU Animal and Poultry Waste Management Center (July 25, 2001; 2002; 2003). Also available at www.cals.ncsu.edu/waste_mgt/

[5] See Development of Environmentally Superior Technologies: Phase 1 Technology Determination Report, published by NCSU College of Agriculture and Life Sciences, 941 pgs, on file with NCSU Animal and Poultry Waste Management Center (July 26, 2004). Also available at www.cals.ncsu.edu/waste_mgt/ and,
Development of Environmentally Superior Technologies. 2005. Phase 2 Technology Determination Report, published by NCSU College of Agriculture and Life Sciences, 1428 pgs, on file with NCSU Animal and Poultry Waste Management Center (July 25, 2005). Also available at www.cals.ncsu.edu/waste_mgt/

determination of an EST; their Recommendation Document is contained herein as Appendix C.

Economic feasibility: For the mandated economic analysis, projected costs of retrofitting existing lagoon spray-field systems have been estimated for the candidate technologies and are collectively provided herein and in the referenced July 2005 report (see Appendix B.1 of the July 2005 report). The impacts of adopting EST technologies on the competitiveness of the N.C. pork industry were reported in detail in the July 2005 report (see Appendix B.2 of the July 2005 report). An Economics Subcommittee comprised of 10 appointed members of the above referenced advisory panel reviewed these data and the methods utilized to derive them. Reports from this subcommittee are provided herein as Appendix D.

Phase 3 technology determinations: The report herein provides technical data for two technologies that were not included in the Phase 1 and 2, July 2004 and 2005 reports. Economic costs and returns data are provided for all candidate technologies for which that information was not reported in the July 2004 report. This report, however, summarizes technical (see report summary data that follow this section) and economic feasibility data (see referenced Tables in Section 3.0) for all technologies studied to date that were funded under the initial July 2000 Agreements. EST status for all of these referenced candidate technologies and next step recommendations as determined by the Designee are provided.

2.0 Candidate Environmentally Superior Technology Descriptions

Concise descriptions, schematics, and figures for each of the Phase 3 candidate EST follow. Additional information related to the farm or experimental sites where the technologies were evaluated is provided in Table 2.

"AgriClean" Mesophilic digester and "AgriJet" flush system – Bobby Ray Harris Farm, Belvoir, NC – 11520 head finisher

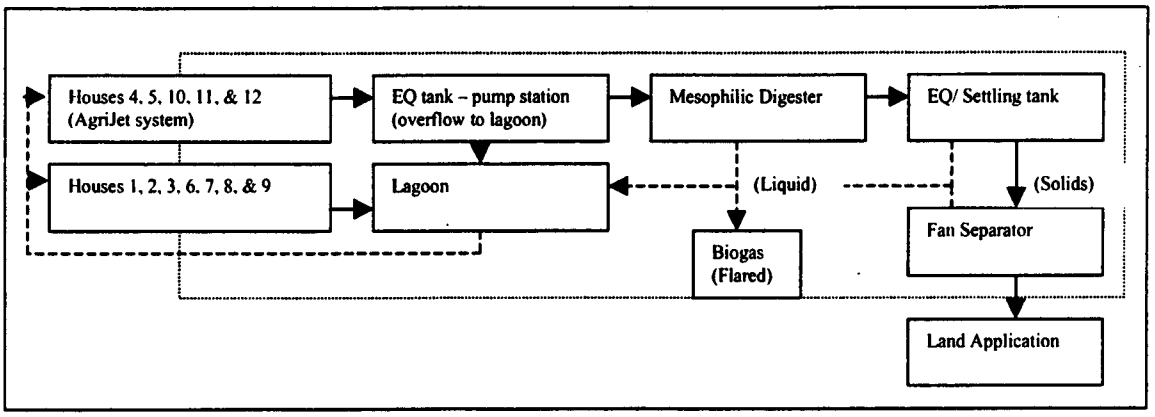
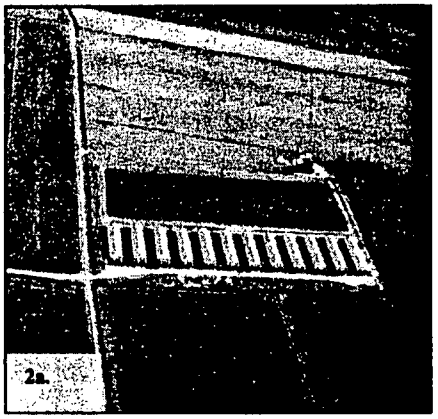
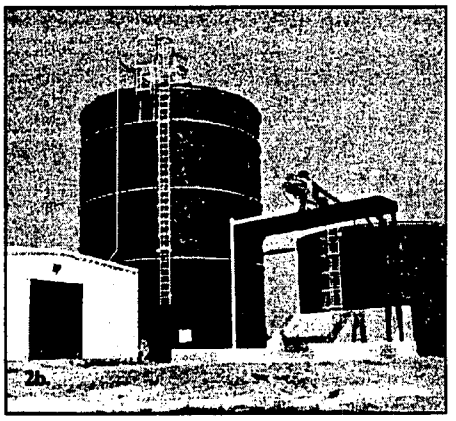


Figure 1. Process flow diagram for AgriClean technology.





Figures 2a and b. Aerial view of BR Harris Farm and image of fixed – film mesophilic digester with settling tank and fan separator.

The AgriClean technology consists of an EQ tank/pump station, a fixed-film mesophilic anaerobic digester, a setting tank and a Fan separator, with the system receiving waste from five of the 12 finishing houses. The five test houses housed a pressure flush style waste removal system (AgriJet system - not funded through the EST candidate process). Approximately 13,000 gallons of wastewater was delivered daily to the 255,000-gallon mesophilic digester, which was mixed and recirculated through a heat exchanger to provide the target digester temperature of 95°F. Both undigested and settled solids were transferred to a settling/EQ tank, which was designed to deliver the solids through a Fan separator for additional solid separation. Biogas produced as a result of the digestion process was to be utilized as a heat source for the mesophilic digester (heat exchanger). All processed liquid was returned to the existing lagoon.

Environmental Technologies – Red Hill Farm, Ayden, NC – 3,700 head finisher

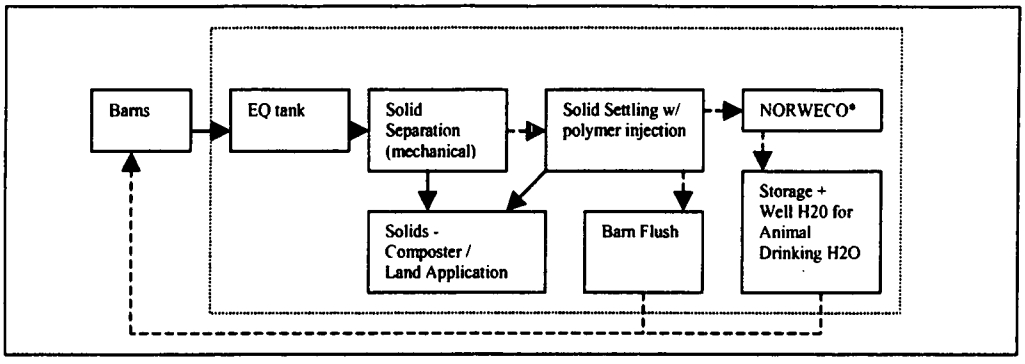
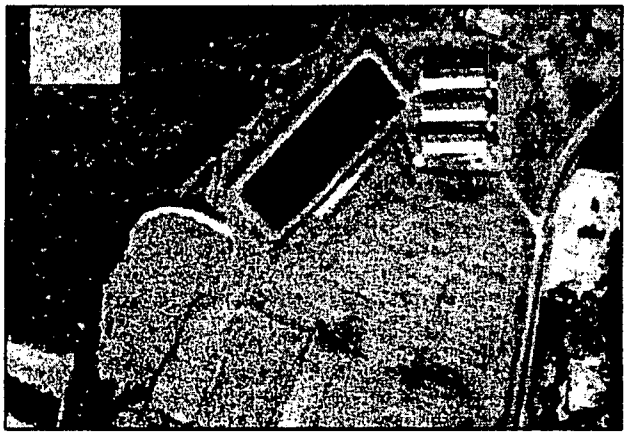
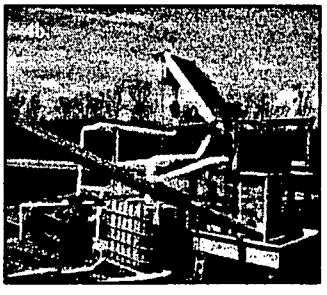
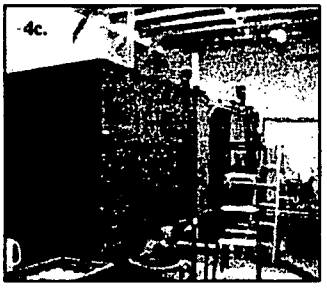


Figure 3. Process flow diagram for Environmental Technologies technology.
* NORWECO - This system provides a tertiary treatment to water that will be used as animal drinking water through filtration and aeration.









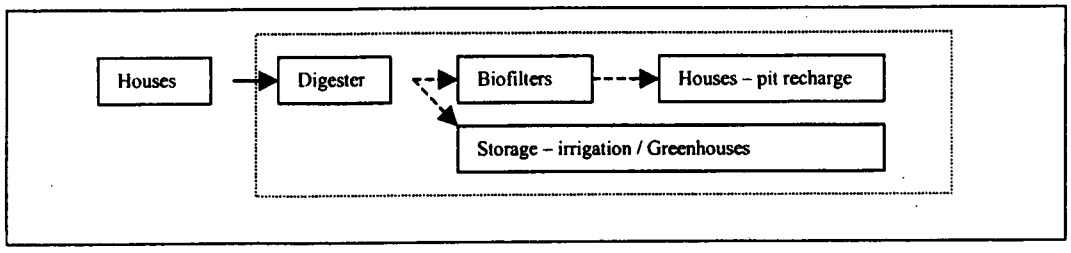
Figures 4 a, b, c and d. Aerial image of Red Hill Farm, solid separation components and NORWECO filtration component of Environmental Technologies technology.

The Environmental Technologies (ET) technology components include an EQ tank, solid separation (mechanical - screen) (4a & b), polymer injection with additional solid separation (settling tank) (4c), and aeration filtration (NORWECO) (4d). Solids separated with the mechanical solid separator were land applied; however, an additional treatment of the solids through mechanical composting was offered as an alternate option. The NORWECO filtration system provides drinking water (with the addition of well water) for the animals housed on the farm.

2.1 Process flow Diagrams and Technical Performance Summaries for all EST Candidates

The following diagrams and summary tables are provided as a concise overview and do not provide all of the details that were considered by the Designee and the Advisory Panel needed to evaluate the candidate technologies. Readers are strongly encouraged to refer to the appendices herein as well as in the referenced July 2004 and July 2005 Technology Determination reports for the details of candidate EST.

Ambient Temperature Anaerobic Digester and Greenhouse for Swine Waste Treatment and Bioresource Recovery at "Barham Farm"



Report Summary:

Parameter						
Emissions						
Odor [1]	**200 m day**	**200 m night**	**400 m day**	**400 m night**		
	1.5 / 1.2	4.2 / 3.6	.64 / .46	3.4 / 3.1		
Pathogen[2]	**Fecal coliforms**	**E. coli**	**Enterococci**	**Cl. perfringens**	**Coliphage**	**Salmonella**
Log_{10} Microbial Reductions	4.1	5.2	4.9	2.8	3.7	4.8
NH_3 % Reduction[3]	**Water holding Structures**		**Barn Emissions**		**Total Emissions @ Technology site**	
	Warm Season	**Cool Season**	**Warm Season**	**Cool Season**	**Warm Season**	**Cool Season**
	-66.4	58.8	13.8	-21.5	-11.9	2.5
Nutrients[4] % Reduction	**TKN**	**NH4-N**	**TP**	**Cu**	**Zn**	
Anaerobic Digester	28	+3	81	89	87	
Biofilters	21 (29 trickling biofilters[5])	21	11	33	7	

[1] From Table 4, Executive Summary , page 53. Environmentally Superior Technology candidate projects demonstrated performance for odor reduction. Values shown are approximate average odor intensity ratings at 200 and 400 meters from the odor source during the day and night where 0=none at all; 1=very weak, 2=weak; 3=moderately weak; 4=moderate; 5=moderately strong; 6=strong; 7=very strong; and 8=maximal. The first value represents whole farm odor emissions / the second value represents partitioned emissions from the technology treatment components targeted in the experiment.

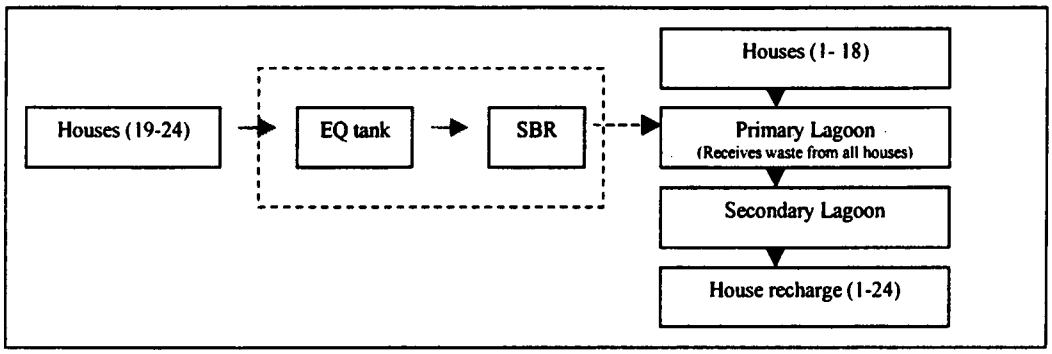
[2] From Table 5, Executive Summary, page 54. Environmentally Superior Technology candidate projects demonstrated performance for reductions in pathogenic microorganisms. Values shown are approximate Log_{10} reductions in liquid or solid waste (based on waste stream focus of technology)

[3] From Table 6, Executive Summary, page 55. Environmentally Superior Technology performance for ammonia reduction. Values shown are % reductions as compared to ammonia emissions from comparable conventional technology sites (positive values indicate reductions in emissions, negative values indicate enhancement of emissions).

[4] From Table 3, Executive Summary, page 51. Environmentally Superior Technology candidate projects demonstrated performance for solids, organic matter and nutrients. Values shown are percent reductions and/or recovery.

[5] Value reflects nitrification efficiency of biofilters and also represents annual average. Summer season was reported to be approximately 90% nitrification efficiency.

"ANT" Sequencing batch reactor system



Report Summary:

Parameter						
Emissions						
Odor [1]	200 m day	200 m night	400 m day	400 m night		
	1.4 / 1.7	3.4 / 4.0	.65 / .79	2.9 / 3.4		
Pathogen[2]	Fecal coliforms	E. coli	Enterococci	Cl. perfringens	Coliphage	Salmonella
Log_{10} Microbial Reductions	1.7	1.7	2.8	0.6	1.9	0.9
SBR + Lagoons	3.0	2.9	3.0	0.5	2.0	1.2
NH_3 % Reduction[3]	Water holding Structures		Barn Emissions		Total Emissions @ Technology site	
	Warm Season	Cool Season	Warm Season	Cool Season	Warm Season	Cool Season
	31.5	-23.5	-95.0	98.0	-4.9	67.2
Nutrients[4] % Reduction	TKN	NH4-N	P	Cu	Zn	
SBR	83.0	96.8	-	-	-	
w/ biosolids separation	90.0	96.8	36.5	76.1	81.4	

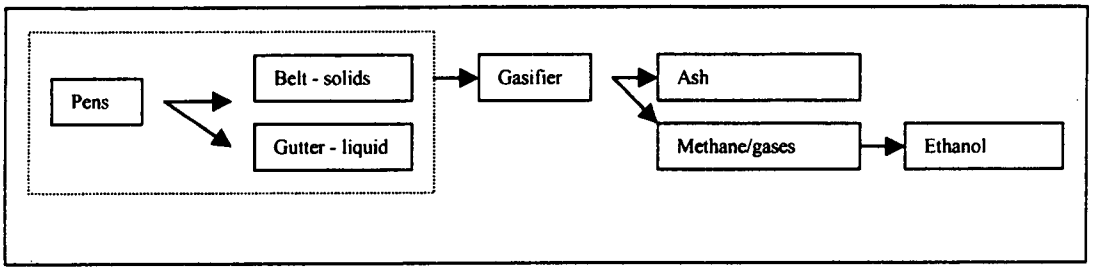
[1] From Table 4, Executive Summary , page 53. Environmentally Superior Technology candidate projects demonstrated performance for odor reduction. Values shown are approximate average odor intensity ratings at 200 and 400 meters from the odor source during the day and night where 0=none at all; 1=very weak, 2=weak; 3=moderately weak; 4=moderate; 5=moderately strong; 6=strong; 7=very strong; and 8=maximal. The first value represents whole farm odor emissions / the second value represents partitioned emissions from the technology treatment components targeted in the experiment.

[2] From Table 5, Executive Summary, page 54. Environmentally Superior Technology candidate projects demonstrated performance for reductions in pathogenic microorganisms. Values shown are approximate Log_{10} reductions in liquid or solid waste (based on waste stream focus of technology)

[3] From Table 6, Executive Summary, page 55. Environmentally Superior Technology performance for ammonia reduction. Values shown are % reductions as compared to ammonia emissions from comparable conventional technology sites (positive values indicate reductions in emissions, negative values indicate enhancement of emissions). As noted in the full report for this technology (Appendix A.9 from Phase 2 Report, July 2005, pages 33-34) less than 1% of the ammonia emissions are from the "ANT" treatment system.

[4] From Table 3, Executive Summary, page 51. Environmentally Superior Technology candidate projects demonstrated performance for solids, organic matter and nutrients. Values shown are percent reductions and/or recovery.

Belt System for Manure Removal (Grinnells)



Report Summary:

Parameter						
Emissions						
Odor [1]	200 m day	200 m night	400 m day	400 m night		
	.04 / NA	1.9 / NA	0 / NA	0.9 / NA		
Pathogen [2]	Fecal coliforms	E. coli	Enterococci	Cl. perfringens	Coliphage	Salmonella
Log_{10} Microbial Reductions	0.0	0.0	2.2	0.2	ND	1.0
NH_3 % Reduction [3]	Water holding Structures		Barn Emissions		Total Emissions @ Technology site	
	Warm Season	Cool Season	Warm Season	Cool Season	Warm Season	Cool Season
	-	-	-59.8	55.3	-59.8	55.3
Nutrients [4] % Reduction	TKN	NH4-N	P	Cu	Zn	
	-	-	-	-	-	

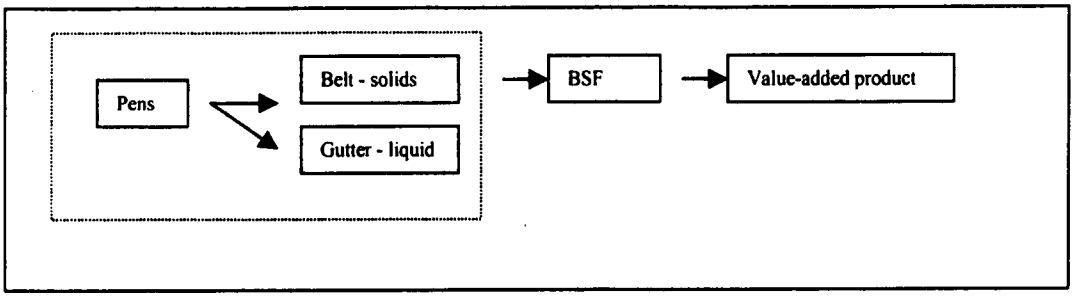
[1] From Table 4, Executive Summary , page 53. Environmentally Superior Technology candidate projects demonstrated performance for odor reduction. Values shown are approximate average odor intensity ratings at 200 and 400 meters from the odor source during the day and night where 0=none at all; 1=very weak, 2=weak; 3=moderately weak; 4=moderate; 5=moderately strong; 6=strong; 7=very strong; and 8=maximal. The first value represents whole farm odor emissions / the second value represents partitioned emissions from the technology treatment components targeted in the experiment.

[2] From Table 5, Executive Summary, page 54. Environmentally Superior Technology candidate projects demonstrated performance for reductions in pathogenic microorganisms. Values shown are approximate Log_{10} reductions in liquid or solid waste (based on waste stream focus of technology)

[3] From Table 6, Executive Summary, page 55. Environmentally Superior Technology performance for ammonia reduction. Values shown are % reductions as compared to ammonia emissions from comparable conventional technology sites (positive values indicate reductions in emissions, negative values indicate enhancement of emissions). This system did not include a water-holding structure.

[4] From Table 3, Executive Summary, page 51. Environmentally Superior Technology candidate projects demonstrated performance for solids, organic matter and nutrients. Values shown are percent reductions and/or recovery. This is a solid separation system component.

Belt System for Manure Removal (LWFL)



Report Summary:

Parameter						
Emissions						
Odor [1]	200 m day	200 m night	400 m day	400 m night		
	0.07/ NA	1.7 / NA	0 / NA	1.1 / NA		
Pathogen [2]	Fecal coliforms	E. coli	Enterococci	Cl. perfringens	Coliphage	Salmonella
Log_{10} Microbial Reductions	-0.6	-0.4	0.4	-0.6	-0.6	-0.4
NH_3 % Reduction [3]	Water holding Structures		Barn Emissions		Total Emissions @ Technology site	
	Warm Season	Cool Season	Warm Season	Cool Season	Warm Season	Cool Season
	-	-	-88.7	21.9	-88.7	21.9
Nutrients [4] % Reduction	TKN	NH4-N	P	Cu	Zn	
	80.2	-	75.4	76.2	75.8	

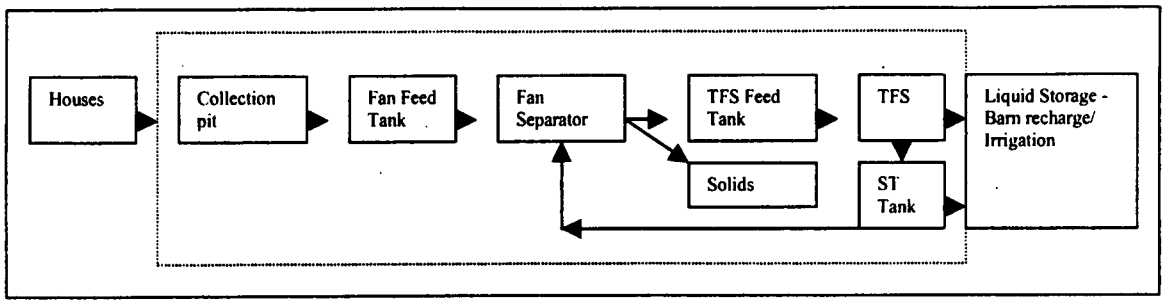
[1] From Table 4, Executive Summary , page 53. Environmentally Superior Technology candidate projects demonstrated performance for odor reduction. Values shown are approximate average odor intensity ratings at 200 and 400 meters from the odor source during the day and night where 0=none at all; 1=very weak, 2=weak; 3=moderately weak; 4=moderate; 5=moderately strong; 6=strong; 7=very strong; and 8=maximal. The first value represents whole farm odor emissions / the second value represents partitioned emissions from the technology treatment components targeted in the experiment.

[2] From Table 5, Executive Summary, page 54. Environmentally Superior Technology candidate projects demonstrated performance for reductions in pathogenic microorganisms. Values shown are approximate Log_{10} reductions in liquid or solid waste (based on waste stream focus of technology)

[3] From Table 6, Executive Summary, page 55. Environmentally Superior Technology performance for ammonia reduction. Values shown are % reductions as compared to ammonia emissions from comparable conventional technology sites (positive values indicate reductions in emissions, negative values indicate enhancement of emissions). This system did not include a water-holding structure.

[4] From Table 3, Executive Summary, page 51. Environmentally Superior Technology candidate projects demonstrated performance for solids, organic matter and nutrients. Values shown are percent reductions and/or recovery. This is a solid separation system component.

"BEST" (solids / liquids separation) Biomass Energy Sustainable Technology Site 1 (FAN® + TFS)



Report Summary:

Parameter						
Emissions						
Odor [1]	200 m day	200 m night	400 m day	400 m night		
	1.0 / 1.2	3.3 / 3.4	0.4 / 0.4	2.6 / 2.8		
Pathogen[2]	Fecal coliforms	E. coli	Enterococci	Cl. perfringens	Coliphage	Salmonella
Log_{10} Microbial Reductions	0.2	0.3	0.1	0.0	0.4	0.1
NH_3 % Reduction[3]	Water holding Structures		Barn Emissions		Total Emissions @ Technology site	
	Warm Season	Cool Season	Warm Season	Cool Season	Warm Season	Cool Season
	71.1	13.6	73.0	97.0	71.8	66.0
Nutrients[4] % Reduction	TKN	NH4-N	TP	Cu	Zn	
FAN	2	2	15	9	4	
TFS (at FAN site)	15	4	55	50	58	
Mass Recovery FAN + TFS	1.1	-	1.2	3.4	2.9	

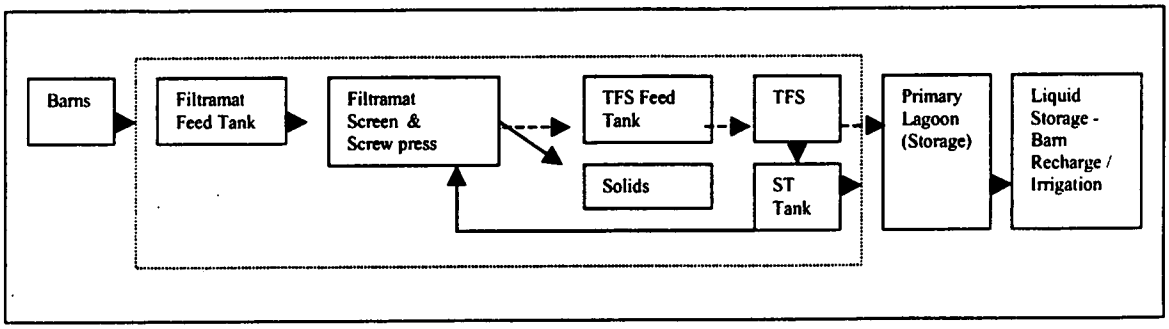
[1] From Table 4, Executive Summary , page 53. Environmentally Superior Technology candidate projects demonstrated performance for odor reduction. Values shown are approximate average odor intensity ratings at 200 and 400 meters from the odor source during the day and night where 0=none at all; 1=very weak, 2=weak; 3=moderately weak; 4=moderate; 5=moderately strong; 6=strong; 7=very strong; and 8=maximal. The first value represents whole farm odor emissions / the second value represents partitioned emissions from the technology treatment components targeted in the experiment.

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[3] From Table 6, Executive Summary, page 55. Environmentally Superior Technology performance for ammonia reduction. Values shown are % reductions as compared to ammonia emissions from comparable conventional technology sites (positive values indicate reductions in emissions, negative values indicate enhancement of emissions).

[4] From Table 3, Executive Summary, page 51. Environmentally Superior Technology candidate projects demonstrated performance for solids, organic matter and nutrients. Values shown are percent reductions and/or recovery.

"BEST" (solids/liquids separation) Biomass Energy Sustainable Technology Site 2 (Filtramat™ + TFS)



Report Summary:

Parameter						
Emissions						
Odor [1]	**200 m day**	**200 m night**	**400 m day**	**400 m night**		
	1.0 / 1.0	3.0 / 2.8	0.4 / 0.3	2.5 / 2.1		
Pathogen[2]	**Fecal coliforms**	**E. coli**	**Enterococci**	**Cl. perfringens**	**Coliphage**	**Salmonella**
Log_{10} Microbial Reductions	0.4	0.2	0.7	-0.4	0.1	1.9
NH_3 % Reduction[3]	**Water holding Structures**		**Barn Emissions**		**Total Emissions @ Technology site**	
	Warm Season	**Cool Season**	**Warm Season**	**Cool Season**	**Warm Season**	**Cool Season**
	39.6	7.4	-184.0	22.0	-29.2	17.0
Nutrients[4] % Reduction	**TKN**	**NH4-N**	**P**	**Cu**	**Zn**	
Filtramat	4	3	-12	15	15	
TFS (at Filtramat site)	15	2	40	46	56	
Mass Recovery Filtramat + TFS	2.5	-	3.9	11.4	11.9	

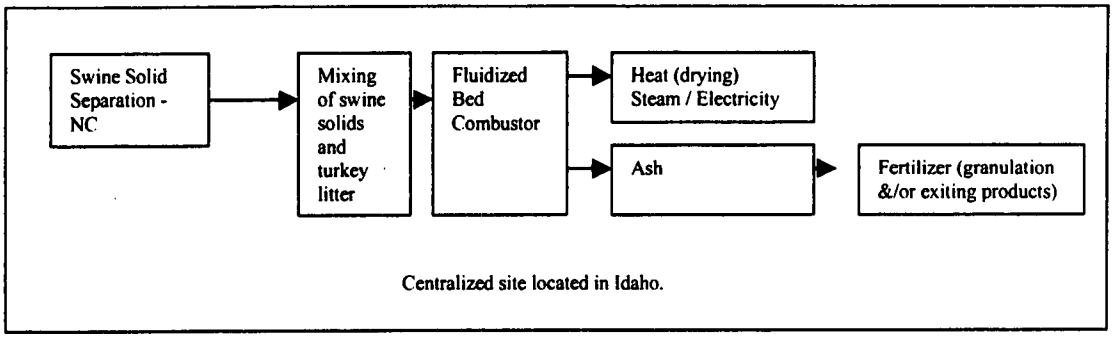
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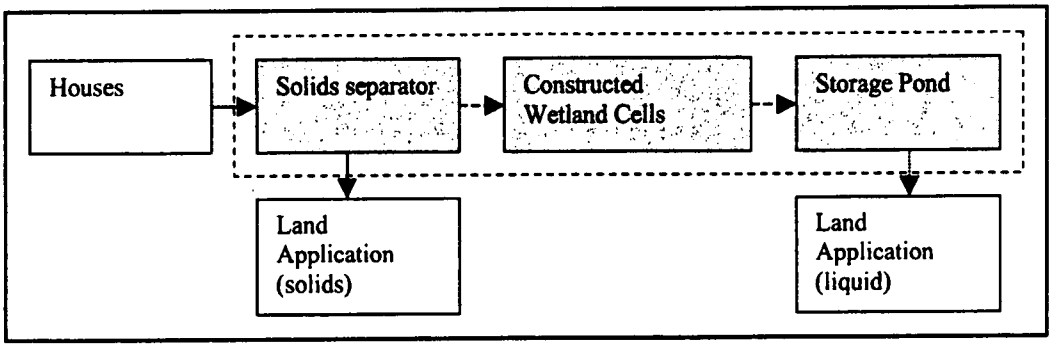
[4] From Table 3, Executive Summary, page 51. Environmentally Superior Technology candidate projects demonstrated performance for solids, organic matter and nutrients. Values shown are percent reductions and/or recovery.

"BEST" – Fluidized Bed Combustor



Data available in Appendix A.3, Phase 2 Report, July 25, 2004

Constructed wetlands system / solids separation



Report Summary:

Parameter						
Emissions						
Odor [1]	200 m day	200 m night	400 m day	400 m night		
	1.4 / 1.5	3.7 / 3.8	.70 / .67	3.0 / 3.1		
Pathogen [2]	Fecal coliforms	E. coli	Enterococci	Cl. perfringens	Coliphage	Salmonella
Log_{10} Microbial Reductions	2.4	3.6	1.7	3.1	2.1	2.3
Waste stream only	3.2	4.6	2.5	4.1	2.8	2.9
NH_3 % Reduction [3]	Water holding Structures		Barn Emissions		Total Emissions @ Technology site	
	Warm Season	Cool Season	Warm Season	Cool Season	Warm Season	Cool Season
	-41.8	-156.8	-59.4	-47.4	-50.9	-62.6
Nutrients [4] % Reduction	TKN	NH4-N	P	Cu	Zn	
	57.0	-	87.0	41.0	39.0	

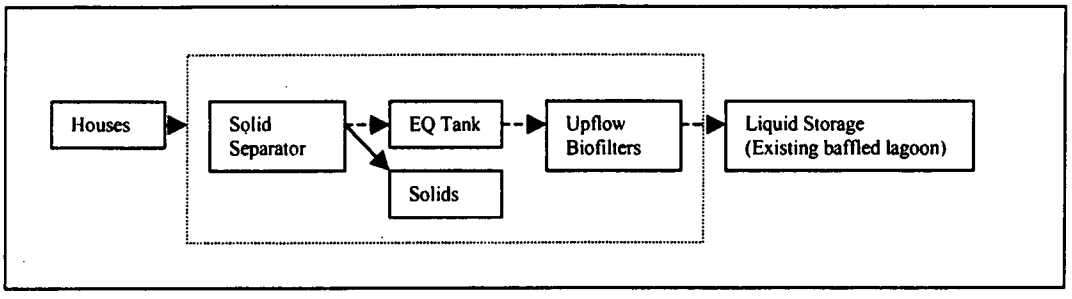
[1] From Table 4, Executive Summary , page 53. Environmentally Superior Technology candidate projects demonstrated performance for odor reduction. Values shown are approximate average odor intensity ratings at 200 and 400 meters from the odor source during the day and night where 0=none at all; 1=very weak, 2=weak; 3=moderately weak; 4=moderate; 5=moderately strong; 6=strong; 7=very strong; and 8=maximal. The first value represents whole farm odor emissions / the second value represents partitioned emissions from the technology treatment components targeted in the experiment.

[2] From Table 5, Executive Summary, page 54. Environmentally Superior Technology candidate projects demonstrated performance for reductions in pathogenic microorganisms. Values shown are approximate Log_{10} reductions in liquid or solid waste (based on waste stream focus of technology)

[3] From Table 6, Executive Summary, page 55. Environmentally Superior Technology performance for ammonia reduction. Values shown are % reductions as compared to ammonia emissions from comparable conventional technology sites (positive values indicate reductions in emissions, negative values indicate enhancement of emissions).

[4] From Table 3, Executive Summary, page 51. Environmentally Superior Technology candidate projects demonstrated performance for solids, organic matter and nutrients. Values shown are percent reductions and/or recovery.

"Ekokan" Biofiltration Technology



Report Summary:

Parameter						
Emissions						
Odor [1]	200 m day	200 m night	400 m day	400 m night		
	1.7 / 1.6	4.4 / 4.2	0.7 / 0.7	3.6 / 3.4		
Pathogen [2]	Fecal coliforms	E. coli	Enterococci	Cl. perfringens	Coliphage	Salmonella
Log_{10} Microbial Reductions	1.5	1.3	1.1	0.7	1.8	1.8
NH_3 % Reduction [3]	Water holding Structures		Barn Emissions		Total Emissions @ Technology site	
	Warm Season	Cool Season	Warm Season	Cool Season	Warm Season	Cool Season
	42.7	71.7	11.4	-2.9	23.5	43.3
Nutrients [4] % Reduction	TKN	NH4-N	P	Cu	Zn	
EKOKAN [5]	31 to 72 (57) -1 to 30 TN (15)	23 to 98 (71)	5 to 50 (32)	19 to 91 (34)	23 to 78 (54)	

[1] From Table 4, Executive Summary , page 53. Environmentally Superior Technology candidate projects demonstrated performance for odor reduction. Values shown are approximate average odor intensity ratings at 200 and 400 meters from the odor source during the day and night where 0=none at all; 1=very weak, 2=weak; 3=moderately weak; 4=moderate; 5=moderately strong; 6=strong; 7=very strong; and 8=maximal. The first value represents whole farm odor emissions / the second value represents partitioned emissions from the technology treatment components targeted in the experiment.

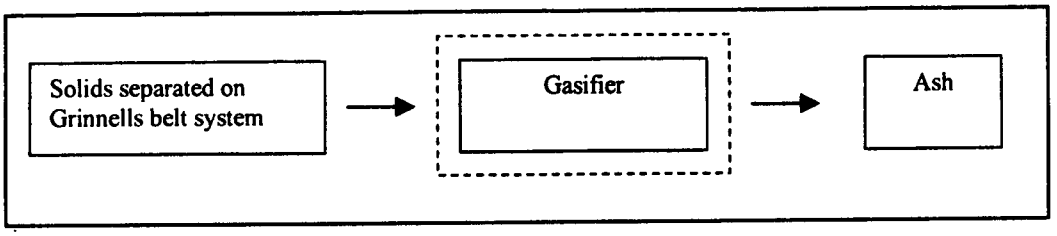
[2] From Table 5, Executive Summary, page 54. Environmentally Superior Technology candidate projects demonstrated performance for reductions in pathogenic microorganisms. Values shown are approximate Log_{10} reductions in liquid or solid waste (based on waste stream focus of technology)

[3] From Table 6, Executive Summary, page 55. Environmentally Superior Technology performance for ammonia reduction. Values shown are % reductions as compared to ammonia emissions from comparable conventional technology sites (positive values indicate reductions in emissions, negative values indicate enhancement of emissions).

[4] From Table 3, Executive Summary, page 51. Environmentally Superior Technology candidate projects demonstrated performance for solids, organic matter and nutrients. Values shown are percent reductions and/or recovery.

[5] Values reflect reductions from EQ tank (post solids separation) through biofilter treatment of 2nd stage. Range and (mean) reductions for monthly averages (2/25/03 – 6/27/03) for Biofilters series A and B.

Gasification of Solids (Belt System for Manure Removal - Grinnells)



Report Summary:

Parameter						
Emissions						
Odor [1]	**200 m day**	**200 m night**	**400 m day**	**400 m night**		
	NA / 0	NA / .04	NA / 0	NA / 0		
Pathogen[2]	**Fecal coliforms**	**E. coli**	**Enterococci**	**Cl. perfringens**	**Coliphage**	**Salmonella**
Log_{10} Microbial Reductions	2.2	1.9	2.7	3.1	-	-
NH_3 % Reduction[3]	**Water holding Structures**		**Barn Emissions**		**Total Emissions @ Technology site**	
	Warm Season	**Cool Season**	**Warm Season**	**Cool Season**	**Warm Season**	**Cool Season**
	-	-	-	-	-	-
Nutrients[4] % Reduction	TKN	NH4-N	P	Cu	Zn	
	-	-	-	-	-	

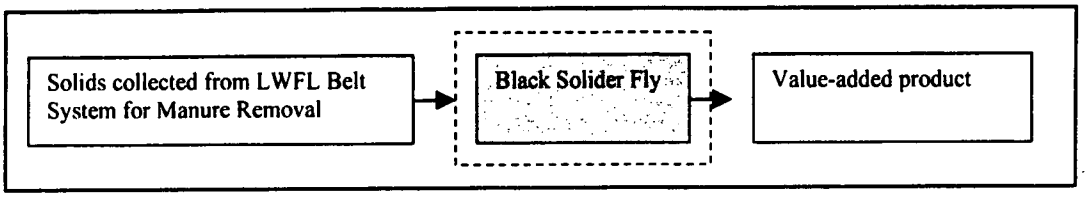
[1] From Table 4, Executive Summary , page 53. Environmentally Superior Technology candidate projects demonstrated performance for odor reduction. Values shown are approximate average odor intensity ratings at 200 and 400 meters from the odor source during the day and night where 0=none at all; 1=very weak, 2=weak; 3=moderately weak; 4=moderate; 5=moderately strong; 6=strong; 7=very strong; and 8=maximal. The first value represents whole farm odor emissions / the second value represents partitioned emissions from the technology treatment components targeted in the experiment.

[2] From Table 5, Executive Summary, page 54. Environmentally Superior Technology candidate projects demonstrated performance for reductions in pathogenic microorganisms. Values shown are approximate Log_{10} reductions in liquid or solid waste (based on waste stream focus of technology)

[3] From Table 6, Executive Summary, page 55. Environmentally Superior Technology performance for ammonia reduction. Values shown are % reductions as compared to ammonia emissions from comparable conventional technology sites (positive values indicate reductions in emissions, negative values indicate enhancement of emissions). This technology did not include animal housing or a lagoon; calculations for ammonia emissions are available in Appendix A.9a – Addendum, Phase 2 Report, Development of Environmentally Superior Technologies, July 25, 2005.

[4] From Table 3, Executive Summary, page 51. Environmentally Superior Technology candidate projects demonstrated performance for solids, organic matter and nutrients. Values shown are percent reductions and/or recovery. This is a system component.

Insect Biomass from Solids (Belt System for Manure Removal - LWFL)



Report Summary:

Parameter						
Emissions						
Odor [1]	**200 m day**	**200 m night**	**400 m day**	**400 m night**		
	NA / 0	NA / 1.1	NA / 0	NA /.38		
Pathogen[2]	**Fecal coliforms**	**E. coli**	**Enterococci**	**Cl. perfringens**	**Coliphage**	**Salmonella**
Log_{10} Microbial Reductions	-3.7	-2.8	-5.0	-3.2	1.1	-1.0
(Combined w/ belt)	-3.6	-2.5	-4.7	-4.0	-0.2	-1.8
NH_3 % Reduction[3]	**Water holding Structures**		**Barn Emissions**		**Total Emissions @ Technology site**	
	Warm Season	**Cool Season**	**Warm Season**	**Cool Season**	**Warm Season**	**Cool Season**
	-	-	-	-	-	-
Nutrients[4] % Reduction	TKN	NH4-N	P	Cu	Zn	
	80.2	-	75.4	76.2	75.8	

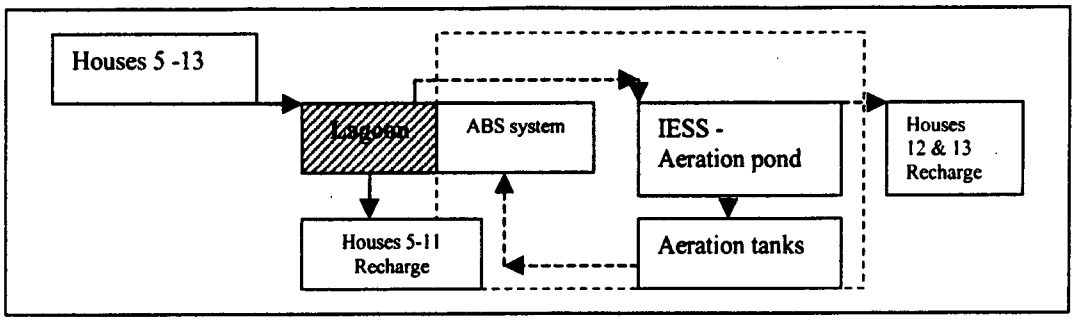
[1] From Table 4, Executive Summary , page 53. Environmentally Superior Technology candidate projects demonstrated performance for odor reduction. Values shown are approximate average odor intensity ratings at 200 and 400 meters from the odor source during the day and night where 0=none at all; 1=very weak, 2=weak; 3=moderately weak; 4=moderate; 5=moderately strong; 6=strong; 7=very strong; and 8=maximal. The first value represents whole farm odor emissions / the second value represents partitioned emissions from the technology treatment components targeted in the experiment.

[2] From Table 5, Executive Summary, page 54. Environmentally Superior Technology candidate projects demonstrated performance for reductions in pathogenic microorganisms. Values shown are approximate Log_{10} reductions in liquid or solid waste (based on waste stream focus of technology)

[3] From Table 6, Executive Summary, page 55. Environmentally Superior Technology performance for ammonia reduction. Values shown are % reductions as compared to ammonia emissions from comparable conventional technology sites (positive values indicate reductions in emissions, negative values indicate enhancement of emissions). This technology did not include animal housing or a lagoon; calculations for ammonia emissions are available in Appendix A.5, Phase 3 Report, Development of Environmentally Superior Technologies, March 8, 2006.

[4] From Table 3, Executive Summary, page 51. Environmentally Superior Technology candidate projects demonstrated performance for solids, organic matter and nutrients. Values shown are percent reductions and/or recovery.

"ISSUES" Aerobic blanket



Report Summary:

Parameter						
Emissions						
Odor [1]	**200 m day**	**200 m night**	**400 m day**	**400 m night**		
(No IESS) (w/ IESS operational)	1.2 / 1.3 1.3 / 1.2	3.8 / 3.7 3.6 / 3.2	.57 / .46 .55 / .45	3.1 / 3.0 2.8 / 2.6		
Pathogen[2]	**Fecal coliforms**	**E. coli**	**Enterococci**	**Cl. perfringens**	**Coliphage**	**Salmonella**
Log_{10} Microbial Reductions	1.7	2.3	2.2	0.9	1.8	2.0
NH_3 % Reduction[3]	**Water holding Structures**		**Barn Emissions**		**Total Emissions @ Technology site**	
	Warm Season	**Cool Season**	**Warm Season**	**Cool Season**	**Warm Season**	**Cool Season**
	86.7	47.2	-16.3	-10.1	49.5	8.1
Nutrients[4] % Reduction	**TKN**	**NH4-N**	**P**	**Cu**	**Zn**	
	33.0	27.5	49.7	35.0	64.3	

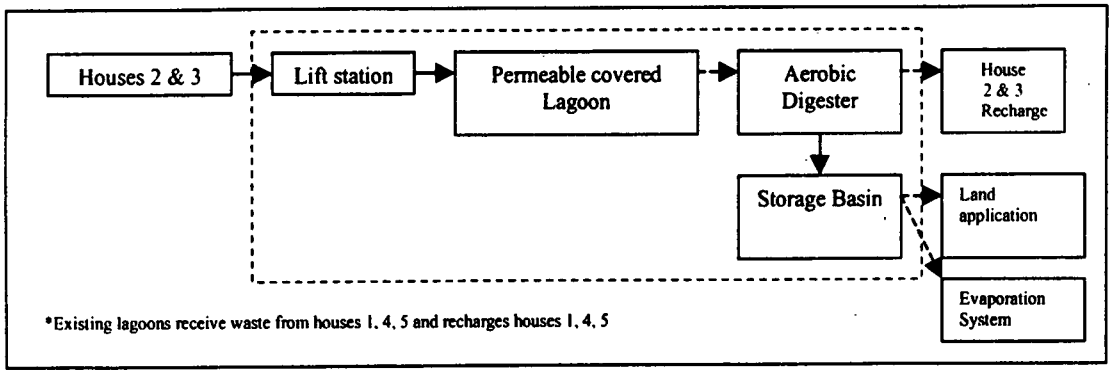
[1] From Table 4, Executive Summary , page 53. Environmentally Superior Technology candidate projects demonstrated performance for odor reduction. Values shown are approximate average odor intensity ratings at 200 and 400 meters from the odor source during the day and night where 0=none at all; 1=very weak, 2=weak; 3=moderately weak; 4=moderate; 5=moderately strong; 6=strong; 7=very strong; and 8=maximal. The first value represents whole farm odor emissions / the second value represents partitioned emissions from the technology treatment components targeted in the experiment.

[2] From Table 5, Executive Summary, page 54. Environmentally Superior Technology candidate projects demonstrated performance for reductions in pathogenic microorganisms. Values shown are approximate Log_{10} reductions in liquid or solid waste (based on waste stream focus of technology)

[3] From Table 6, Executive Summary, page 55. Environmentally Superior Technology performance for ammonia reduction. Values shown are % reductions as compared to ammonia emissions from comparable conventional technology sites (positive values indicate reductions in emissions, negative values indicate enhancement of emissions).

[4] From Table 3, Executive Summary, page 51. Environmentally Superior Technology candidate projects demonstrated performance for solids, organic matter and nutrients. Values shown are percent reductions and/or recovery.

"ISSUES" Permeable cover



Report Summary:

Parameter						
Emissions						
Odor [1]	200 m day	200 m night	400 m day	400 m night		
w/ evaporation system	1.0 / 1.0 1.1 / 1.0	3.4 / 2.9 3.4 / 3.0	.45 / .33 .45 / .37	2.9 / 2.3 2.9 / 2.5		
Pathogen [2]	Fecal coliforms	E. coli	Enterococci	Cl. perfringens	Coliphage	Salmonella
Log_{10} Microbial Reductions	4.1	4.1	3.3	1.9	3.3	0.5
w/ evaporation system	3.8	5.2	3.4	2.5	4.4	0.8
NH_3 % Reduction [3]	Water holding Structures		Barn Emissions		Total Emissions @ Technology site	
	Warm Season	Cool Season	Warm Season	Cool Season	Warm Season	Cool Season
	-143.8 / -1.4	44.7	0	81.0	-109.9	69.4
Nutrients [4] % Reduction	TKN	NH4-N	P	Cu	Zn	
	51.5	46.3	81.0	86.3	93.7	

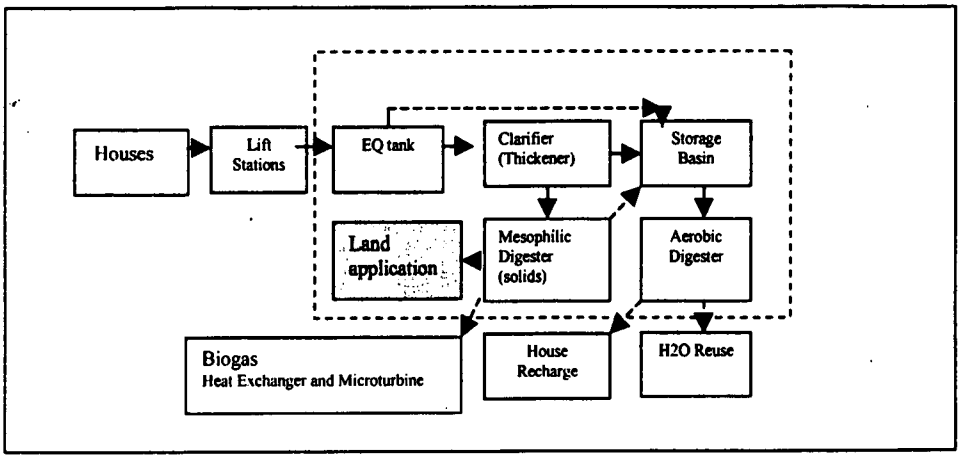
[1] From Table 4, Executive Summary , page 53. Environmentally Superior Technology candidate projects demonstrated performance for odor reduction. Values shown are approximate average odor intensity ratings at 200 and 400 meters from the odor source during the day and night where 0=none at all; 1=very weak, 2=weak; 3=moderately weak; 4=moderate; 5=moderately strong; 6=strong; 7=very strong; and 8=maximal. The first value represents whole farm odor emissions / the second value represents partitioned emissions from the technology treatment components targeted in the experiment.

[2] From Table 5, Executive Summary, page 54. Environmentally Superior Technology candidate projects demonstrated performance for reductions in pathogenic microorganisms. Values shown are approximate Log_{10} reductions in liquid or solid waste (based on waste stream focus of technology)

[3] From Table 6, Executive Summary, page 55. Environmentally Superior Technology performance for ammonia reduction. Values shown are % reductions as compared to ammonia emissions from comparable conventional technology sites (positive values indicate reductions in emissions, negative values indicate enhancement of emissions).

[4] From Table 3, Executive Summary, page 51. Environmentally Superior Technology candidate projects demonstrated performance for solids, organic matter and nutrients. Values shown are percent reductions and/or recovery.

"ISSUES" Mesophilic digester/microturbine/water reuse system



Report Summary:

Parameter						
Emissions						
Odor [1]	**200 m day**	**200 m night**	**400 m day**	**400 m night**		
mesophilic digester/ microturbine/ w/ water reuse system	1.1 / 1.5 1.1 / 1.5	3.6 / 4.1 3.5 / 4.0	.47 / .58 53 / .55	3.0 / 3.4 3.0 / 3.2		
Pathogen[2]	**Fecal coliforms**	**E. coli**	**Enterococci**	**Cl. perfringens**	**Coliphage**	**Salmonella**
Log_{10} Microbial Reductions	3.1	3.1	2.7	0.6	1.4	1.3
w/ water reuse system	6.5	6.5	6.7	3.9	5.9	2.1
NH_3 % Reduction[3]	**Water holding Structures**		**Barn Emissions**		**Total Emissions @ Technology site**	
	Warm Season	**Cool Season**	**Warm Season**	**Cool Season**	**Warm Season**	**Cool Season**
	48.8	22.0	-37.0	86.0	31.1	54.0
Nutrients[4] % Reduction	**TKN**	**NH4-N**	**P**	**Cu**	**Zn**	
	70.1	85.5	44.6	49.7	47.8	

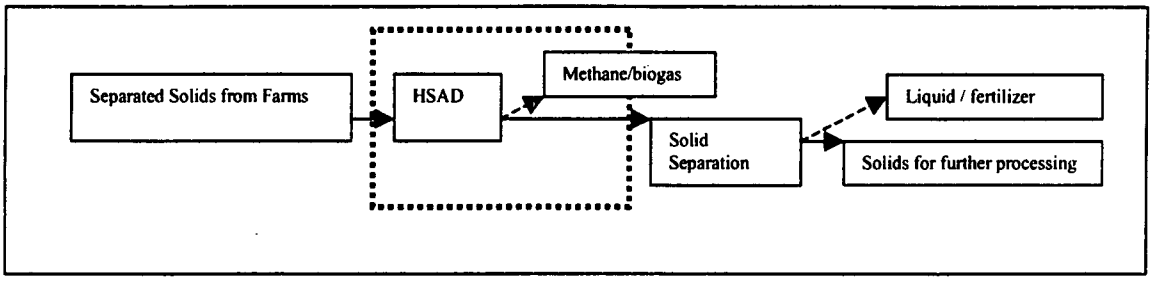
[1] From Table 4, Executive Summary , page 53. Environmentally Superior Technology candidate projects demonstrated performance for odor reduction. Values shown are approximate average odor intensity ratings at 200 and 400 meters from the odor source during the day and night where 0=none at all; 1=very weak, 2=weak; 3=moderately weak; 4=moderate; 5=moderately strong; 6=strong; 7=very strong; and 8=maximal. The first value represents whole farm odor emissions / the second value represents partitioned emissions from the technology treatment components targeted in the experiment.

[2] From Table 5, Executive Summary, page 54. Environmentally Superior Technology candidate projects demonstrated performance for reductions in pathogenic microorganisms. Values shown are approximate Log_{10} reductions in liquid or solid waste (based on waste stream focus of technology)

[3] From Table 6, Executive Summary, page 55. Environmentally Superior Technology performance for ammonia reduction. Values shown are % reductions as compared to ammonia emissions from comparable conventional technology sites (positive values indicate reductions in emissions, negative values indicate enhancement of emissions).

[4] From Table 3, Executive Summary, page 51. Environmentally Superior Technology candidate projects demonstrated performance for solids, organic matter and nutrients. Values shown are percent reductions and/or recovery.

"ORBIT" High Solids Anaerobic Digester



Report Summary:

Parameter						
Emissions						
Odor [1]	**200 m day**	**200 m night**	**400 m day**	**400 m night**		
	0 / NA	1.4 / NA	0 /NA	0.8 / NA		
Pathogen[2]	**Fecal coliforms**	**E. coli**	**Enterococci**	**Cl. perfringens**	**Coliphage**	**Salmonella**
Log_{10} Microbial Reductions	4.4	4.3	3.2	1.0	1.8	2.4
NH_3 % Reduction[3]	**Water holding Structures**		**Barn Emissions**		**Total Emissions @ Technology site**	
	Warm Season	**Cool Season**	**Warm Season**	**Cool Season**	**Warm Season**	**Cool Season**
	-	-	-	-	-	-
Nutrients[4] % Reduction	**TKN**	**NH4-N**	**P**	**Cu**	**Zn**	
	56	72	26	46	32	

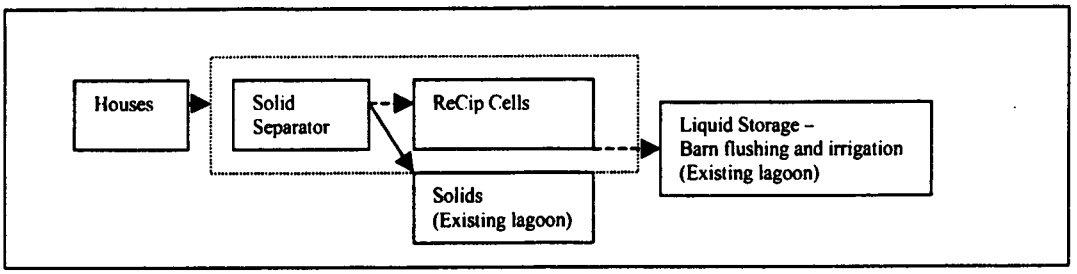
[1] From Table 4, Executive Summary , page 53. Environmentally Superior Technology candidate projects demonstrated performance for odor reduction. Values shown are approximate average odor intensity ratings at 200 and 400 meters from the odor source during the day and night where 0=none at all; 1=very weak, 2=weak; 3=moderately weak; 4=moderate; 5=moderately strong; 6=strong; 7=very strong; and 8=maximal. The first value represents whole farm odor emissions / the second value represents partitioned emissions from the technology treatment components targeted in the experiment.

[2] From Table 5, Executive Summary, page 54. Environmentally Superior Technology candidate projects demonstrated performance for reductions in pathogenic microorganisms. Values shown are approximate Log_{10} reductions in liquid or solid waste (based on waste stream focus of technology)

[3] From Table 6, Executive Summary, page 55. Environmentally Superior Technology performance for ammonia reduction. Values shown are % reductions as compared to ammonia emissions from comparable conventional technology sites (positive values indicate reductions in emissions, negative values indicate enhancement of emissions). This technology did not include animal housing or a lagoon; calculations for ammonia emissions are available in Appendix A, Phase 2 Report, Development of Environmentally Superior Technologies, July 25, 2005.

[4] From Table 3, Executive Summary, page 51. Environmentally Superior Technology candidate projects demonstrated performance for solids, organic matter and nutrients. Values shown are percent reductions and/or recovery.

"ReCip" Solids Separation – Reciprocating Wetland



Report Summary:

Parameter						
Emissions						
Odor [1]	200 m day	200 m night	400 m day	400 m night		
	0.8 / 0	2.5 / 1.5	0.3 / 0	2.1 / 0.9		
Pathogen [2]	Fecal coliforms	E. coli	Enterococci	Cl. perfringens	Coliphage	Salmonella
Log_{10} Microbial Reductions	1.6	1.7	0.9	0.7	0.8	1.8
NH_3 % Reduction [3]	Water holding Structures		Barn Emissions		Total Emissions @ Technology site	
	Warm Season	Cool Season	Warm Season	Cool Season	Warm Season	Cool Season
	18.2	-26.4	-9.0	62.0	9.7	20.9
Nutrients [4] % Reduction	TKN	NH4-N	P	Cu	Zn	
	88	-	49	75	85	

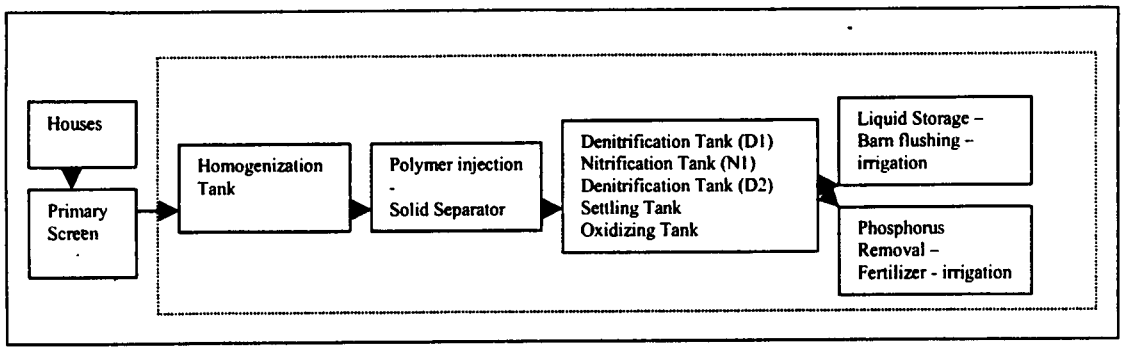
[1] From Table 4, Executive Summary , page 53. Environmentally Superior Technology candidate projects demonstrated performance for odor reduction. Values shown are approximate average odor intensity ratings at 200 and 400 meters from the odor source during the day and night where 0=none at all; 1=very weak, 2=weak; 3=moderately weak; 4=moderate; 5=moderately strong; 6=strong; 7=very strong; and 8=maximal. The first value represents whole farm odor emissions / the second value represents partitioned emissions from the technology treatment components targeted in the experiment.

[2] From Table 5, Executive Summary, page 54. Environmentally Superior Technology candidate projects demonstrated performance for reductions in pathogenic microorganisms. Values shown are approximate Log_{10} reductions in liquid or solid waste (based on waste stream focus of technology)

[3] From Table 6, Executive Summary, page 55. Environmentally Superior Technology performance for ammonia reduction. Values shown are % reductions as compared to ammonia emissions from comparable conventional technology sites (positive values indicate reductions in emissions, negative values indicate enhancement of emissions). Calculations for ammonia emissions are available in Appendix A.12 , Appendix A and B, Phase I Report, Development of Environmentally Superior Technologies, July 26, 2004.

[4] From Table 3, Executive Summary, page 51. Environmentally Superior Technology candidate projects demonstrated performance for solids, organic matter and nutrients. Values shown are percent reductions and/or recovery.

"Super Soils" Solids Separation/Nitrification-Denitrification/Soluble Phosphorus Removal



Report Summary:

Parameter						
Emissions						
Odor [1]	**200 m day**	**200 m night**	**400 m day**	**400 m night**		
	1.2 / 0.8	3.6 / 2.6	0.4 / 0.9	2.9 / 2.0		
Pathogen[2]	**Fecal coliforms**	**E. coli**	**Enterococci**	**Cl. perfringens**	**Coliphage**	**Salmonella**
Log_{10} Microbial Reductions	4.4	4.2	4.0	1.4	3.0	3.4
NH_3 % Reduction[3]	**Water holding Structures**		**Barn Emissions**		**Total Emissions @ Technology site**	
	Warm Season	**Cool Season**	**Warm Season**	**Cool Season**	**Warm Season**	**Cool Season**
	94.7	99.0	-111.0	98.0	-1.9	98.5
Nutrients[4] % Reduction	**TKN**	**NH4-N**	**P**	**Cu**	**Zn**	
	98	99	95	99	99	

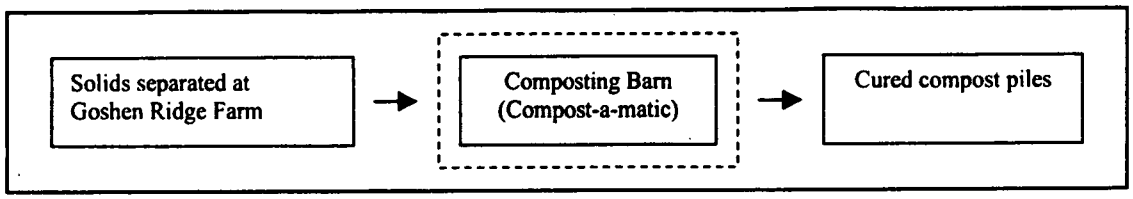
[1] From Table 4, Executive Summary , page 53. Environmentally Superior Technology candidate projects demonstrated performance for odor reduction. Values shown are approximate average odor intensity ratings at 200 and 400 meters from the odor source during the day and night where 0=none at all; 1=very weak, 2=weak; 3=moderately weak; 4=moderate; 5=moderately strong; 6=strong; 7=very strong; and 8=maximal. The first value represents whole farm odor emissions / the second value represents partitioned emissions from the technology treatment components targeted in the experiment.

[2] From Table 5, Executive Summary, page 54. Environmentally Superior Technology candidate projects demonstrated performance for reductions in pathogenic microorganisms. Values shown are approximate Log_{10} reductions in liquid or solid waste (based on waste stream focus of technology)

3 From Table 5, Executive Summary, page 55. Environmentally Superior Technology performance for ammonia reduction. Values shown are % reductions as compared to ammonia emissions from comparable conventional technology sites (positive values indicate reductions in emissions, negative values indicate enhancement of emissions).

4 From Table 3, Executive Summary, page 51. Environmentally Superior Technology candidate projects demonstrated performance for solids, organic matter and nutrients. Values shown are percent reductions and/or recovery.

"Super Soils" solids processing (Composting system)



Report Summary:

Parameter						
Emissions						
Odor [1]	**200 m day**	**200 m night**	**400 m day**	**400 m night**		
	NA / .63	NA[2] / 2.7	NA / .04	NA / 1.9		
Pathogen[3]	**Fecal coliforms**	**E. coli**	**Enterococci**	**Cl. perfringens**	**Coliphage**	**Salmonella**
Log_{10} Microbial Reductions	-0.2	1.1	0.3	2.4	2.3	0.7
w/ 30 day curing	3.5	3.9	2.3	3.9	2.6	1.2
NH_3 % Reduction[4]	**Water holding Structures**		**Barn Emissions**		**Total Emissions @ Technology site**	
	Warm Season	**Cool Season**	**Warm Season**	**Cool Season**	**Warm Season**	**Cool Season**
	-	-	-	-	-	-
Nutrients[5] % Reduction	**TKN**	**NH4-N**	**P**	**Cu**	**Zn**	
	96.5 Recovery	-	100.0 Recovery	95.6 Recovery	99.6 Recovery	

[1] From Table 4, Executive Summary , page 53. Environmentally Superior Technology candidate projects demonstrated performance for odor reduction. Values shown are approximate average odor intensity ratings at 200 and 400 meters from the odor source during the day and night where 0=none at all; 1=very weak, 2=weak; 3=moderately weak; 4=moderate; 5=moderately strong; 6=strong; 7=very strong; and 8=maximal. The first value represents whole farm odor emissions / the second value represents partitioned emissions from the technology treatment components targeted in the experiment.

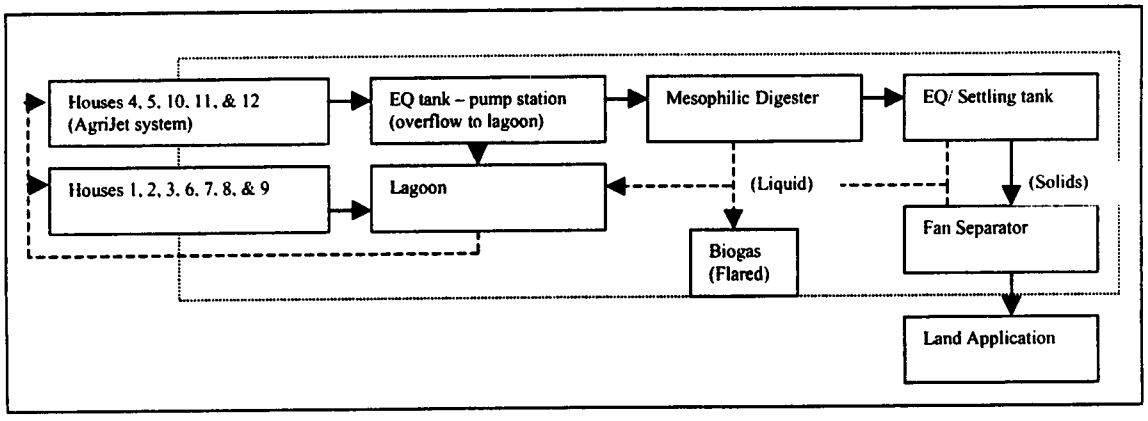
[2] NA = not applicable.

[3] From Table 5, Executive Summary, page 54. Environmentally Superior Technology candidate projects demonstrated performance for reductions in pathogenic microorganisms. Values shown are approximate Log_{10} reductions in liquid or solid waste (based on waste stream focus of technology)

[4] From Table 6, Executive Summary, page 55. Environmentally Superior Technology performance for ammonia reduction. Values shown are % reductions as compared to ammonia emissions from comparable conventional technology sites (positive values indicate reductions in emissions, negative values indicate enhancement of emissions). This technology did not include animal housing or a lagoon; calculations for ammonia emissions are available in Appendix A.9, Phase 2 Report, Development of Environmentally Superior Technologies, July 25, 2005.

[5] From Table 3, Executive Summary, page 51. Environmentally Superior Technology candidate projects demonstrated performance for solids, organic matter and nutrients. Values shown are percent reductions and/or recovery.

"AgriClean" Mesophilic digester and "AgriJet" flush system



Report Summary:

Parameter						
Emissions						
Odor [1]	200 m day	200 m night	400 m day	400 m night		
	1.0	3.6	0.5	3.0		
Pathogen[2]	Fecal coliforms	E. coli	Enterococci	Cl. perfringens	Coliphage	Salmonella
Log_{10} Microbial Reductions	1.5	1.5	1.5	0.1	1.1	1.7
NH_3 % Reduction[3]	Water holding Structures		Barn Emissions		Total Emissions @ Technology site	
	Warm Season	Cool Season	Warm Season	Cool Season	Warm Season	Cool Season
	-	3.6	-	-7.5	-	-6.3
Nutrients[4] % Reduction	TKN	NH4-N	NO3-N	P	Cu	Zn
Meso Digester	30	3	-	51	54	56
Storage Tank	0.5	2	4	19	42	47

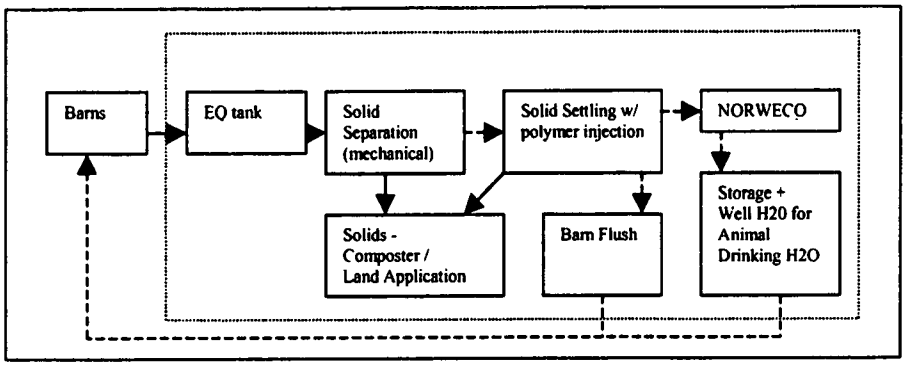
[1] From Table 4, Executive Summary , page 53. Environmentally Superior Technology candidate projects demonstrated performance for odor reduction. Values shown are approximate average odor intensity ratings at 200 and 400 meters from the odor source during the day and night where 0=none at all; 1=very weak, 2=weak; 3=moderately weak; 4=moderate; 5=moderately strong; 6=strong; 7=very strong; and 8=maximal. The first value represents whole farm odor emissions / the second value represents partitioned emissions from the technology treatment components targeted in the experiment.

[2] From Table 5, Executive Summary, page 54. Environmentally Superior Technology candidate projects demonstrated performance for reductions in pathogenic microorganisms. Values shown are approximate Log_{10} reductions in liquid or solid waste (based on waste stream focus of technology)

[3] From Table 6, Executive Summary, page 55. Environmentally Superior Technology performance for ammonia reduction. Values shown are % reductions as compared to ammonia emissions from comparable conventional technology sites (positive values indicate reductions in emissions, negative values indicate enhancement of emissions).

[4] From Table 3, Executive Summary, page 51. Environmentally Superior Technology candidate projects demonstrated performance for solids, organic matter and nutrients. Values shown are percent reductions and/or recovery.

Environmental Technologies



Report Summary:

Parameter						
Emissions						
Odor [1]	**200 m day**	**200 m night**	**400 m day**	**400 m night**		
+ composter (3rd)	0.7 / 0.7 / 0	3.0 / 3.1 / 0.2	0.2 / 0.2 / 0	2.3 / 2.4 / 0.04		
Pathogen [2]	**Fecal coliforms**	**E. coli**	**Enterococci**	**Cl. perfringens**	**Coliphage**	**Salmonella**
Log_{10} Microbial Reductions	0.3	0.5	0.6	0.3	1.0	0.1
composter	2.1	2.3	2.6	3.0	2.9	0.8
NH_3 % Reduction [3]	**Water holding Structures**		**Barn Emissions**		**Total Emissions @ Technology site**	
	Warm Season	**Cool Season**	**Warm Season**	**Cool Season**	**Warm Season**	**Cool Season**
	46.8	-55.0	-58.0	92.0	30.7	18.5
Nutrients [4] % Reduction	TKN	NH4-N	P	Cu	Zn	
	-	-	99+ [5] Recovery	99+ Recovery	99+ Recovery	

[1] From Table 4, Executive Summary , page 53. Environmentally Superior Technology candidate projects demonstrated performance for odor reduction. Values shown are approximate average odor intensity ratings at 200 and 400 meters from the odor source during the day and night where 0=none at all; 1=very weak, 2=weak; 3=moderately weak; 4=moderate; 5=moderately strong; 6=strong; 7=very strong; and 8=maximal. The first value represents whole farm odor emissions / the second value represents partitioned emissions from the technology treatment components targeted in the experiment.

[2] From Table 5, Executive Summary, page 54. Environmentally Superior Technology candidate projects demonstrated performance for reductions in pathogenic microorganisms. Values shown are approximate Log_{10} reductions in liquid or solid waste (based on waste stream focus of technology)

[3] From Table 6, Executive Summary, page 55. Environmentally Superior Technology performance for ammonia reduction. Values shown are % reductions as compared to ammonia emissions from comparable conventional technology sites (positive values indicate reductions in emissions, negative values indicate enhancement of emissions).

[4] From Table 3, Executive Summary, page 51. Environmentally Superior Technology candidate projects demonstrated performance for solids, organic matter and nutrients. Values shown are percent reductions and/or recovery.

[5] As currently operated, the only pathway by which solids, COD, BOD, TP, Cu and Zn are removed from the system is in the form of separated and settled solids, which are exported off-farm to the composting operation. With the exception of the Norweco tertiary treatment system (which represents a small fraction of the overall volume of wastewater treated), none of the unit processes that constitute this system are designed to reduce the above species. Therefore, differences between influent and effluent concentrations in these species for a given unit process (and for the system as a whole) are assumed to represent sampling and/or measurement error. It is expected that some nitrogen will be lost from the system due to ammonia volatilization and that some solids, COD, and BOD will be lost due to microbial activity in this aerobic process, but the majority of these species will be exported off-farm with the separated and settled solids to the composting operation. Measurements were not sensitive enough to determine the magnitude of these nitrogen, solids, COD and BOD losses during treatment. Virtually all phosphorous, copper and zinc will be recovered if the system is operated as planned because these species are not volatile and will only leave the system through the separated and settled solids.

3.0 Determination of Technical Performance and Standards

Process: The 15-step systematic process for the competitive selection, site location determination, permitting, construction, and study of the candidate EST per the terms and conditions of the Agreements was previously described.[1] Experimental site location information for each candidate technology studied is shown in Table 2. Technology descriptions and process flow diagrams are shown in Section 2.0 and elsewhere in this report. Each candidate technology was assessed for technical, operational, and economic feasibility. This section of the report focuses on the technical performance standards.

Technical performance standards: The Agreements specify that a successful EST must meet the following performance standards:

1. "Eliminate the discharge of animal waste to surface waters and groundwater through direct discharge, seepage, or runoff;
2. Substantially eliminate atmospheric emissions of ammonia;
3. Substantially eliminate the emission of odor that is detectable beyond the boundaries of the parcel or tract of land on which the swine farm is located;
4. Substantially eliminate the release of disease-transmitting vectors and airborne pathogens; and
5. Substantially eliminate nutrient and heavy metal contamination of soil and groundwater."

These performance standards were established by the North Carolina General Assembly[2] and used as the basis for technical environmental performance standards in the Agreements. An Engineering Subcommittee comprised of appointed members of the advisory panel referenced in Section 1.0 of this report compiled a recommendation document that served as the basis of further defining and quantifying the five technical performance criteria outlined above.[3] Interpretation and conclusions regarding the Engineering Subcommittee recommendations are discussed in Section 3.0 of the referenced July 26, 2004 report. In brief they are as follows:

Eliminate the discharge of animal waste to surface waters and groundwater through direct discharge, seepage, or runoff.

All wastewater-holding structures must have a mechanism for containing the flow rate of the largest pump in the system for the maximum amount of time that an operator will not be on-site. Technologies should contain less than the volume equivalent of one month of

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[1] See Section 3.0, page 20 "Development of Environmentally Superior Technologies: Phase 1 Technology Determination Report", published by NCSU College of Agriculture and Life Sciences, 941 pgs, on file with NCSU Animal and Poultry Waste Management Center (July 26, 2004). Also available at www.cals.ncsu.edu/waste_mgt/

[2] See General Assembly of North Carolina, Session 1997, Session Law 1998-188, House Bill 1480

[3] See Appendix D, "Development of Environmentally Superior Technologies: Phase 1 Technology Determination Report", published by NCSU College of Agriculture and Life Sciences, 941 pgs, on file with NCSU Animal and Poultry Waste Management Center (July 26, 2004). Also available at www.cals.ncsu.edu/waste_mgt/

flow in concentrated waste prior to complete treatment. Any earthen structures should be designed and constructed to current Natural Resource Conservation Service (NRCS) standards and have a maximum hydraulic conductivity of 1.25×10^{-6} cm/sec. Structures other than earthen should be designed and constructed using proper engineering practices to eliminate seepage. Solids storage structures should meet current NRCS design standards. Land application of treated wastewater or solids should be based on realistic crop yield expectations, land application setbacks, buffers, and hydraulic loading rates that at a minimum maintain compliance with current NRCS, local, state, and federal standards and/or requirements.

Substantially eliminate atmospheric emissions of ammonia.

An approximately 80% reduction of ammonia emissions from waste storage/treatment components and land application areas is required as compared to a typical swine farm. The system must also target reduction of ammonia from the barns.

Substantially eliminate the emission of odor that is detectable beyond the boundaries of the parcel or tract of land on which the swine farm is located.

Odor intensity levels, measured using an index scale from 0-8, should not exceed the established metric of 2 (or equivalent) at a property line on which the swine farm is located (see Table 4 and Appendix A.3 of report herein for specific description of index scale).

Substantially eliminate the release of disease-transmitting vectors and airborne pathogens.

Approximately 4 log reductions of pathogens (microorganisms documented to be of human health concern) are required in the treated liquid and solid waste stream, as compared to concentrations of the pathogens in raw manure. All components of the waste management system (technology treatment, fate of farm generated solids, method and location of land application of liquid and/or solids, etc.) are considered factors for pathogen reductions.

Substantially eliminate nutrient and heavy metal contamination of soil and groundwater.

The system should reduce total nitrogen mass by 75% and total phosphorus, copper, and zinc mass by 50% from influent levels for the whole farm. Current N.C. NRCS Nutrient Management Standard 590 must be met, including added considerations of current realistic yield expectations, individual plant-available nitrogen calculations, N.C. Phosphorus Loss Assessment Tool (PLAT) evaluation to determine phosphorus loss and application rates, and metal soil index threshold warnings. Where on-farm resources (i.e., available land) are not sufficient to meet these described standards, reductions may be met by transporting the nutrients off the farm and/or animal diet modification.

Technical data analysis: The data considered for the technical analysis involved the candidate waste treatment systems' performance in terms of: 1) partitioning, conversion or removal of the waste stream solids and organic matter, nutrients (primarily nitrogen and phosphorus), and metals (copper and zinc); and 2) reducing emissions of odor, pathogens, and emissions of ammonia. The methods and results, relevant to the technical environmental performance data, are provided in the project investigator final reports (Appendix A of this report and Appendix A in both the referenced July 2004 and July 2005 reports). Data from these reports relative to the technical feasibility determinations are summarized in Tables 3-6 of this report.

In addition to technical feasibility, operation feasibility was also mandated by the Agreements. Although specific factors for determining operational feasibility are not described in the Agreements, inputs from the project investigators involved with the technical data collection and analysis of the candidate waste treatment systems as well as input from the technology suppliers were considered. Parameters such as: operator hours required per week; system inspection needs; maintenance of "moving parts," required skills; trouble shooting pumps, equipment, and electrical controls, etc. were considered. In addition, NCDENR was consulted regarding operator certification and license requirements. Operational feasibility information for the Phase 2 targeted technologies is provided in Table 7.

4.0 Technology Permittability and Category or Categories of Farms

Permittability: The Agreements specify that any technology or combination of technologies that meet unconditional EST status must be "permittable by the appropriate governmental authority." In North Carolina the Department of Environment and Natural Resources (NCDENR) and its Division of Water Quality, Division of Air Quality, and Division of Waste Management are specifically involved with the permitting and regulatory aspects of the EST projects. NCDENR is represented (with two members) on the Agreements appointed advisory panel (see Appendix E).

Category or Categories of Farms:[1] The Agreements reference, in several sections, EST for identified "category or categories of farms." Further, the Agreements specify, "the categories may be determined based on farm size, geographic location, the geographic concentration of the hog population, the type of farm, and any other factors the Designee deems appropriate."

For the objectives related to the EST determinations, categories of farms are based on the types of North Carolina swine farms and the distribution of weight across these farms. This is based on input and study by the investigators conducting the economic feasibility analysis needed to partition the representative swine farms for the economic modeling of farm sizes to compute cost estimates and industry impact of adoption for all candidate EST technologies. The category distribution used and as described by the economic team investigators (see Appendix B.1) is summarized as follows.

The production process for market hogs is comprised of three primary stages — farrow-to-wean, wean-to-feeder, and feeder-to-finish. Farrow-to-wean farms house sows during their breeding, gestation, farrowing, and nursing stages. Sows nurse newborn pigs until weaning, which typically occurs 18 to 23 days after a litter of pigs is born. The pigs may weigh 10-12 pounds at weaning. The weaned pigs are moved to a nursery facility to begin the second stage of the production process. Pigs will remain in the nursery (also called wean-to-feeder stage) for 7-10 weeks, enabling them to reach a weight of 45-55 pounds. Finally, the pigs are moved to another facility to enter the feeder-to-finish stage. In this stage, pigs will add approximately 200 pounds of bodyweight over a period of 16 weeks. At a live weight of approximately 260 pounds and an age of about six months, the pigs will be marketed for slaughter. Thus, the three primary stages of the hog production process can be combined to form five types of hog farming operations: 1) farrow-to-wean, 2) farrow-to-feeder, 3) farrow-to-finish, 4) wean-to-feeder, and 5) feeder-to-finish. The majority of North Carolina's hog farms concentrate on one stage of production, but some include two (farrow-to-feeder) or three (farrow-to-finish) stages.

Farms with inventories of greater than 250 hogs are required to obtain a permit through the NCDENR. Data recorded in the permit database include the permitted capacity of the farm in number of head of each type of pig (breeding animals, nursery pigs, and feeder to finish pigs) and the associated steady state live weight (SSLW). By partitioning the farm

[1] Information in this section compiled, in part, from reports submitted by the project investigators conducting the economic feasibility determinations.

size into categories of 0-500 SSLW, 500-1,000 SSLW, 1,000-1,500 SSLW, 1,500-2,000 SSLW, and >2,000 SSLW, and using the five types of hog farming operations described above, 25 possible combinations of farm size and type of operation result. These 25 possible combinations include all permitted hog farms in the state and are used as the basis for "category or categories of farms" as applicable to the Agreements.

In addition to these categories, an additional category of farm, "new farms" relative to the permitting and construction of new swine farms in North Carolina, is also considered by the Designee.

5.0 Determination of Economic Feasibility

The Agreements specify, "In determining whether it is economically feasible to construct and operate a particular alternative technology for a category of farms, the Designee will consider all relevant information including but not limited to the following factors:

1) the projected 10-year annualized cost (including capital, operational and maintenance costs) of each alternative technology expressed as a cost per 1000 pounds of steady state live weight for each category of farm system;
2) the projected 10-year annualized cost (including capital, operational and maintenance costs) per 1000 pounds of steady state live weight for each category of farm system of a lagoon and sprayfield system that is designed, constructed and operated in accordance with current laws, regulations, and standards, including NRCS design, construction and waste utilization standards;
3) projected revenues, including income from waste treatment byproduct utilization, together with any cost savings from the new technology;
4) available cost-share monies or other financial or technical assistance from federal, state or other public sources, including tax incentives or credits; and
5) the impact that the adoption of alternative technologies may have on the competitiveness of the North Carolina pork industry as compared to the pork industry in other states."

Data analysis: Pursuant to factors 1-4, the project investigators conducting this work compiled extensive costs and returns data for each candidate EST. The cost and returns analysis, collectively reported in the July 2005 report as Appendices B.1a. – B.1.i, and herein as Appendices B.1 – B.11, and summarized for all technologies as Table 8a, predicts the estimated costs of retrofitting North Carolina swine farms with candidate EST. The costs are projected as incremental costs, e.g. additional costs to the existing lagoon and spray field system on a farm site. Projected revenues from by-products plus avoided costs in operating the lagoon and spray field system are considered in each case estimate. As mandated by the Agreements, the net costs are reported based on the following metric: $ per 1000 pounds steady state live-weight per year ($ / 1,000 lbs. SSLW / year) over a 10 year economic life. Table 8a is organized to show results for on farm complete systems and separated solids treatment systems ("add on" treatment components). Table 8b shows a sensitivity analysis on solids treatment systems focusing on the impact of solids separation rate and moisture content of solids on the annualized incremental costs metric ($ / 1,000 lbs. SSLW / year). Table 8c is a sensitivity analysis showing the effect in varying assumed interest rates, expected economic life, and overhead rates for the on-farm systems; Table 8d shows the same for the "add-on" treatment components.

Pursuant to factor 5, this cost data was subsequently utilized to predict the impacts of adopting EST technologies on the competitiveness of the NC pork industry, (methodology and analysis data previously reported in detail in the July 2005 report as Appendix B.2) and summarized herein in Table 9. An equilibrium displacement model was used to estimate the economic impacts for different types of producers across farm

operational size (farm categories) relative to prices and quantities of animals produced as projected for implementation of the candidate EST. Table 9 is organized to show the predicted percent change in the inventory of North Carolina hogs (reported in quantities of 1,000 lbs. of weight) in the short, intermediate, and long runs for selected incremental costs as determined by the referenced displacement model.

In brief the collective economic data, regarding the above referenced factors 1-5 indicates:

1) the projected additional costs of retrofitting existing lagoon sprayfield farms with candidate EST for a complete treatment system (liquid and solids treatment) ranges between approximately $90 to over $400 per unit cost ($ per 1,000 lbs. steady state live weight per year) (see Table 8a); this compares to approximately $85, utilizing the same costs metric, for the predicted costs of constructing a permitted lagoon spray field system in North Carolina in 2004 (see Appendix B.1, July 2005 report) ; these values, however, can be significantly impacted by assumptions relative to interest rates, expected economic life of the technology, and overhead rates,
2) long term impacts on adopting candidate EST may result in annual reductions in the North Carolina inventory of pork; at present there is considerable uncertainty in the predicted magnitude of this impact, the values range between a low of 8% to the *entire herd inventory* to greater than 50% of *market quantities* of pork (see Table 9),
3) various sources of financial support, including cost share programs, may be available in the future with the most promising opportunities for technologies that generate energy, however, no significant sources of such support are currently available.

In addition to the Agreement mandated factors enumerated above, the Designee expanded the scope of the economic feasibility to also include the following factors:

1) identify and quantify the pathways by which the adoption of new waste management technologies changes pollutant emissions to air and water and affects environmental quality; and,
2) estimate the monetized benefits to North Carolina households of the changes in environmental quality achieved by implementing alternative waste management technologies.

RTI International (RTI) conducted this scope of work (see Appendix C, July 2004 report). The benefits analyses information will be utilized for distinguishing among technologies that qualify as EST such that the maximum benefits are realized for the citizens of North Carolina. However, as noted by RTI in the report, the information was developed using the best available methods and data available but the estimates should not be interpreted as complete or precise monetized estimates of the total benefits of reducing swine-related environmental residuals in the state of North Carolina (see Section 1.2.2, pages 1-11 and 1-12 of the RTI report).

Recommendations for economic feasibility determinations: Quantitatively defining "economic feasibility" relative to requirements for unconditional EST has been one of the more challenging, and controversial, tasks for this initiative. To provide guidance and recommendations on this subject, the Designee appointed a 10 member Economics Subcommittee, made up of all appointed panel members with economics experience. In addition, panel members representing North Carolina Environmental Defense, Smithfield, PSF, and Frontline Farmers were also represented; Richard Whisnant, Associate Professor of Public Law and Government, School of Government, UNC-Chapel Hill, was appointed chair.

After much deliberation most of the 10 subcommittee members were in agreement on many aspects of a recommended methodology for making economic feasibility determinations, summarized as follows:

- Designee should consider economic versus financial points of view regarding feasibility – e.g. in addition to the financial consequences which focus on payments made by farmers, the Agreements require attention to the true economic consequences, including non-monetized commitment of resources.
- The economic models used to determine the costs-returns and predicted impact on the competitiveness of the industry when utilizing the determined EST costs are well reasoned and well justified and thoroughly conducted but include uncertainty and many assumptions (the same conclusions were derived by external ad hoc reviewers).
- In consideration of who makes up the North Carolina pork industry, Designee should consider any and all business entities physically located in North Carolina that generate their income from either the production of live swine or the meat packing of pork.
- It is economically appropriate to implement EST in phases, allowing pilot testing and refinement of the technologies before they are adopted industry wide. New farm categories and company owned farms are appropriate and obvious candidates for this approach.
- The time frame for adoption of EST is important relative to the time value of money and assessing economic feasibility, e.g. additional time for implementation reduces the economic impacts on North Carolina swine herd size.

However, on the issue of threshold for "competitiveness" (Agreements mandated factor 5 discussed above), as well as on the issues of creating an institution to oversee technology transition, and consideration of social costs-benefits (social costs resulting from external effects from ammonia emissions, odors and water pollution), the committee members were divided and unable to reach consensus as reflected in two competing reports that were submitted to the Designee and presented herein as Appendix D. In brief, salient non-consensus components of the two reports can be summarized as follows.

From report (dated December 1, 2005) submitted by Chair Richard Whisnant and 5 additional subcommittee members

- Competitiveness does not mean maintaining the present North Carolina hog inventory size and does not mean avoiding any net increase in waste handling costs. Designee should consider that implementation of EST that has a predicted economic consequence of reducing the North Carolina swine herd by 12% economically feasible. This is, in part, justified based on precedent established by the North Carolina General Assembly upon adoption in 1993 of the so called ".0200 Rules", which were predicted to result in 12% of the State's swine operations not remaining in business.
- Institutional considerations should be studied in consideration of EST implementation planning, e.g. an institution created to oversee technology transition, tradable permits, etc. would ensure that widespread conversion occurs in the most economically feasible manner possible.

From report (dated December 2, 2005) submitted by 4 subcommittee members

- The Agreements did not seek to close farms or otherwise reduce herd size in North Carolina.
- A hog production entity becomes non-competitive when its inability to fund production results in lost market share and an EST is economically feasible if and only if the commercial application of the technology in only North Carolina has no adverse affect, e.g. no net increase in cost or reduction in herd size, on the fiscal competitiveness of North Carolina operations as compared to pork operations in all other states.
- Byproduct revenue from EST must exist to offset any higher operating and capital costs of the EST and the best opportunity for the candidate EST studied is fossil fuel substitutes.

The Designee considers that both reports make several valid arguments and has carefully considered both reports as well as inputs from the full Advisory Panel regarding both reports. Based on those considerations the Designee makes the following economic feasibility determination with the understanding that it is not to be viewed as a fixed standard or cost metric for economic feasibility:

A technology may be economically feasible even though it would impose incremental cost increases on the North Carolina swine industry and potentially result in a reduction in swine herd size in North Carolina. Technologies will be considered candidates for EST Determinations only if the maximum predicted reduction in herd size resulting from implementation would not exceed 12 percent. The Designee will be responsible for determining whether the predicted herd size reduction that would result from the implementation of a technology is sufficiently accurate to consider it a candidate for determination as an EST. The Designee will also be responsible for determining, and limiting his determination and implementation recommendations to a category, or categories of farms, to ensure that an EST Determination would not result in unintended

negative impacts and consequences for other farms which are dependent on the EST farms for their ongoing supply of production animals.

The rationale for this economic feasibility determination is based largely on the following factors and concerns.

It is not logical to accept the suggestion that adoption of state specific cost differences, for any commodity, that has any impact at all on raising costs for that commodity is economically infeasible. The December 1, 2005 subcommittee report and its attachments make clear and defensible arguments to support this determination.

There is no compelling advantage at this time to establish a fixed cost metric for economic feasibility. Candidate ESTs for a complete treatment system (liquid and solids) that have been shown to meet the technical performance standards greatly exceed, at the current time, costs that would result in a prediction of 12 percent reduction of herd size in North Carolina. Work is already in progress, and proposed herein, for reducing those costs. Establishment of a fixed cost metric at this time may adversely affect those initiatives. Further, Designee does not believe that at this time, with the available information, it is possible to establish a sufficiently small margin of error around a predicted reduction in herd size. Therefore, the Designee feels that the probability of greatly exceeding the predicted 12 percent herd size reduction at costs associated with that estimate in the referenced economic model is unacceptable at the present time and I am currently not willing to mandate an effect that could potentially be that significant.

It is also noted that the incremental cost metric predicting a 12 percent reduction in herd size may be low when farrow to feeder and farrow to wean pig costs are considered along with market hog costs (this is based on information submitted by the authors of the "Majority" subcommittee report subsequent to December 1, 2005).

The estimates of economic impact on the North Carolina pork industry do not take into account the potential positive effects that investment in environmentally superior waste technology will have on the part of the North Carolina pork industry devoted to producing and servicing the waste technology itself.

Designee considers that these collective uncertainties and factors associated with the predicted impacts on the industry are substantial. All these factors suggest that a specific fixed cost metric for "economic feasibility" would be very premature at this time.

And finally, Designee feels that the subcommittee reports made valuable arguments regarding institutional and political approaches to addressing the economic feasibility issues. Relative to those arguments and next steps recommended herein, I have serious concerns that adoption of a fixed economic cost metric at this time will adversely influence future public policy related to byproduct valuation (especially energy) for candidate EST.

6.0 Environmentally Superior Technology Determinations

Technology Determinations: Based on responsibilities as described in the Agreements, review of project investigator reported performance and economic data, economic models, and Advisory Panel inputs, the following technology determinations are made at this time:

New farm category

Designee concludes that the solids separation / nitrification–denitrification / soluble phosphorus removal system ("Super Soils" technology as described in the July 26, 2004 report[1]) in combination with any one of the following four solids treatment systems: the high solids anaerobic digester ("ORBIT" technology as described in the July 26, 2004 report); "Super Soil Systems" centralized composting system; gasification for elimination of swine waste solids with recovery of value-added products system; and "BEST" – fluidized bed combustion of solids system (the latter 3 systems as described in the July 25, 2005 report[2]) comprise an unconditional Environmentally Superior Technology for new farms which are permitted and constructed for the first time after the date of this report. This determination is limited to the following types of farms: farms using EST on sites that have not been used previously for the production of swine ("Greenfields"); construction of new swine facilities using the EST on farms which previously housed swine, but which are no longer permitted for that purpose; and expansions (for purposes of increasing permitted herd size) of existing swine farms using the EST to treat waste for new construction on such existing swine farms. In the case of expansions, this determination applies only to the waste generated from the expansion.

It is recognized by the Designee that, as shown through this series of studies including the comprehensive economic analyses, any combinations of these technologies comprise significant costs and producers are encouraged to carefully take into account the available economic data when considering implementation of these technologies. It is also noted that the data show that any of the referenced technology combinations produce wastewater and solids that will need to be managed in accordance with applicable state and federal regulations. However, given the transparency of this data, and the recommendations contained within the December 1, 2005 Economics Subcommittee report (see Appendix D, page 12-13) regarding the advantages of phased implementation beginning on new farms, Designee concurs with the Economics Subcommittee findings on this matter and considers this determination well justified. Further, each of these technologies have been documented to meet environmental performance standards established by the Agreements and the North Carolina General Assembly (per the

[1] See Development of Environmentally Superior Technologies: Phase 1 Technology Determination Report, published by NCSU College of Agriculture and Life Sciences, 941 pgs, on file with NCSU Animal and Poultry Waste Management Center (July 26, 2004). Also available at www.cals.ncsu.edu/waste_mgt/

[2] See Development of Environmentally Superior Technologies. 2005. Phase 2 Technology Determination Report, published by NCSU College of Agriculture and Life Sciences, 1428 pgs, on file with NCSU Animal and Poultry Waste Management Center (July 25, 2005). Also available at www.cals.ncsu.edu/waste_mgt/

Innovative Technologies clause of the moratorium legislation[3]) and their non-mandated implementation (e.g. onto new or expanding farms) should be encouraged for reasons described herein.

Existing farm categories

Designee concludes that contingent EST, as described in the above referenced July 2004 and 2005 reports, have not at the current time met economic feasibility conditions required for unconditional EST to be implemented onto existing farm categories in North Carolina.

Scope of Technology Determinations

The scope of the technology determinations herein is considered final and inclusive of the candidate technologies described in Table 1 of this report and all categories of farms as described in Section 4.0 of the above referenced July 26, 2004 Phase 1 report. Any subsequent technology determinations, including contingent determinations that have been described in the referenced July 2004 and July 2005 reports, and also including technologies under development by parties to the Agreements that were referenced in those reports, that may be made by Designee will be based on available data and appropriate outside critical review and inputs resulting from efforts that go beyond those described in this report.

It has been noted herein as well as in the previously issued Technology Determination reports that several of the candidate technologies studied under this initiative have significant potential. Recommendations regarding those technologies are discussed in Section 7.0 of this report.

[3] See General Assembly of North Carolina, Session 1997, Session Law 1998-188, House Bill 1480

7.0 Recommended Next Steps

The findings provided herein, and in the previously issued (July 2004 and 2005 Phase 1 and 2 Technology Determination Reports) represent a comprehensive and unprecedented effort to develop and determine the costs and effects of implementing innovative waste treatment technology onto swine farms in North Carolina. Collectively, the results show:

- A combination of 5 technologies meet technical performance standards that have been established by the North Carolina General Assembly and parties to the Agreements that define Environmentally Superior Technology,

- With technical modifications and improvements (some of which may need to only be minor), several of the additional technologies considered in this initiative may meet the technical performance criteria,

- The technologies studied which have been shown to meet the technical performance standards and would be required for a complete liquid and solids treatment system significantly exceed the threshold cost metric for determination of economic feasibility as recommended by an appointed Economics Subcommittee (see "Majority Report", Appendix D).

Based on these findings and the Technology Determination described in Section 6.0 of this report, the recommended next steps are proposed:

- Continue, as expeditiously as possible, current efforts by targeted technology suppliers and researchers to improve upon their treatment processes to reduce the costs of their respective treatment systems.

- Establish a framework or process by which additional technologies may be considered viable Environmentally Superior Technologies. This would include technologies that can be improved upon (technically and / or operationally and / or economically) as a result of information derived from this initiative, as well as technologies that were not part of this funded initiative.

- Identify potential institutional incentives, public policies, and markets related to the sale of byproducts (with priority on energy production) that will reward farmers for utilizing technologies identified by this process that are shown to yield improvements and environmental benefits over the current lagoon spray field system. The optimal method of achieving net cost reductions and even positive revenue flows from alternative technologies is to install targeted technologies on a sufficient number of farms to facilitate engineering improvements, value-added product market development, and other cost reduction methods.

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C.M. Williams, Agreements' Designee
March 8, 2006

Table 1. Environmentally Superior Technology candidate projects status (December 2005).

Technology	Environmental Performance Data Procurement	Economic Feasibility Determination
Ambient Temperature Anaerobic Digester and Greenhouse for Swine Waste Treatment and Bioresource Recovery at "Barham Farm"	Complete	Complete
"ANT" Sequencing batch reactor system	Complete	Complete
Belt System for Manure Removal (Grinnells)	Complete	Complete
Belt System for Manure Removal (LWFL)	Complete	Complete
"BEST" Biomass Energy Sustainable Technology	Complete	Complete
Constructed wetlands system / solids separation	Complete	Complete
"Ekokan" Biofiltration Technology	Complete	Complete
Gasification of Solids (Belt System for Manure Removal - Grinnells)	Complete	Complete
Insect Biomass from Solids (Belt System for Manure Removal - LWFL)	Complete	Complete
"ISSUES" Aerobic blanket	Complete	Complete
"ISSUES" Mesophilic digester / microturbine / water reuse system	Complete	Complete
"ISSUES" Permeable cover	Complete	Complete
"ORBIT" High Solids Anaerobic Digester	Complete	Complete
"ReCip" Solids Separation – Reciprocating Wetland	Complete	Complete
"Super Soils" Solids Separation / Nitrification-Denitrification / Soluble Phosphorus Removal	Complete	Complete
"Super Soils" solids processing (Composting system)	Complete	Complete
"AgriClean" Mesophilic digester and "AgriJet" flush system	Complete (Cool season only)	Complete
"Environmental Technologies" - Sustainable NC and Frontline Farmers project – NCAG Environmental Enhancement Funding	Complete	Complete

Table 2. Environmentally Superior Technology candidate projects experimental site location information.[1]

Technology	Farm type and approximate animal inventory	Houses ventilation type	Houses waste discharge type and approximate waste stream flow
Conventional Technology[2] (Stokes)	Finishing / 5,000 head / 4 houses	Natural	Flush, 14,000 gal/d
Conventional Technology (Moore Bros.)	Finishing / 7,000 head / 8 houses	Tunnel	Pit recharge, 70,000 gal/d
Ambient Temperature Anaerobic Digester and Greenhouse for Swine Waste Treatment and Bioresource Recovery at "Barham Farm"	Farrow-to-wean / 4,000 sows / 6 houses	Tunnel	Pit recharge 37,000 gal/d
"ANT" Sequencing batch reactor system	Finishing / 13,000 head (4200 test) 24 houses (6 test)	Natural	Flush 26,000 – 39,000 gal/d
BELT (Grinnells lab, NCSU campus – research unit)	Feeder (25 to 55 kg) 80-100 head each in 5 separate experiments Single room	Mechanical	Belt .6 lbs dry matter (49%) solids/pig/d + .3 gal urine/pig/d
BELT (LWRFL[3]site – research unit)	Finishing / 15 head 4 separate experiments Single room	Mechanical	Belt 2 lbs dry matter (33%) solids/pig/d + 1 gal pig urine/d
"BEST"[4] (solids / liquids separation) Biomass Energy Sustainable Technology Fluidized Bed Component	Finishing Site 1 (Corbett 1) 3,000 head / 5 houses Site 2 (Corbett 3 & 4) 4,000 head / 4 houses Centralized site (Idaho)	Natural (both sites)	Flush (both sites) Site 1 – 30,000 gal/d Site 2 – 36,000 gal/d
Constructed wetlands / solids separation	Finishing / 3,500 head / 4 houses	Tunnel	Pit recharge 40,000 gal/d
"Ekokan" Biofiltration Technology	Finishing / 4,000 head / 5 houses	Tunnel	Pit recharge 6 pits at 20,000 gal/pit/d
Gasification of Solids (Belt System – NCSU Grinnells)	Centralized site (Received solids from belt system)	N/A	30 kg @ 50% DM/ batch (66 lbs./ batch)
Insect Biomass from Solids (Belt System – LWFL)	Centralized site (Received solids from BELT (LWFL – research unit)	N/A	170 kg/45,000 larvae total; (45,000 larvae consumed 6.26 Kg/day)
"ISSUES"- Aerobic blanket	Finishing / 6,500 head / 9 houses	Tunnel	Flush 43,000 – 50,000 gal/d
"ISSUES" – Permeable cover	Finishing / 6,100 head (2400 test) / 5 houses (2 test)	Natural	Flush 32,000 gal/d
"ISSUES" – Mesophilic digester/ microturbine/ water reuse system	Finishing / 9,800 head / 8 houses	Natural	Flush 77,000 gal/d
"ORBIT" High Solids Anaerobic Digester	Solids processing facility, no animals on site	Not applicable	Not applicable
"ReCip" Solids Separation – Reciprocating Wetland	Finishing / 2,000 head / 2 houses	Natural	Flush 20,000 gal/d
"Super Soils" Solids Separation / Nitrification-Denitrification / Soluble Phosphorus Removal	Finishing / 4,000 head / 6 houses	Natural, with fan-ventilated pits	Pit recharge 10,000 gal/d
"Super Soils" solids processing – (Compost System)	Centralized site (Received solids from 4,300 head finisher)	N/A	3 – 3.3 m^3/day solids processed (800 gal/d 17% DM)
"AgriClean" Mesophilic digester and "AgriJet" flush system	Finishing / 11,500 head (4800 test) 12 houses (5 test)	Tunnel	Pit Recharge (flush – AgriJet) 31,000 gal/d
"Environmental Technologies" - Sustainable NC and Frontline Farmers project	Finishing / 3,700 head / 3 houses	Natural	Flush 13,500 – 16,000 gal/d

[1] Approximate values derived primarily from Project Investigator Final Reports. Full reports contain more precise and detailed information and are available at http://www.cals.ncsu.edu/waste_mgt/ or upon request from the NCSU Animal and Poultry Waste Management Center, on file with C.M. Williams.

[2] Conventional Technology = Permitted lagoon sprayfield waste treatment system

[3] LWRFL = NCSU Lake Wheeler Road Field Laboratory.

[4] Project was comprised of two solids/liquid separation systems; a screw-press separator (FAN® Separator) followed by tangential flow gravity-settling tanks (TFS System) located on Farm Site 1; and a screen and hydraulic press separator (Filtramat™) followed by the TFS System located on Farm Site 2. Fluidized bed located in Idaho.

Table 3. Environmentally Superior Technology candidate projects demonstrated performance for solids, organic matter and nutrients. Values shown are percent reductions and/or recovery.[1]

Technology	TAN[2]	TKN[3]	Solids[4]	COD[5]	BOD[6]	TP[7]	Cu	Zn
AnD	+3	28	76 total 88 volatile	93	NR[10]	81	89	87
Ambient Temperature Anaerobic Digester and Greenhouse for Swine Waste Treatment and Bioresource Recovery at "Barham Farm"[8]								
Biofilter	21	21 (29 trickling biofilters[9])	+5 total +15 volatile	+14		11	33	7
"ANT" Sequencing batch reactor system	96.8	83.0	60.0 (SS as COD)	63.7	-	-	-	-
(w/ biosolids separation)	96.8	90.0	89.7 (SS as COD)	84.0	-	36.5	76.1	81.4
BELT (Grinnells lab, NCSU campus – research unit)	-	-	-	-	-	-	-	-
BELT (LWRFL[11] site – research unit)	-	-	-	-	-	-	-	-
"BEST"[12] FAN	2	2	11,16, 20 (Total, susp., vol.)	10	-1	15	9	4
Filtramat	3	4	6, 10, -4	10	8	-12	15	15
TFS (at FAN site)	4	15	32, 47, 47 (Total, susp., vol.)	48	5	55	50	58
TFS (at Filtramat site)	2	15	26, 35, 44	35	11	40	46	56
Constructed wetlands / solids separation	-	57.0	97.0 (SS)	-	-	87.0	41.0	39.0

[1] Values derived primarily from Project Investigator Final Reports. Full reports are available at http://www.cals.ncsu.edu/waste_mgt/ or upon request from the NCSU Animal and Poultry Waste Management Center, on file with C.M. Williams. Some values reflect concentration reductions / recoveries due to nature of waste stream.
[2] TAN = Total Ammonia Nitrogen
[3] TKN = Total Kjeldahl Nitrogen
[4] Solids = Type reported, e.g. suspended, total, volatile noted within each table cell
[5] COD = Chemical Oxygen Demand
[6] BOD = Biochemical Oxygen Demand (5-d)
[7] TP = Total Phosphorus
[8] Values reflect reductions from house effluent (pre digester) through digester unless otherwise noted.
[9] Value reflects nitrification efficiency of biofilters and also represents annual average. Summer season was reported to be approximately 90% nitrification efficiency.
[10] NR = not reported
[11] LWRFL = NCSU Lake Wheeler Road Field Laboratory.
[12] Values reflect reductions from FAN® or Filtramat™ influents (pre-separation) through TFS effluents. Note: project was comprised of two solids/liquid separation systems; a screw-press separator (FAN® Separator) followed by tangential flow gravity-settling tanks (TFS System) located on Farm Site 1; and a screen and hydraulic press separator (Filtramat™) followed by the TFS System located on Farm Site 2. The separated solids for each of the 2 systems (FAN and Filtramat) averaged approximately 30% dry matter. For explanation of the reported negative nutrient recovery values related to the total systems (FAN or Filtramat combined with the TFS System) see page 10 of the Project Investigator Final Report.

Technology (Table 3 continued)	TAN	TKN	Solids	COD	BOD	TP	Cu	Zn
"EKOKAN"[13]	23 to 98[14] (71)	31 to 72[15] TKN (57) -1 to 30[15] TN (15)	-18 to 59[15] suspended (27) -2 to 14 total (4.5)	-18 to 40[15] (18)	0 to 73[15] (48)	5 to 50[16] (32)	19 to 91[17] (34)	23 to 78[18] (54)
Gasification of Solids (Belt system – Grinnells)	-	-	92.5	-	-	-	-	-
Insect Biomass from Solids (Belt System – LWFL)	-	80.2	56.0	-	-	75.4	76.2	75.8
"ISSUES"- Aerobic blanket	27.5	33.0	40.0	-	-	49.7	35.0	64.3
"ISSUES" – mesophilic digester/ microturbine/ water reuse system[19]	85.5	70.1	60.5	-	-	44.6	49.7	47.8
"ISSUES" – Permeable cover	46.3	51.5	81.3	-	-	81.0	86.3	93.7
"ORBIT"[20]	72	56	29 total	NR	NR	26	46	32
"RECIP"[21]	NR	88	48 total 94 suspended	83	NR	49	75	85
"SUPER SOILS"[22]	99	98	98 suspended 99 volatile	97	100	95	99	99
"Super Soils" Compost System	-	96.5 Recovery	-	-	-	100.0 Recovery	95.6 Recovery	99.6 Recovery
"AgriClean" Mesophilic digester and "AgriJet" flush system — MD	3	30	-	-	-	51	56	54
"AgriClean" Mesophilic digester and "AgriJet" flush system — Settling Tank	0.5	2	-	-	-	19	47	42
"Environmental Technologies" - Sustainable NC and Frontline Farmers project	-	-	-	-	-	99+[23] Recovery	99+[23] Recovery	99+[23] Recovery

[13] Values reflect reductions from EQ tank (post solids separation) through biofilter treatment of 2nd stage. Range and (mean) reductions for monthly averages (2/25/03 – 6/27/03) for Biofilters series A and B.
[14] Based on values in Table 1, page 18 of Project Investigator Final report.
[15] Based on values in Table A-4, page 31 of Project Investigator Final Report.
[16] Based on values in Table A-11, page 35 of Project Investigator Final Report.
[17] Based on values in Table A-17, page 36 of Project Investigator Final Report.
[18] Based on values in Table A-18, page 37 of Project Investigator Final Report.
[19] Values reflect reductions noted for primary technology only; water reuse not included
[20] Values reflect reductions from digester feedstock and post digestion.
[21] Values reflect reduction from Cell 1 influent (post solids separation) through Cell 2.
[22] Values reflect reduction from house effluent (pre solids separation) through P removal unit.
[23] Virtually all P, Cu, and Zn are recovered if the system is operated as planned because these species are not volatile and will only leave the system through the separated and settled solids.

Table 4. Environmentally Superior Technology candidate projects demonstrated odor reduction performance. Values shown are approximate average odor intensity ratings at 200 and 400 meters from odor source during the day and night where 0=none at all; 1=very weak, 2=weak; 3=moderately weak; 4=moderate; 5=moderately strong; 6=strong; 7=very strong; and 8=maximal. First value represents whole farm odor emissions; second value represents partitioned emissions from the technology treatment components targeted in the experiment.[1]

Technology	Day values 200m	Night values 200m	Day values 400m	Night values 400m
Conventional Technology (Stokes)	1.4 / 1.7	4.0 / 4.2	.57 / 0.5	3.2 / 3.3
Conventional Technology (Moore Bros.)	1.5 / 1.2	4.2 / 3.6	.64 / .46	3.4 / 3.1
Ambient Temperature Anaerobic Digester and Greenhouse for Swine Waste Treatment and Bioresource Recovery at Barham Farm	1.3 / 1.0	3.9 / 2.4	0.5 / 0.3	3.2 / 2.0
"ANT" Sequencing batch reactor system	1.4 / 1.7	3.4 / 4.0	.65 / .79	2.9 / 3.4
BELT (Grinnells lab, NCSU campus)	.04 / NA	1.9 / NA	0 / NA	0.9 / NA
BELT (LWRFLsite)	0.07 / NA	1.7 / NA	0 / NA	1.1 / NA
"BEST" (solids / liquids separation) Biomass Energy Sustainable Technology Site 1 (FAN® + TFS)	1.0 / 1.2	3.3 / 3.4	0..4 / 0.4	2.6 / 2.8
"BEST" (solids / liquids separation) Biomass Energy Sustainable Technology Site 2 (Filtramat™ + TFS)	1.0 / 1.0	3.0 / 2.8	0.4 / 0.3	2.5 / 2.1
Constructed wetlands / Solids separation	1.4 / 1.5	3.7 / 3.8	.70 / .67	3.0 / 3.1
"Ekokan" Biofiltration Technology	1.7 / 1.6	4.4 / 4.2	0.7 / 0.7	3.6 / 3.4
Gasification of Solids (Belt System – Grinnells)	NA / 0	NA / .04	NA / 0	NA / 0
Insect Biomass from Solids	NA / 0	NA / 1.1	NA / 0	NA /.38
"ISSUES"- Aerobic blanket (No IESS) (w/ IESS operational)	1.2 / 1.3 1.3 / 1.2	3.8 / 3.7 3.6 / 3.2	.57 / .46 .55 / .45	3.1 / 3.0 2.8 / 2.6
"ISSUES" – Permeable cover w/ Evaporation system	1.0 / 1.0 1.1 / 1.0	3.4 / 2.9 3.4 / 3.0	.45 / .33 .45 / .37	2.9 / 2.3 2.9 / 2.5
"ISSUES" – mesophilic digester/ microturbine/ w/ water reuse system	1.1 / 1.5 1.1 / 1.5	3.6 / 4.1 3.5 / 4.0	.47 / .58 .53 / .55	3.0 / 3.4 3.0 / 3.2
"ORBIT" High Solids Anaerobic Digester	0 / NA	1.4 / NA	0 /NA	0.8 / NA
"ReCip" Solids Separation – Reciprocating Wetland	0.8 / 0	2.5 / 1.5	0.3 / 0	2.1 / 0.9
"Super Soils" Solids Separation / Nitrification-Denitrification / Soluble Phosphorus Removal	1.2 / 0.8	3.6 / 2.6	0.4 / 0.9	2.9 / 2.0
"Super Soils" Compost System	NA / .63	NA / 2.7	NA / .04	NA / 1.9
"AgriClean" Mesophilic digester and "AgriJet" flush system	1.0 / 0.8	3.6 / 3.3	0.5 / 0.2	3.0 / 2.6
"Environmental Technologies" - Sustainable NC and Frontline Farmers project / Composter	0.7 / 0.7 / 0	3.0 / 3.1 / 0.2	0.2 / 0.2 / 0	2.3 / 2.4 / 0.04

[1] Values derived from Project Investigator data reports.

Table 5. Environmentally Superior Technology candidate projects demonstrated performance for reductions in pathogenic microorganisms. Values shown are approximate Log_{10} reductions in liquid or solid waste (based on waste stream focus of technology).[1]

Technology	Fecal Coliforms	E. coli	Enterococci	Cl. perfringens	Coliphage	Salmonella
Conventional Technology (Stokes)	1.7	1.8	1.6	0.8	1.5	1.9
Conventional Technology (Moore Bros.)	1.4	1.3	1.0	0.6	1.2	0.4
Ambient Temperature Anaerobic Digester and Greenhouse for Swine Waste Treatment and Bioresource Recovery at Barham Farm	4.1	5.2	4.9	2.8	3.7	4.8
"ANT" Sequencing batch reactor system SBR + Lagoons	1.7 3.0	1.7 2.9	2.8 3.0	0.6 0.5	1.9 2.0	0.9 1.2
BELT (Grinnells lab, NCSU campus)	0.0	0.0	-2.2	0.2	ND	1.0
BELT (LWRFLsite)	-0.6	-0.4	0.4	-0.6	-0.6	-0.4
BEST (Corbett #1): Solids separation - tangential flow separator combined with a fan separation system	0.2	0.3	0.1	0.0	0.4	0.1
BEST (Corbett #3/4): Solids separation - tangential flow separator combined with a screen and screw press system	0.4	0.2	0.7	-0.4	0.1	1.9
Constructed wetlands / Solid separation Liquid waste stream (only)	2.4 3.2	3.6 4.6	1.7 2.5	3.1 4.1	2.1 2.8	2.3 2.9
"Ekokan" Biofiltration Technology	1.5	1.3	1.1	0.7	1.8	1.8
Gasification of Solids / Belt System	2.2	1.9	2.7	3.1	-	-
Insect Biomass from Solids (Combined w/ belt)	-3.7 -3.6	-2.8 -2.5	-5.0 -4.7	-3.2 -4.0	1.1 -0.2	-1.0 -1.8
"ISSUES"- Aerobic blanket	1.7	2.3	2.2	0.9	1.8	2.0
"ISSUES" – Permeable cover w/ evaporation system	4.1 3.8	4.1 5.2	3.3 3.4	1.9 2.5	3.3 4.4	0.5 0.8
"ISSUES" – mesophilic digester/ microturbine w/ water reuse system	3.1 6.5	3.1 6.5	2.7 6.7	0.6 3.9	1.4 5.9	1.3 2.1
"ORBIT" High Solids Anaerobic Digester	4.4	4.3	3.2	1.0	1.8	2.4
"ReCip" Solids Separation – Reciprocating Wetland	1.6	1.7	0.9	0.7	0.8	1.8
"Super Soils" Solids Separation / Nitrification-Denitrification / Soluble Phosphorus Removal	4.4	4.2	4.0	1.4	3.0	3.4
"Super Soils" Compost System 30 day + curing	-0.2 3.5	1.1 3.9	0.3 2.3	2.4 3.9	2.3 2.6	0.7 1.2
"AgriClean" Mesophilic digester and "AgriJet" flush system	1.5	1.5	1.5	0.1	1.1	1.7
"Environmental Technologies" - Sustainable NC and Frontline Farmers project Composter	0.3 2.1	0.5 2.3	0.6 2.6	0.3 3.0	1.0 2.9	0.1 0.8

[1] Values derived from Project Investigator Final Report.

Table 6. Environmentally Superior Technology performance for ammonia reduction. Values shown are % reductions as compared to ammonia emissions from comparable conventional technology sites[1] (positive values indicate reductions in emissions, negative values indicate enhancement of emissions). (Table derived from project investigators report, see Appendix A. 9).
Note: Some of these values represent combined whole farm site emissions that are outside of the candidate EST unit process. For determination of EST for ammonia emissions, partitioned data regarding performance of the unit process was considered when possible.

Technology	% Reduction in Emissions from Water Holding Structures[2]		% Reduction in Barn Emissions		Total % Emission Reduction at Technology site[3,4]	
	— Season —					
	Warm	Cool	Warm	Cool	Warm	Cool
Ambient Temperature Anaerobic Digester and Greenhouse for Swine Waste Treatment and Bioresource Recovery at "Barham Farm"	-66.4	58.8	13.8	-21.5	-11.9	2.5
"ANT" Sequencing batch reactor system	31.5	-23.5	-95.0	98.0	-4.9	67.2
BELT (Grinnells lab, NCSU campus – research unit)[5]	-	-	-59.8	55.3	-59.8	55.3
BELT – NCSU LWRFL research unit[5]	-	-	-88.7	21.9	-88.7	21.9
BEST (Corbett #1): Solids separation - tangential flow separator combined with a fan separation system	71.1	13.6	73.0	97.0	71.8	66.0
BEST (Corbett #3/4): Solids separation - tangential flow separator combined with a screen and screw press system	39.6	7.4	-184.0	22.0	-29.2	17.0
Constructed wetlands / Solids separation	-41.8	-156.8	-59.4	-47.4	-50.9	-62.6
"Ekokan" Biofiltration Technology	71.7	42.7	-2.9	11.4	43.3	23.5
Gasification of Solids[5]	-	-	-	-	-	-
Insect Biomass from Solids[5]	-	-	-	-	-	-
"ISSUES"- Aerobic blanket	86.7	47.2	-16.3	-10.1	49.5	8.1
"ISSUES" – Permeable cover / evaporation system[6]	-143.8 / -1.4	44.7	0	81.0	-109.9	69.4
"ISSUES" – mesophilic digester/ microturbine	48.8	22.0	-37.0	86.0	31.1	54.0
"ORBIT" High Solids Anaerobic Digester[5]	-	-	-	-	-	-
"ReCip" Solids Separation – Reciprocating Wetland	18.2	-26.4	-40.0	62.0	0.0	20.9
"Super Soils" Solids Separation / Nitrification-Denitrification / Soluble Phosphorus Removal	94.7	99.0	-111.0	98.0	-1.9	98.5
Super Soils Composting[5]	-	-	-	-	-	-

[1]Conventional technology sites included a primary anaerobic lagoon and either tunnel (Moore Brothers farm) or naturally (Stokes farm) ventilated houses.
[2]Percent reductions in water holding structures are based against average lagoon ammonia emissions measured at both conventional farm sites for the respective season. Percent reductions in barn emissions are based against the conventional technology using the corresponding housing ventilation technique.
[3]Percent emission reduction figures are calculated using a precise algorithm that is documented in the respective reports for each technology. The summary numbers provided in this table should not be averaged or combined in any fashion across components of the technologies or across season.
[4]Unless otherwise noted, percent reduction in emissions from water holding structures means emissions from all measured structures at a technology were combined together for a single season to arrive at the single percetn reduction figure.
[5] This technology had no accompanying water holding structures or animal barns. This was due to the configuration and location of the technology.
[6] Right hand box represents the warm season evaluation of Harrell's with the irrigation system. The total emissions were not calculated for this evaluation as no barn measurements were taken at this time

Table 6 (continued)						
Technology	**% Reduction in Emissions from Water Holding Structures[2]**		**% Reduction in Barn Emissions**		**Total % Emission Reduction at Technology site[3,4]**	
	— Season —					
	Warm	**Cool**	**Warm**	**Cool**	**Warm**	**Cool**
"AgriClean" Mesophilic digester and "AgriJet" flush system	-	3.6	-	-7.5	-	-6.3
"Environmental Technologies" – Sustainable NC and Frontline Farmers project	-55.0	46.8	-58.0	92.0	30.7	18.5

Table 7. [redacted]vironmentally Superior Technology candidate project operational feasibility information.

Technology	Operator hours/week	Operator skills	Operator certification / license requirements
Conventional (Stokes)	10	Record keeping, irrigation equipment operation and maintenance. All aspects of planting, harvesting crops receiving lagoon effluent.	Licensed "Operator in Charge" per NCDENR requirements.
Conventional (Moore Bros.)	10	Record keeping, irrigation equipment operation and maintenance. All aspects of planting, harvesting crops receiving lagoon effluent.	Licensed "Operator in Charge" per NCDENR requirements.
Ambient Temperature Anaerobic Digester and Greenhouse for Swine Waste Treatment and Bioresource Recovery at "Barham Farm"	2.5 hours/week (for anaerobic digester, engine, generator, and nitrification biofilters only)	Trouble-shooting pumps, blower, and piping.	TBD[1]
"ANT" sequencing batch reactor system	< 20	HS education or higher with mechanical and electrical skills – working knowledge of physical and chemical lab tests – computer knowledge – capable of troubleshooting pumps and pipes	TBD – on-site training for 1 month
BELT (Grinnells lab)			TBD
BELT (LWR site)	1.0 (belt system to remove solids and liquid from barn only)	Trouble-shoot mechanical systems (motors and drive unit)	TBD
"BEST" Site 1 (FAN® + TFS)	14	Trouble-shooting pumps, equipment and electrical controls	TBD
"BEST" Site 2 (Filtramat™ + TFS)	16	Trouble-shooting pumps, equipment and electrical controls	TBD
Constructed wetlands / Solids separation	7	HS education and mechanical skills	None.
"EKOKAN"	20	Trouble-shooting pumps, equipment, electrical controls and computer controls. Knowledge of system operation and principles of nitrificaton treatment in order to make changes in operation if needed.	TBD
Gasification of Solids / Belt System	15 (farm) 40(centralized)	Record keeping, knowledge of gasification process, mechanical skills / more specialized for centralized facility	TBD
"ISSUES"- Aerobic blanket	5	HS education and mechanical skills– capable of troubleshooting pumps, pipes, and nozzles.	None.
"ISSUES" – Permeable cover	5	HS education and mechanical skills–capable of troubleshooting pumps, and pipes	None.
"ISSUES" – mesophilic digester/ microturbine/ water reuse system	30 - 40	HS education or higher with mechanical and electrical skills – computer knowledge – capable of trouble-shooting pumps and pipes	TBD (microturbine)
ORBIT	40	Mixes feedstocks, feeds digesters, performs lab tests, keeps records, operates forklift, maintains equipment, repairs equipment	TBD
"RECIP"	0.75 (ReCip Cells w/o solid separation only)	Trouble-shoot pumps and electrical controls	TBD
SUPER SOILS	20	Simple trouble-shooting, identification and reporting of problems, automation controls	TBD
"Super Soils" Compost System	13.3	HS education and mechanical skills	None. Operator receives 1-week training by company
"AgriClean" Mesophilic digester and "AgriJet" flush system	5	HS education and mechanical skills– capable of troubleshooting pumps, pipes, and nozzles.	
"Environmental Technologies" - Sustainable NC and Frontline Farmers project / Composter	20 - 30	HS education or higher with mechanical and electrical skills – computer knowledge – capable of trouble-shooting pumps and pipes	

[1] TBD = To be determined. Information provided by NCDENR indicated that currently the Water Pollution Control System Operators Certification Commission (WPCSOCC) is taking no action on classifying any of these systems until final determinations have been made. After determinations are made, it has been discussed that specific classifications will be made for each type of system using training materials developed by the technology providers and approved by the Division. The classifications will be specific to the technology and the certified operator must follow the training developed for the specific technology. All technology providers are required by their permit to develop and submit a comprehensive operator training program for approval if the system is to remain operational. The WPCSOCC rules allow for this type of classification based on treatment processes that are sufficiently different from the conventional treatment process (15A NCAC 8G .0308).

Table 8a. Predicted Annualized Incremental Costs[1] (Task 1) of the EST Candidate Technologies

Technology	Annualized Cost[1] ($ / 1,000 lbs. SSLW / year)
Baseline (lagoon and sprayfield)	$86.81
On-Farm Complete Systems	**Annualized Incremental Cost[1] ($ /1,000 lbs. SSLW / year)**
AgriClean	Insufficient data
ANT Sequencing Batch Reactor (SBR)	$221.43
Barham Farm	$89.17
Belt System	$89.39
BEST (FAN + TFS)	$114.56
BEST (Filtramat + TFS)	$146.50
Constructed Wetlands	$168.05
EKOKAN	$342.26
Environmental Technologies (Sustainable NC-Frontline Farmers)	$136.70
ISSUES Aerobic Blanket System (ABS)	$95.02
ISSUES Permeable Cover System (PCS)	$114.52
ISSUES RENEW	$125.93
Re-Cip	$143.21
Super Soils	$399.71
Separated Solids Treatment Systems (Add-On Technologies)[2,3] (assumes 0.43 dry tons of solids collected / 1,000 lbs. SSLW / year)	**Annualized Incremental Cost[1] ($ / 1,000 lbs. SSLW / year)**
BEST Idaho (centralized fluidized bed combustion facility)	$255.68
Gasifier (RE-Cycle)	$76.33
High Solids Anaerobic Digester (ORBIT)	$373.22
Insect Biomass from Solids (black soldier fly)	Insufficient data
Super Soils Composting Facility	$83.27

[1] Annualized costs as shown in this table are calculated for a 4,320-head finishing farm using a pit-recharge system of manure removal and nitrogen-based land application to forages.

[2] The annualized incremental costs for the solids treatment technologies include the avoided cost of on-farm land application of solids. That is, ($ / 1,000 lbs. SSLW / yr.) = ($ / dry ton technology cost - $ / dry ton avoided land application cost) * (dry tons of solids / 1,000 lbs. SSLW / yr.). By accounting for avoided land application costs, the incremental annualized costs for the solids treatment systems can be added directly to the incremental annualized costs for complete on-farm systems (which include the cost of land applying solids).

[3] See separate technology reports for additional analysis of break even prices for product sales.

Table 8b. Sensitivity Analysis on Solids Treatment Systems: The Impact of Solids Separation Rate on Annualized Incremental Costs ($ / 1,000 lbs. SSLW / year)

Technology	Moisture Content of Solids[1]	$ / Dry Ton[2] Treated/Processed	Low Separation Rate[3]	Medium Separation Rate[4]	High Separation Rate[5]
			(0.15 dry tons of solids / 1,000 lbs. SSLW / yr.)	(0.43 dry tons of solids / 1,000 lbs. SSLW / yr.)	(1.14 dry tons of solids / 1,000 lbs. SSLW / yr.)
	(%)	($ / dry ton)		$ / 1,000 lbs. SSLW / yr.	
BEST Idaho	70%	$597.38	$89.31	**$255.68**	$680.42
Gasifier	50%	$178.35	$26.75	**$76.33**	$203.14
ORBIT HSAD	70%	$872.15	$130.82	**$373.28**	$993.38
Super Soils composting facility	83%	$194.56	$29.18	**$83.27**	$221.60

Note: These costs are based on demonstrated performance and cost data (usually from pilot-scale or prototype systems). Solids treatment technology providers have proposed steps to reduce the costs of these systems in future generations of their technologies. All of these solids treatment technologies also have an associated proposed by-product revenue stream. If product revenue exceeds breakeven prices for solids treatment, the incremental cost of solids treatment could become negative; that is, a net revenue. See the Task 1 Final Reports for these technologies for detailed breakeven analyses, a discussion of potential revenue streams, and the costs and returns of proposed next-generation solids treatment systems

Note: The numbers in bold face (medium separation rate) represent the numbers that are reported in the Task 1 summary table for solids treatment technologies.

[1] Moisture content of separated solids has a significant effect on the cost per dry ton of solids treatment systems. The costs reported in this table assume the moisture content that is listed in this column. Changing this assumption changes the predicted costs reported in this table.

[2] The costs in this column reflect the per-dry-ton technology cost minus the avoided per-dry-ton cost of on-farm land application of solids.

[3] Low separation rate corresponds to performance data collected from the BEST FAN + TFS separator as operated at Corbett Farm #1. Among the EST separators, the EKOKAN separator had the lowest modeled separation rate at 90 dry lbs. of solids (0.045 dry tons) / 1,000 lbs. SSLW / yr.

[4] Medium separation rate corresponds to performance data collected from the Environmental Technologies, Inc. separator as operated at Chuck Stokes Farm.

[5] High separation rate corresponds to performance data collected from the Super Soils separator as operated at Goshen Ridge Farm. Among the EST separators, the belt system had the highest modeled separation rate at 2,990 dry lbs. of solids (1.495 dry tons) / 1,000 lbs. SSLW / yr.

Table 8c. Effect of Changes in Assumed Interest Rate, Expected Economic Life, and Overhead Rate on Predicted Annualized Direct Construction and Overhead Costs for the EST Candidate Technologies: On-Farm Systems

Technology	6% Interest Rate, 15-Year Life, 20% Overhead Rate	8% Interest Rate, 10-Year Life, 43.1% Overhead Rate	10% Interest Rate, 7-Year Life, 43.1% Overhead Rate
		$ / 1,000 lbs. SSLW / yr.[1]	
Baseline (lagoon and sprayfield)	$30.09 (-41.6%)	$51.52	$70.79 (+37.4%)
AgriClean	Insufficient data	Insufficient data	Insufficient data
ANT Sequencing Batch Reactor (SBR)	$106.25 (-31.8%)	$155.71	$198.42 (+27.4%)
Barham Farm	$30.66 (-41.4%)	$52.34	$71.49 (+36.6%)
Belt System	$38.90 (-31.4%)	$56.71	$71.04 (+25.3%)
BEST (FAN + TFS)	$53.51 (-36.5%)	$84.29	$111.92 (+32.8%)
BEST (Filtramat + TFS)	$69.90 (-35.3%)	$108.12	$141.69 (+31.0%)
Constructed Wetlands	$85.31 (-42.1%)	$147.25	$202.96 (+37.8%)
EKOKAN	$114.14 (-37.7%)	$183.31	$245.70 (+34.0%)
Environmental Technologies Closed-Loop System	$50.04 (-36.3%)	$78.58	$103.73 (+32.0%)
ISSUES Aerobic Blanket System (ABS)	$44.19 (-40.3%)	$74.00	$100.67 (+36.0%)
ISSUES Permeable Cover System (PCS)	$53.16 (-39.5%)	$87.86	$118.83 (+35.2%)
ISSUES RENEW	$62.95 (-34.4%)	$95.95	$124.88 (30.2%)
Re-Cip	$65.42 (-42.5%)	$113.71	$158.36 (+39.3%)
Super Soils	$157.80 (-40.2%)	$263.78	$362.47 (+37.4%)

Note: The numbers in parenthesis represent the percent change from the standard assumptions used in the individual technology reports and cited in Appendix A of the Combined Appendices Report (8% interest rate, 10-year economic life, 43.1% overhead rate).

[1] Annual construction and overhead costs as shown in this table are calculated for a standardized 4,320-head finishing farm using a pit-recharge system of manure removal. These cost estimates include only direct construction and overhead costs. They exclude operating costs, change in land application costs, and returns. Expected economic life is the minimum of the technical useful life of the device (e.g. lagoon, pump, et cetera), the period for which the pig farm remains in production, the period until the device is rendered obsolete (by changes in regulations or technology or prices or other factors), or any other period that ends with the technology no longer being used to produce pigs. Note that this sensitivity analysis is not intended to propose alternative costs and returns estimates. It is solely intended to illustrate the sensitivity of the predicted results to changes in parameter values.

Table 8d. Effect of Changes in Assumed Interest Rate, Expected Economic Life, and Overhead Rate on Predicted Annualized Direct Construction and Overhead Costs for the EST Candidate Technologies: Separated Solids Treatment (Add-On) Systems

Technology	6% Interest Rate, 15-Year Life, 20% Overhead Rate	8% Interest Rate, 10-Year Life, 43.1% Overhead Rate	10% Interest Rate, 7-Year Life, 43.1% Overhead Rate
	$ / 1,000 lbs. SSLW / yr.[1,2]		
BEST Idaho (centralized fluidized bed combustion facility)	$63.60 (-42.1%)	$109.86	$151.41 (+37.8%)
Gasifier (RE-Cycle)	$6.83 (-42.1%)	$11.79	$16.25 (+37.9%)
High Solids Anaerobic Digester (ORBIT)	$155.83 (-42.1%)	$269.13	$370.94 (+37.8%)
Insect Biomass from Solids (black soldier fly)	Insufficient data	Insufficient data	Insufficient data
Super Soils Composting Facility	$41.59 (-32.3%)	$61.42	$78.17 (+27.3%)

Note: The numbers in parenthesis represent the percent change from the standard assumptions used in the individual technology reports and cited in Appendix A of the Combined Appendices Report (8% interest rate, 10-year economic life, 43.1% overhead rate).

[1] Annual construction and overhead costs as shown in this table are calculated for a 4,320-head finishing farm using a pit-recharge system of manure removal. These cost estimates include only direct construction and overhead costs. They exclude operating costs, change in land application costs, and returns. Expected economic life is the minimum of: the technical useful life of the device (e.g. lagoon, pump, et cetera), the period for which the pig farm remains in production, the period until the device is rendered obsolete (by changes in regulations or technology or prices or other factors), or any other period that ends with the technology no longer being used to produce pigs. Note that this sensitivity analysis is not intended to propose alternative costs and returns estimates. It is solely intended to illustrate the sensitivity of the predicted results to changes in parameter values.

[2] The annual cost estimates reported in this table were calculated using a solids collection rate of 0.43 dry tons of solids collected per 1,000 pounds of SSLW per year. This is referred to as 'medium separation rate' in the table "Sensitivity Analysis on Solids Treatment Systems: The Impact of Solids Separation Rate on Annualized Incremental Costs." Please refer to this table for additional analyses of the solids treatment systems.

Table 9. Percent Change[1] in Predicted North Carolina Market Quantities (1,000 lbs. of weight marketed) in the Short, Intermediate, and Long Runs for Selected Incremental Costs

Incremental Cost[2]	Predicted Short Run Reduction	Predicted Intermediate Run Reduction	Predicted Long Run Reduction	Predicted Annual Cost Incurred by Remaining Producers[3]
$ /1,000 pounds SSLW / year	% reduction in North Carolina market quantities (1,000 pounds of weight marketed per year)			$ / year
$440.89	15.5%	49.1%	62.7%	$384,662,000
$396.80	14.0%	44.2%	56.4%	$366,763,000
$352.71	12.4%	39.3%	50.2%	$345,338,000
$308.62	10.9%	34.4%	43.9%	$319,953,000
$264.53	9.3%	29.5%	37.6%	$290,743,000
$220.45	7.8%	24.6%	31.3%	$256,475,000
$176.36	6.2%	19.7%	25.1%	$215,841,000
$132.27	4.7%	14.7%	18.8%	$170,141,000
$88.18	3.1%	9.8%	12.5%	$118,936,000
$44.09	1.6%	4.9%	6.3%	$62,224,000

1. Percent reductions are calculated using the Task 2 software model (Swine Waste Management Simulator). Incremental costs are calculated using the actual predicted (Task 1) cost distribution for the Super Soils technology on representative farms, assuming implementation by all North Carolina farms (see Table SS.94 in the Task 1 Super Soils Final Report). Refer to Tables VI.66-VI.78 in the Final Task 2 Report (Wohlgenant) for a detailed breakdown of percent reductions across type/size combinations for the Super Soils technology. The numbers in Tables VI.68-VI.78 will correspond to the numbers in row 1 ($440.89) of the above table. If assuming a different technology (and thus a different cost function/distribution of costs across types/sizes) or implementation by company-owned farms only, the predicted percent reductions will differ from those reported in the above table.
2. Incremental costs in this column represent the annualized cost of constructing and operating the Super Soils technology on a 5,280-head finishing farm using a pit-recharge system for manure removal and N-based land application to forages.
3. The annual cost ($ / year) incurred by remaining North Carolina producers is calculated as the summed products of incremental costs ($ / 1,000 pounds SSLW / year) and remaining inventories (1,000 pounds SSLW) across 21 type/size combinations. These calculations can be replicated using the Task 2 software model (Swine Waste Management Simulator).

EXHIBIT D-2

NCDENR

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

October 15, 2005

TO: Senator Dan Clodfelter
Senator Charlie Albertson
Representative Pryor Gibson

FROM: William G. Ross Jr., Secretary

RE: Animal Waste Management Annual Report

G.S. 143-215.10M requires the Department of Environment and Natural Resources to report to the Environmental Review Commission each year on permitting, inspection, and compliance activity of animal waste operations across the state. Attached is this year's report. If you have any questions please contact Paul Sherman at (919) 715-6697.

Attachment

cc: Alan W. Klimek, P.E.

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STATUS OF PERMITTING AND INSPECTING ANIMAL WASTE MANAGEMENT SYSTEMS

ANIMAL WASTE COMPLIANCE REPORT

JULY 1, 2004 – JUNE 30, 2005

REFERENCE:
G.S. 143-215.10M

Status of permitting and inspecting animal waste management systems/Animal Waste Compliance Report for Period Beginning July 1, 2004 and Ending June 30, 2005

SUMMARY

Pursuant to G.S. 143-215.10M, the Department of Environment and Natural Resources submits the subject annual report.

This report details the inspections and operational reviews completed in North Carolina during the fiscal year 2004 for both the Division of Water Quality and the Division of Soil and Water Conservation. The tables show the type of inspection and the number of inspections completed. The Pilot Project conducted by the Division of Soil and Water Conservation is still in effect for 2004.

The tables show the number of permits issued by region and statewide for the fiscal year 2004. The tables also show permits issued by type of operation: swine, cattle, and poultry.

The report details the number and type of violations identified during inspections. The tables show the number of facilities receiving a notice of deficiency or violation, and the number of enforcement actions initiated during fiscal year 2004. The violation data is broken down by region and by type of operation.

The enclosed tables list totals for each of the Department's Regional Offices as well as state totals. The Regional Offices are noted as follows: ARO – Asheville Regional Office, FRO – Fayetteville Regional Office, MRO – Mooresville Regional Office, RRO – Raleigh Regional Office, WARO – Washington Regional Office, WIRO – Wilmington Regional Office, and WSRO – Winston-Salem Regional Office.

Historical trends are included at the end of the report for reference.

If there is a need for any additional information or clarification, please do not hesitate to contact us.

For Period Beginning July 1, 2004 and Ending June 30, 2005*

	ARO	FRO	MRO	RRO	WARO	WIRO	WSRO	State Totals
Total number of Animal Operations Requiring Inspections and Operation Reviews during 2004	30	763	106	265	568	687	105	2524
DWQ Total number of inspections completed	29	827	93	272	548	598	98	2465
Routine DWQ annual compliance inspections	25	743	93	231	500	565	97	2254
Inspections conducted due to complaints	0	14	0	4	1	6	1	26
Follow-up of previous review or inspection	0	38	0	19	17	7	0	81
Emergency Notification	0	8	0	3	7	3	0	21
Lagoon Evaluations	0	2	0	3	1	1	0	7
Other inspections	4	22	0	12	22	16	0	76
DSWC Total number of compliance inspections completed** (Brunswick, Columbus, and Jones County Only)	-	-	-	-	60	70	-	130
Routine DSWC annual compliance inspections	-	-	-	-	42	61	-	103
Inspections conducted due to complaints	-	-	-	-	0	1	-	1
Follow-up of previous review or inspection	-	-	-	-	6	1	-	7
Emergency Notification	-	-	-	-	0	0	-	0
Response to DWQ Referral	-	-	-	-	1	0	-	1
Other	-	-	-	-	11	7	-	18
DSWC Total number of operation reviews completed	9	623	60	182	544	593	104	2115
Routine operation reviews	9	618	60	172	509	566	104	2038
Technical Assistance	0	2	0	9	7	20	0	38
Follow-up of previous review	0	3	0	0	6	4	0	13
Response to DWQ Referral	0	0	0	0	0	1	0	1
Other inspections	0	0	0	1	22	2	0	25
Other Agency Total number of operation reviews completed***	7	0	6	50	11	75	0	149
Routine operation reviews	7	0	6	50	11	67	0	141
Technical Assistance	0	0	0	0	0	8	0	8

*Numbers are reported as of 9/30/05 and may vary from actual due to delays in data entry and continued refinements to database.

** Pilot Project. Compliance Inspections will only be conducted in Brunswick, Columbus, and Jones County by DSWC. Operation reviews are normally conducted in the Pilot Counties in the spring and compliance inspections are conducted in the fall. As of July 1, 1999, Brunswick County became part of the Pilot Project.

***Other Agencies include Soil and Water Conservation Districts and NRCS.

For Period Beginning July 1, 2004 and Ending June 30, 2005

	ARO	FRO	MRO	RRO	WARO	WIRO	WSRO	State Totals
Number of Permits Issued to Animal Operations	20	380	115	184	282	364	103	1448
Swine	1	375	12	143	278	364	19	1192
Cattle	19	4	102	38	3	0	83	249
Poultry	0	1	1	3	1	0	1	7

For Period Beginning July 1, 2004 and Ending June 30, 2005

	ARO	FRO	MRO	RRO	WARO	WIRO	WSRO	State Totals
Deficiencies and Violations[1] found during DSWC operation reviews and DWQ inspections*	10	120	9	49	80	67	14	349
Number of facilities receiving a deficiency or violation from inspections	15	52	11	19	40	23	10	170
Enforcement actions initiated for violations noted during this quarter**	1	18	0	6	5	5	4	39

*Violation totals include violations noted during both operation reviews and compliance inspections and may include multiple violations at a single facility.

**Enforcement actions being developed by the regional staff are normally not shown as actions initiated during that quarter. These actions will be included in the next year to date totals.

For Period Beginning July 1, 2004 and Ending June 30, 2005

Deficiencies and Violations Identified[1]	Total number of inspections with identified problem	Percent of total problems identified	Percent of total inspections completed (4,859)
Discharges from Animal Waste Management System	71	20.3	1.5
Of the total discharges identified, the number of discharges that reached surface waters of the state	(29)***	(8.3)	(0.6)
Inadequate Freeboard (Certified Farms)	82	23.5	1.7
Of the total inspections identified with inadequate freeboard, the number of inspections with freeboard noted at less than 1 foot	(23)	(6.6)	(0.5)
No Certified Operator in Charge	16	4.6	0.3
Evidence of over application	120	34.4	2.5
Does not meet setbacks	6	1.7	0.1
Inadequate land	2	0.6	0.1
Crop differs from that stated in Certified Animal Waste Management Plan	52	14.9	1.1
Totals	349****	100	

***Of the 29 discharges to surface waters, 26 were from swine operations, 2 were from poultry operations, and 1 was from a cattle operation.

**** 4,859 inspections and reviews were conducted. There were 7 potential problems evaluated on each report. Therefore the total possible deficiencies and violations that could have been noted was 34,013. The 349 problems identified represents 1.03% of the total potential number.

For Period Beginning July 1, 2004 and Ending June 30, 2005

TOTAL NUMBER OF INSPECTIONS WITH IDENTIFIED PROBLEM								
Deficiencies and Violations[1] Identified	**ARO**	**FRO**	**MRO**	**RRO**	**WARO**	**WIRO**	**WSRO**	**State Totals**
Discharges from Animal Waste Management Systems	2	30	3	13	17	5	1	71
Of the total discharges identified, the number of discharges that reached surface waters of the state	(0)	(14)	(1)	(6)	(6)	(1)	(1)	(29)
Inadequate Freeboard (Certified Farms)	7	12	4	17	20	21	1	82
Of the total inspections identified with inadequate freeboard, the number of inspections with freeboard noted at less than 1 foot	(1)	(2)	(1)	(11)	(5)	(2)	(1)	(23)
No Certified Operator in Charge	1	0	0	10	5	0	0	16
Evidence of over application	0	55	0	7	29	22	7	120
Does not meet setbacks	0	3	0	0	1	1	1	6
Inadequate land	0	0	0	1	1	0	0	2
Crop differs from that stated in Certified Animal Waste Management Plan	0	20	2	1	10	15	4	52
Totals	10	120	9	49	80	67	14	349

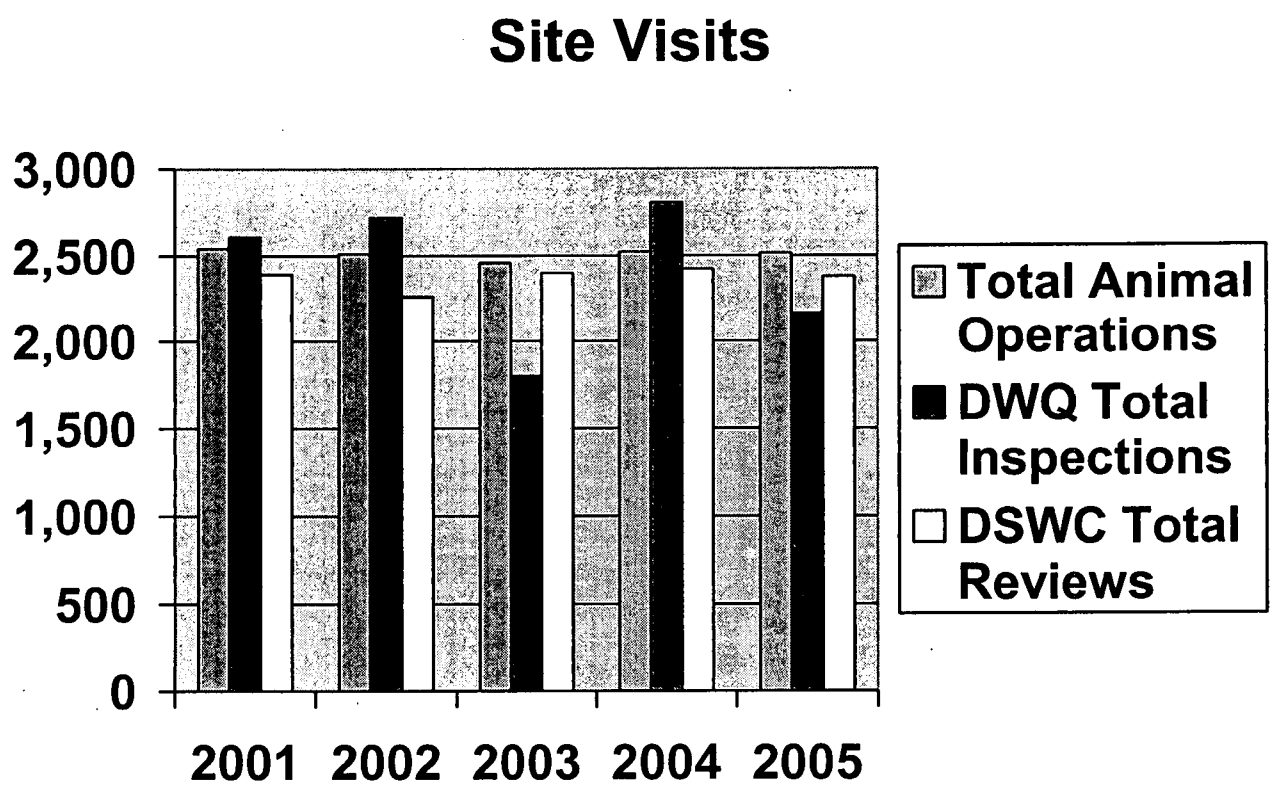
For Period Beginning July 1, 2004 and Ending June 30, 2005

TOTAL NUMBER OF INSPECTIONS WITH IDENTIFIED PROBLEM					
Deficiencies and Violations Identified[1]	**Swine**	**Cattle**	**Poultry**	**Horses**	**State Totals**
Discharges from Animal Waste Management System	63	5	3	0	71
Of the total discharges identified, the number of discharges that reached surface waters of the state	(26)	(1)	(2)	(0)	(29)
Inadequate Freeboard (Certified Farms)	58	11	13	0	82
Of the total inspections identified with inadequate freeboard, the number of inspections with freeboard noted at less than 1 foot	(11)	(2)	(10)	(0)	(23)
No Certified Operator in Charge	13	1	2	0	16
Evidence of over application	113	7	0	0	120
Does not meet setbacks	5	1	0	0	6
Inadequate land	2	0	0	0	2
Crop differs from that stated in Certified Animal Waste Management Plan	45	5	2	0	52
Totals	299	30	20	0	349

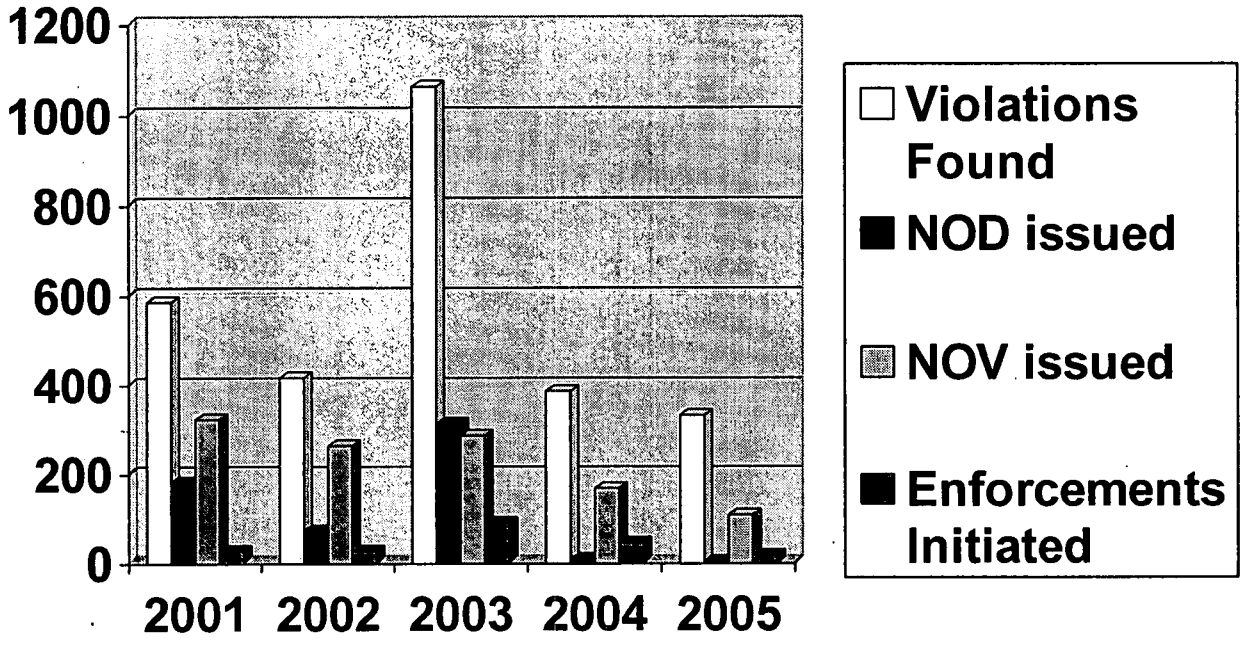
[1] From the period of 7/1/04 through 6/30/05, DWQ has issued approximately 170 Notice of Violations. This number can only be estimated due to the slight time delay between the issuance of a NOD or NOV from the DWQ regional staff, and the receiving of the copy of the letter by the DWQ Central Office.

Historical Trends

	2001	2002	2003	2004	2005
Total Animal Operations	2,544	2,512	2,461	2,524	2,517
DWQ Total Inspections	2,610	2,720	1,800	2,808	2,168
DSWC Total Reviews	2,394	2,266	2,402	2,429	2,382
Violations Found	586	416	1,060	383	331
NOD issued	181	71	310	6	2
NOV issued	321	262	285	164	105
Enforcements Initiated	23	24	89	43	16
Penalties Assessed	$149,500	$107,440	$356,972	$156,733	$69,622



Violations



Penalty Amounts

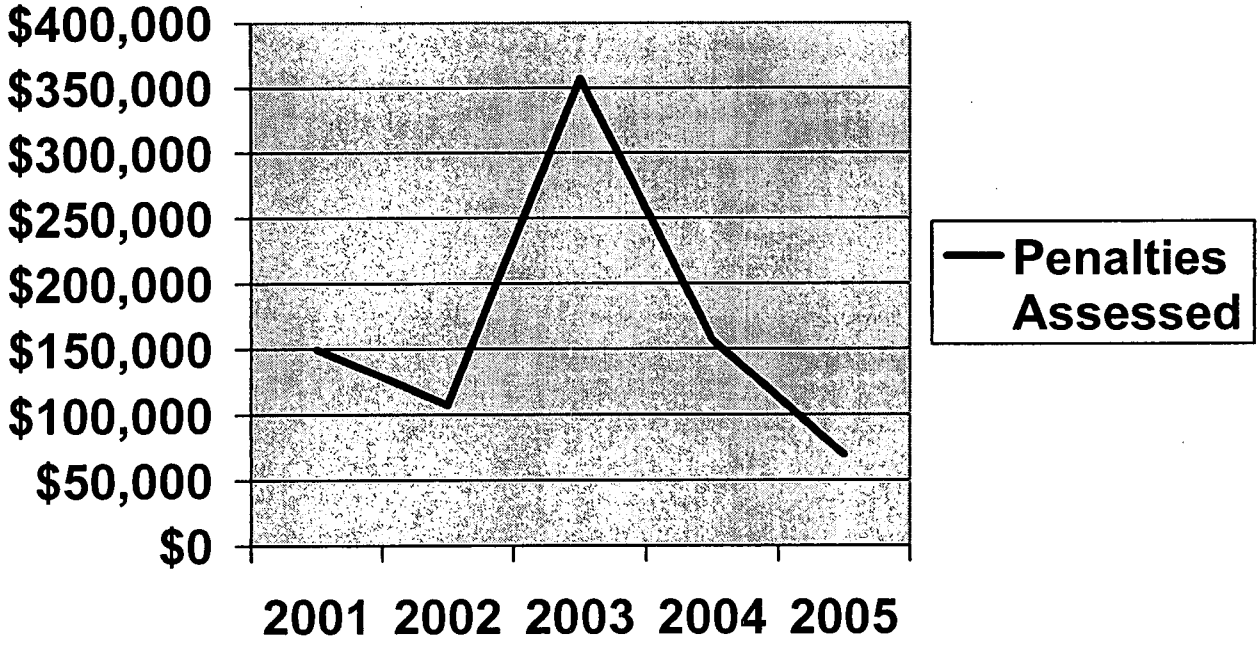


EXHIBIT D-3

NCDENR

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

Oct. 1, 2005

To: Sen. Daniel Clodfelter
Sen. Charles Albertson
Rep. Pryor Gibson

From: Secretary Bill Ross

Subject: Discharging Facilities Report

G.S. 143-215.9A requires the Department of Environment and Natural Resources each year to submit to the Environmental Review Commission a report on the status of facilities discharging into surface waters. Attached is this year's report. If you have any questions, please contact Paul Rawls at 919-733-7015.

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Status Report on Individually Permitted Discharging Systems For the Period Beginning July 1, 2004 and Ending June 30, 2005.

Summary

North Carolina General Statute (N.C.G.S.) 143-215.9A requires the Department of Environment and Natural Resources to report to the Environmental Review Commission and the Fiscal Research Division on the status of facilities discharging into surface waters during the previous fiscal year. Facilities discharging into surface waters are required by N.C.G.S. 143-215.1 to first apply for and secure a permit from the Environmental Management Commission. As a result, the data provided within this fiscal report is captured for those facilities individually permitted with National Pollutant Discharge Elimination System (NPDES) permits.

The enclosed report details the inspections completed and the enforcement actions taken in North Carolina during fiscal year 2004-2005 by the Division of Water Quality. In addition, information on Special Orders by Consent is included. The report also includes a table showing the number of permits issued by region.

The enclosed tables list totals for each of the Department's regional offices as well as State totals. The regional offices are noted as follows:

- ARO – Asheville Regional Office
- FRO – Fayetteville Regional Office
- MRO – Mooresville Regional Office
- RRO – Raleigh Regional Office
- WARO – Washington Regional Office
- WIRO – Wilmington Regional Office
- WSRO – Winston-Salem Regional Office

If any additional information or clarification is needed, please contact Vanessa Manuel at 919/733-5083, extension 532.

Table 1
Status of Civil Penalty Assessments
For the Period Beginning July 1, 2004 and Ending June 30, 2005*

	ARO	FRO	MRO	RRO	WARO	WIRO	WSRO	State Totals
Total Number Of Enforcement Actions Assessed	**46**	**61**	**72**	**166**	**59**	**52**	**104**	**560**
Total Number Of Enforcement Actions Assessed By The Central Office+	7	4	5	28	3	1	10	**58**
Total Number Of Enforcement Actions Assessed By The Regional Supervisors	39	57	67	138	56	51	54	**462**
Enforcement Actions Generated From Limit &/or Monitoring Violations	39	53	66	137	54	51	54	**454**
Enforcement Actions Generated From Other Permit Condition Violations	7	8	6	29	5	1	10	**66**
Total Civil Penalties Assessed	$51,084.48	$79,363.65	$70,762.27	$189,827.31	$68,818.34	$58,188.66	$162,198.72	**$680,243.43**
Total Civil Penalties Collected	$56,684.44	$96,649.05	$77,858.62	$147,021.71	$66,045.23	$78,828.21	$215,885.95	**$738,973.21**
Remission & Contested Case Responses to Enforcement Actions								
Total Number Of Remission Requests	17	14	10	25	10	9	14	**99**
Total Number Of Enforcement Actions With Partial Or Full Remission By The Director	10	2	2	9	8	5	4	**40**
Total Number Of Remission Requests Pending The Director's Decision	16	16	5	20	10	10	16	**93**
Total Number Of Remission Requests Pending The EMC's Final Agency Decision	16	21	17	30	10	10	17	**121**
Total Number Of Contested Cases (known at this time)	0	0	1	6	0	0	0	**7**

* Fiscal Year numbers are reported as of 7/26/2005 and may vary from actual due to delays in data entry.

+ Includes assessments by the Environmental Sciences Section.

Table 2
Status of Individually Permitted Facilities
For the Period Beginning July 1, 2004 and Ending June 30, 2005*

	ARO	FRO	MRO	RRO	WARO	WIRO	WSRO	State Totals
Total Number Of Individually Permitted Facilities	**282**	**88**	**260**	**198**	**134**	**127**	**271**	**1360**
Major Municipal Permitted Facilities	19	19	28	31	15	12	25	**149**
Major Non-Municipal Permitted Facilities	15	9	18	7	9	12	8	**78**
Minor Municipal Permitted Facilities	25	21	26	16	23	16	23	**150**
Minor Non-Municipal Permitted Facilities	223	39	188	144	87	87	215	**983**
Number Of NPDES Permits Issued	**45**	**38**	**94**	**43**	**30**	**18**	**40**	**308**
Major Municipal Permits Issued	3	8	10	6	5	6	3	**41**
Major Non-Municipal Permits Issued	3	2	8	1	5	1	2	**22**
Minor Municipal Permits Issued	5	11	8	6	3	3	2	**38**
Minor Non-Municipal Permits Issued	34	17	68	30	17	2	33	**201**
Total Number Of Compliance Evaluation Inspections Completed	230	65	171	202	61	165	279	1173
Total Number Of Other Inspections Completed	82	25	54	65	15	17	42	300

Table 3
Status of Special Orders By Consent (SOCs)
For the Period Beginning July 1, 2004 and Ending June 30, 2005*

	ARO	FRO	MRO	RRO	WARO	WIRO	WSRO	State Totals
Total Number of Individually Permitted Facilities With Active SOCs	1	3	3	5	7	4	19	**42**
Total Number of Individually Permitted Facilities Requesting New or Amended SOCs	1	6	4	5	5	2	14	**37**

* Fiscal Year numbers are reported as of 7/26/2005 and may vary from actual due to delays in data entry.

EXHIBIT D-4

NCDENR

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

November 1, 2005

To: Senator Dan Clodfelter
Senator Charlie Albertson
Representative Pryor Gibson

From: Secretary Bill Ross

Subject: Title V Air Quality Report

G.S. 143-215.3A(c) requires the Department of Environment and Natural Resources annually to submit to the Environmental Review Commission a report on the cost of the Title V air quality program. Attached is this year's report. If you have any questions, please contact Charles Valrie at (919) 715-6281.

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STATE OF NORTH CAROLINA

TITLE V AIR QUALITY PERMIT PROGRAM

ACCOUNTABILITY REPORT

PURSUANT TO

N.C.G.S. 143-215.3A(c)

15A NCAC 2Q .0206(f)

40 CFR 70.9

NOVEMBER - 2005

DIVISION OF AIR QUALITY

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

B. Keith Overcash, P.E.
Director

EXECUTIVE SUMMARY

The Clean Air Act Amendments of 1970, reviewed and amended by Congress in 1977 and 1990 formed the basis of the federal air pollution control currently in place. Health-based national ambient air quality standards are the strategic basis of the Clean Air Act. The standards were to be met through the application of control technology that would reduce emissions continuously and result in improved air quality. Costs of technological capability were to be subordinated to public health protection requirements. Also, all requirements were to be national, with no facility having a competitive edge by having to meet less stringent controls. The Environmental Protection Agency (EPA) is responsible for carrying out the program.

Prior to the 1990 Clean Air Amendments, EPA set two kinds of National Ambient Air Quality Standards (NAAQS) specifying maximum acceptable levels of pollutants for outdoor air. Primary standards set limits that protect human health; secondary standards provide welfare protection (i.e. plants, animals, aesthetics and materials). EPA set primary and secondary standards for six criteria pollutants: carbon monoxide, nitrogen dioxide, lead, sulfur dioxide, ozone and particulates. Eight substances were listed as hazardous air pollutants: asbestos, beryllium, mercury, vinyl chloride, radionuclides, inorganic arsenic, benzene, and coke oven emissions. National Emissions Standards for Hazardous Pollutants (NESHAPS) were promulgated for sources of seven of these pollutants.

Most air pollution comes from either stationary sources, such as factories, power plants and smelters, or mobile sources such as cars, trucks and airplanes. To limit mobile source pollution, controls were established for automobile emissions. EPA also set standards that applied to new industrial plants and existing ones that were substantially modified. Additionally, state governments were required to draw up State Implementation Plans (SIP's) that set out other measures to achieve acceptable air quality.

Under the Federal Clean Air Act Amendments of 1990 Congress mandated the Title V Permit Program primarily for regulating major air pollution sources; that is, sources with greater than 100 tons per year of the six criteria air pollutants and/or greater than 10 tons per year of any of the 189 Hazardous Air Pollutants (HAPs) or 25 tons per year of combined HAPs. The North Carolina Environmental Management Commission (EMC) established the state Title V Permit Program in 1994 in accordance with state and federal laws and with guidance from the N.C. Clean Air Act Advisory Council. The state Division of Air Quality (DAQ) carries out the program, which received interim approval from the U.S. Environmental Protection Agency (EPA) on December 15, 1995 and final approval in October 2001.

The DAQ in implementing the program was required to issue permits to existing major stationary facilities. The DAQ issued all permits to all existing facilities by the end of 2004 (meeting a goal described in earlier reports). The DAQ is also required to issue permits to new sources. There are a total of 81 new facilities identified at this time of which 62 have received permits.

A national authority has succinctly described both the background and three fundamental purposes of the Title V program as follows:

"During the legislative debates preceding the passage of the CAA Amendments of 1990, Congress confronted the problem most facilities, state regulators, and concerned citizens had with the then existing state air quality permitting programs. The myriad of both federal and state requirements, including emission standards, monitoring standards, record keeping, and reporting requirements were difficult to reconcile, properly apply, and difficult to enforce. Congress looked to the existing federal permitting program authorized under the Clean Water Act ("CWA") when crafting a solution but added some fundamental changes. First, the permit would be a stand-alone comprehensive document to which all parties could look to determine a facility's CAA obligations. Second, the permit would be designed with compliance as its primary goal. To that end, Congress included sufficient authority to empower state agencies to include monitoring and record keeping sufficient to determine compliance with the emissions standards. Finally, the program would require Title V permit holders to certify compliance with the terms and conditions of the permit so their legal exposure would be sufficiently severe to motivate compliance with their requirements. Enforcement provisions were added to achieve this goal."

The Clean Air Act requires that permit fees cover the entire cost of the Title V Program. The fees consist of a base fee and a fee derived from the actual annual emissions of each Title V source in the state. Currently emission fees, last set in 2001, are $17.42 per ton. In North Carolina, the revenue raised from Title V permit fees is close to the estimated cost of the program. This is true even though the total fees collected are only about 67 percent of the minimum fees presumed necessary to run the program under the Federal Clean Air Act. Many other states charge the minimum presumptive fee, which is $38.29 per ton.

The permanent staff size for carrying out North Carolina's Title V program will be reevaluated considering the current number of permit applications, the known program requirements, and the DAQ's experience with the program. Contract personnel were, until December 2002, used to assist in the completion of the work on the initial round of permit applications. Now that the initial Title V permits have been issued and experience has been gained, a workload analysis to assess staff resources will be developed. (Refer to the "Accomplishments and Goals" section).

The following additional points are provided to clarify/highlight the information provided in this report:

- The issuance of initial permits is now complete. The staff is now directing their attention to other additional program requirements. The modifications and renewals and the implementation of additional programmatic requirements are more difficult than anticipated.

- The division has been able to run a fiscally sound program collecting less in fees than was authorized by the oversight committee at the start of the program.

- The break down of staff between the central office and the regional offices has apparently been adequate to cover the needs of the division to date; however, the current staff distribution will be reviewed. Now that issuance of the initial Title V Permits is complete, the Title V permitting staff is concentrating on permit renewals, permit modifications, and permits for new sources. The increasing complexity of the program is proving to be much more time intensive for the Title V permitting staff than originally anticipated.

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INTRODUCTION

This Accountability Report describes the Title V Permit Program in North Carolina as carried out by the Division of Air Quality, Department of Environment and Natural Resources. The report focuses on funding and staffing issues. It does not cover Title V permit programs under the jurisdiction of local air pollution control programs in Buncombe, Forsyth, and Mecklenburg counties.

Congress established the Title V Permit Program under the Federal Clean Air Act (1990 Amendments), primarily as a way to regulate major air pollution sources. Under the Clean Air Act, Title V Permits are required for certain industry groups as designated by the EPA as well as facilities that emit at least:

- 100 tons per year of regulated pollutants; or
- 10 tons per year of any hazardous air pollutant; or
- 25 tons per year of any combination of hazardous air pollutants.

In North Carolina, the General Assembly enacted laws in 1991 and 1993 authorizing the Title V program. The legislature also established the North Carolina Clean Air Act Advisory Council to develop the programs needed to comply with the Clean Air Act, including the structure of the Title V permit fees. The Clean Air Act Advisory Council issued a final report in August 1992, and the Environmental Management Commission followed the council's recommendations in adopting rules for the state Title V Permit Program in 1994. The EPA gave interim approval to North Carolina's Title V Permit Program on December 15, 1995, with final approval pending certain rules changes, which have been submitted to EPA. EPA gave final approval, in October 2001.The Clean Air Act as well as the N.C. General Assembly, the EPA, the EMC and the Clean Air Act Advisory Council all required or recommended accountability measures for the state Title V program. This Accountability Report includes:

- A discussion of program accomplishments and goals;
- A detailed description of the Title V permit fee structure for calendar year 2004;
- A detailed, line-item budget for state fiscal year 2004;
- An organizational chart for total staff in the Division of Air Quality and Title V related positions; and
- An account of Title V receipts and expenditures from state fiscal years 1992 to 2005;

The Division of Air Quality started receiving Title V permit applications after EPA's interim approval of the program on December 15, 1995. Facilities were given until December 1996 to submit their applications or they would be considered in violation of the permitting rules. Applications received during the aforementioned timeframe were called "Initial Title V Applications" and all other Title V applications received after December 1996 were called "First Time Title V Applications." By January 1998, DAQ had 475 Title V applications under review. Since program approval, the DAQ has processed a total of 3,430 applications to date. By the end of 2004 the DAQ issued all but one initial Title V permit. The issuance of the last permit was delayed by the need for a public hearing and comments by the permit applicant. All initial Title V permits have now been issued.

One hundred and eight of the initial Title V applications have been withdrawn due to reclassification or closure. To date DAQ has issued 61of the First Time Title V permits and is currently reviewing 193 applications. Currently, DAQ has 373 operating facilities classified as Title V facilities.

Questions about this Accountability Report or request for copies should be directed to Charles Valrie, Division of Air Quality, Department of Environment and Natural Resources, 1641 Mail Service Center, Raleigh, NC 27699-1641; telephone (919) 715-6281; email: Charles.Valrie@ncmail.net.

ACCOMPLISHMENTS AND GOALS

The Division of Air Quality (DAQ), the Department of Environment and Natural Resources (DENR), and the North Carolina Environmental Management Commission (EMC) have accomplished the following measures in developing and carrying out a Title V Permit Program in North Carolina. Goals are included where applicable.

1. The DAQ has established a Title V Permit Program based on rules adopted by the EMC (15A NCAC 2Q .0500). The program meets the requirements of state law (N.C.G.S. §§143-215.3 and 143-215.108) that authorized the program in North Carolina and set up the North Carolina Clean Air Act Advisory Council. The EPA gave interim approval to the program in 1995, and following the DAQ's revision to the Title V regulations; EPA gave final program approval in October of 2001.
2. In 2002 the DAQ revised the Title V application forms including the development of special forms for the renewal of Title V permits. These revised forms are intended to facilitate the application process, and they have been placed on the Division's website (http://daq.state.nc.us).
3. The DAQ has developed a permit fee schedule that generates an appropriate amount of revenue to carry out the Title V permitting program. The Federal Clean Air Act requires that Title V permit holders pay fees sufficient to cover the cost to administer the permitting program. The DAQ will continue to evaluate the fee structure to ensure that the necessary fees are collected.

4. The DAQ has hired approximately 139 staff members to operate the Title V program since it started in 1992. The total staff size is still smaller than the projected size from the Final Report of the Clean Air Act Advisory Council and has remained constant for several years. There are no plans to increase the number of positions funded by the Title V fees above the current level.

5. DENR has established a Small Business Assistance Program, hired a Small Business Ombudsman, and appointed a Compliance Advisory Panel to conduct citizen overview of small business activity.

6. The DAQ continues to hold meetings, including quarterly Outside Involvement Committee meetings, to provide citizens and the regulated community the opportunity for input into DAQ's permitting and planning procedures.

7. DAQ provided and continues to provide a range of options to qualify facilities as Non-Title V facilities. Many facilities have taken advantage of these options, which is one of the reasons why the number of Title V facilities is much less than initial estimates; that is, 373 operating Title V facilities now versus the 2000 estimated in the Clean Air Act Advisory Council's Final Report. For example, the DAQ established the synthetic minor program so facilities could avoid the Title V permitting program by taking permitted emission limits and/or operating restrictions. Also, the EMC adopted and EPA approved exclusionary rules to allow reasonable potential emission calculations in cases where standard methods would produce

unreasonably high potential emissions thus subjecting such facilities to Title V. **Goal:** The DAQ will continue to issue appropriate permits to qualified facilities that wish to remain non-Title V facilities.

8. In 1994 DAQ conducted its first comprehensive emissions inventory for all facilities in North Carolina. This comprehensive inventory process has been repeated every three years for all non-Title V facilities. In January 2003 the inventory requirement was changed to every five years for non-Title V facilities.
   Title V facilities continue to be required to submit an inventory annually. This emission information is stored on a computer database that DAQ uses to calculate fees and for use in regulatory planning. The DAQ has developed an electronic on-line inventory system. This system has been available to permittees since 2003.

9. There have been many unanticipated programmatic developments for the Title V permitting engineering staff including:

- Renewals of permits are much more time complex than anticipated requiring the permit engineer to devote a comparable amount of time as that required during the issuance of initial Title V permits.
- Additional programmatic requirements include addressing of Maximum Available Control Technology (MACT) and Compliance Assurance Monitoring (CAM) regulations; permit appeals, and administrative requirements include updating the emission source modules for the database supporting the emissions inventory.
- Title V permit modifications continue to expand in breadth and complexity as other programmatic demands impede permit issuance (includes; ozone and particulate matter Non-Attainment Area reviews, state zoning consistency requirements).
- Increased complexity leads to staff time devoted to projects being uneven and unpredictable requiring frequent conference with management and peers to determine the proper approach.
- Enforcement and compliance problems are frequently addressed by the efforts of the Title V permit engineering staff and management.
- EPA reviews are becoming more rigorous. EPA frequently comments on significant modifications and renewals of the permits. EPA comments are more prevalent.
- The implementation of the MACT permitting program including assuring compliance with the state air toxics program is largely a duty of the Title V permitting staff.

Goal: Develop a workload analysis to assess current and project for 4 years the future staff resources for the entire program. This FTE analysis shall consider the following elements of program and the FTEs required for: Temporary help such as contractors used to enhance the program;
Issuing Title V permit modifications;
Compliance and enforcement functions;
Emissions inventory; and
Other program elements such as legal staff outside of the DAQ

Goal: Title V permit engineering staff must be supported to maintain high product quality and customer service. Product quality translates into preventing violations, possible enforcement, and a sustainable business climate for the state.

CALENDAR YEAR 2004 PERMIT FEES TABLE

NOTES AND EXPLANATION

The federal Clean Air Act requires that the entire cost of the Title V Permit Program, including both direct and related expenses, be funded by facilities' permit fees and that Title V permit fees be used only for this purpose. The Clean Air Act also set a presumptive minimum for total fees at $25 per ton of air pollutant emissions in 1990 dollars, with a cost-of-living escalator that has raised this minimum to $8.29 in 2005 dollars. The Title V permit fees schedule for North Carolina now yields only 78 percent of the presumptive minimum. However, DAQ considers this amount adequate to run the program as long as all other funding sources for DAQ remain unchanged. The Title V permit fees are required by federal statutes and DAQ rules to be adjusted each January 1st by an official cost-of-living factor from the U.S. Environmental Protection Agency.

The Clean Air Act Advisory Council established by the General Assembly recommended in 1992 that the Title V permit fees should total $25 per ton of emission (adjusted annually for cost-of-living from the 1990 base), rather than the $36.45 per ton shown by the workload analysis in the council's final report. The council recommended this level so North Carolina could remain competitive with neighboring states — most of which were expected to use the $25/ton plus inflation presumptive minimum — and because of the many uncertainties in the program at that time.

The advisory council also considered the fairness of basing fees entirely on the amount of pollutants emitted, rather than on the amount of work required to administer Title V permits for various types of facilities. Because a certain amount of work is required to issue every Title V permit, regardless of the facility's emissions, the council recommended that half of the total Title V permit fees come from an applications fee (an annual flat fee for each permit) and the other half of the revenues come from annual per-ton charges.

A major uncertainty during the advisory council's work was the number of facilities that would be required to hold Title V permits and their emissions levels. This existed because a comprehensive emission inventory had never been required for all facilities. Since the council concluded its work, the EPA has issued many regulations, policies, clarifications, and changes to the Title V program, and the state has responded accordingly.

The state also has shown flexibility in the Title V program by using size exclusions for some industry groups (such as service stations, grain elevators, dry cleaners and emergency generators) and by allowing facilities to adopt permit limits that reduce their potential emissions below the Title V thresholds (known as synthetic minor sources). As a result, the number of Title V facilities has decreased from an estimated 2,000 in the Clean Air Act Advisory Council's Final Report, to 850 when the Title V permit fees schedule was adopted effective March 8, 1994, to about 373 operating facilities today. The total amount of emissions has changed little since the council's final report.

In Table I, "non-attainment" refers to permits issued under special rules applicable in areas that are in non-attainment with federal standards for criteria air pollutants such as ozone or particles. "PSD"

refers to permits issued under federal Prevention of Significant Deterioration rules. "NSR/NAA" refers to permits issued under special rules for New Source Review in Non-attainment Areas.

Another feature of the fee schedule that should be noted is that no permit application fee is charged for a simple renewal of a permit. In addition, no permit application fee is charged when the reason for the change is initiated by the director of the Division of Air Quality or the Environmental Management Commission, e.g., new control equipment required by a new rule or even the initial Title V permits for existing permitted sources.

CALENDAR YEAR 2005 PROJECTED TITLE V PERMIT FEES 12/6/2005

TITLE V PRESUMPTIVE MINIMUM	313876 TONS *	$38.29	=	$12,018,312	IN 2005 $
FEES PER NC RULE (TOTALS FROM BELOW)		TITLE V		$8,093,126	IN 2005 $
		AVERAGE TITLE V $/TON		$25.78	IN 2005 $
		% OF PRESUMPTIVE		67.34	

TITLE V	ANNUAL FEES	PERMITS	FEE RATE	FEE SUBTOTAL	
	BASIC	372	$6,074	$2,259,528	IN 2001 $
	TONS/TONNAGE FACTOR	313876	$17.42	$5,467,720	
	NONATTAINMENT	0	$3,097	$0	
TITLE V	APPLICATION FEES				
	SIGNIFICANT MODIFICATION	47	$834	$39,198	
	MINOR MODIFICATION	127	$834	$105,918	
	OWNERSHIP CHANGE	9	$60	$540	
	NEW	6	$8,576	$51,456	
	PSD OR NSR/NAA	13	$12,982	$168,766	
	PSD & NSR/NAA	0	$25,250	$0	

*The 2001 presumptive minimum fee was used in these calculations.

TITLE V EXPENDITURE BUDGET
STATE FISCAL YEAR 2005

ACCOUNT	ACCOUNT DESCRIPTION	Jun-05
531212	SPA-REG SALARIES-RECPT	5,562,798.44
531462	EPA&SPA-LONGVTY PAY-REC	57,763.33
531512	SOCIAL SEC CONTRIB-RECPT	414,664.74
531522	REG RETIRE CONTRIB-RECPT	323,597.90
531562	MED INS CONTRIB-RECPTS	384,946.35
531631	WRKER COMP-MED PAYMENTS	1,189.43
532110	LEGAL SERVICES	189,443.94
532133	EMPLOYEE/EMPLOYMENT PHYSIC	34,301.25
532140	OTH INFORMATION TECH SVC	82,712.49
532160	ENGINEERING SERVICES	126.65
532170	ADMIN SERVICES	2,061.90
532181900	WORKSHOP/CONF EXP-FOOD SE	293.00
532210	ENRG SER -ELECTRICAL	1,073.30
532310	REPAIRS - BUILDINGS	6.00
532310003	REP BLDG-ELECT SYSTEMS	5,000.00
532331	REPAIRS-MOTOR VEHICLES	3,704.36
532332	REPAIRS-OTH COMPUTER EQP	9.10
532333	REPAIRS-OTHER EQUIPMENT	14,099.59
532337	REPAIRS-PC/PRINTERS	980.26
532390	REPAIRS-OTHER	431.65
532430	MAINT AGREEMENT-EQUIP	31,102.80
532441	MAINT AGRMT-OTHER SOFTWR	0.00
532443	MAINT AGRMT-OTHER DP EQP	785.00
532447	MAINT AGREE-PC/PRINTER	0.00
532448	MAINT AGREE-SERVER SOFTWARE	0.00
532449	MAINT AGREE-SERVER SOFTWARE	0.00
532450	MAINT AGREE-SERVER EQUIP	0.00
532490	MAINT AGREEMENT-OTHER	0.00
532512	RENT/LEASE-BLDINGS/OFFIC	231,070.98
532513	RENT/LEASE-OTH FACILITIE	2,340.00
532521	RENT/LEASE-MOTOR VEHICLE	81,233.11
532590	RENT/LEASE OTHER PROPERT	1,016.52
532711	TRANSP AIR - IN STATE	0.00
532712	TRANS AIR-OUT STATE,IN U	12,152.51
532714	TRANSP-GRND - IN STATE	19,289.28
532715	TRANS GRND-OUT STA,IN US	2,551.55
532717	TRANSP OTHER - IN STATE	129.25
532718	TRANS OTH-OUTSTATE, IN U	951.75
532721	LODGING - IN STATE	13,958.24
532722	LODGING-OUT STATE, IN US	14,251.03

TITLE V EXPENDITURE BUDGET
STATE FISCAL YEAR 2005

ACCOUNT	ACCOUNT DESCRIPTION	Jun-05
532724	MEALS - IN STATE	8,312.21
532725	MEALS-OUT OF STATE,IN US	5,528.15
532727	MISC - IN STATE	0.00
532728	MISC - OUT STATE, IN US	263.95
532811	TELEPHONE SERVICE	11,903.55
532812	TELECOMMUN DATA CHRG	0.00
532814	CELLULAR PHONE SERVICES	11,354.77
532815	EMAIL AND CALENDARING	2,145.50
532819	TELEPHONE WIRING SVC CHR	0.00
532821	COMPUTER/DATA PROCESS SV	1,082.04
532822	MANAGED LAN SVC CHARGE	0.00
532840	POSTAGE, FREIGHT & DELIV	2,409.73
532840001	POST,FR&DEL-MAILING SVCS	0.00
532840003	POST,FR&DEL-POSTAL METER	982.61
532850	PRINT,BIND, DUPLICATE	1,733.94
532860	ADVERTISING	39,079.74
532911	PROPERTY-INSURANCE	2,835.00
532912	MOTOR VEHICLE INSURANCE	0.00
532913	LIABILITY INSURANCE	0.00
532930	REGISTRATION FEES	9,381.58
532942	OTHER EMP EDUCATIONAL EX	3,315.00
532950	EMP MOVING EXPENSES	11.00
533110	GENERAL OFFICE SUPPLIES	11,870.29
533120	DATA PROCESSING SUPPLIES	11,999.05
533130	PHOTOGRAPHIC SUPPLIES	0.00
533150	SECURITY & SAFETY SUPP	15,655.58
533190	OTHER ADMIN SUPPLIES	57.85
533240	CARPENTRY & HARDWARE SUP	1,362.82
533310	GASOLINE	756.52
533330	OIL, LUBRICANTS, FLUIDS	125.48
533340	TIRES & TUBES	0.00
533350	MOTOR VEH REPLCEMNT PART	0.00
533640	OPTICAL SUPPLIES	1,343.80
533710	SCIENTIFIC SUPPLIES	11,084.91
533720	EDUCATIONAL SUPPLIES	0.00
533900	OTHER MATERIALS & SUPP	9,643.87
534210	BUILDING ACQUISIT COSTS	0.00
534511	FURN-OFFICE	12,870.95
534521	OFFICE EQUIPMENT	10,717.74
534523	EQUIP-SCIENTIFIC/MEDICAL	100,963.60
234528	EQUIP-VOICE COMMUNICATION	0.00

TITLE V EXPENDITURE BUDGET
STATE FISCAL YEAR 2005

ACCOUNT	ACCOUNT DESCRIPTION	Jun-05
534530	OTHER DP EQUIPMENT	99.99
534534	PC/PRINTER EQUIPMENT	31,147.73
534535	SERVER EQUIPMENT	0.00
534539	OTHER EQUIPMENT	3,663.96
534620	TEXTBOOKS	0.00
534630	LBRRY&LRNING RESRCE COLL	9,834.58
534711	OTHER COMPUTER SOFTWARE	0.00
534713	PC SOFTWARE	2,713.70
534714	SERVER SOFTWARE	0.00
535830	MEMBERSHIP DUES&SUBSCRIP	1,084.00
535900	OTHER EXPENSES	7,778.60
536929	OTHER CONT/GRT-ED-INST	51,140.74
536961	AID TO COUNTIES	0.00
536989	OTHER CONTRACTS/GRANTS	0.00
538010	DEPENDENT CARE-OP TFR	0.00
538102	I 1615	55,757.30
538108	TFR IND. COST 1940/14300	126,229.00
538111	TRANSFER TO CODE 14300	535,591.61
538129	TFR TO REG FIELD OFFIC	110,922.40
TOTAL		**8,714,790.54**

HISTORY
TITLE V FEES/ASSESSMENTS AND EXPENDITURES
EXPLANATION

DENR collected Title V assessments until the Environmental Management Commission adopted rules setting the permit fees schedule in 1994, as specified by the General Assembly in House Bill 551(N.C.G.S. 143-215.3 and 143-215.108). The rule adoption process occurred after the North Carolina Clean Air Act Advisory Council issued its final report in 1992, as specified by the legislature. Assessments were collected in state fiscal years 1992 (starting July 1, 1991) 1993, and 1994. The Title V permit fees set by rule were collected beginning in state fiscal year 1995 (starting July 1, 1994).

In 1997, facilities received a partial refund of Title V fees. This was accomplished by sending the facility a check, valued at 21 percent of the permit fees paid in 1997. This refund was to reduce the budgeted carry forward as of July 1, 1998.

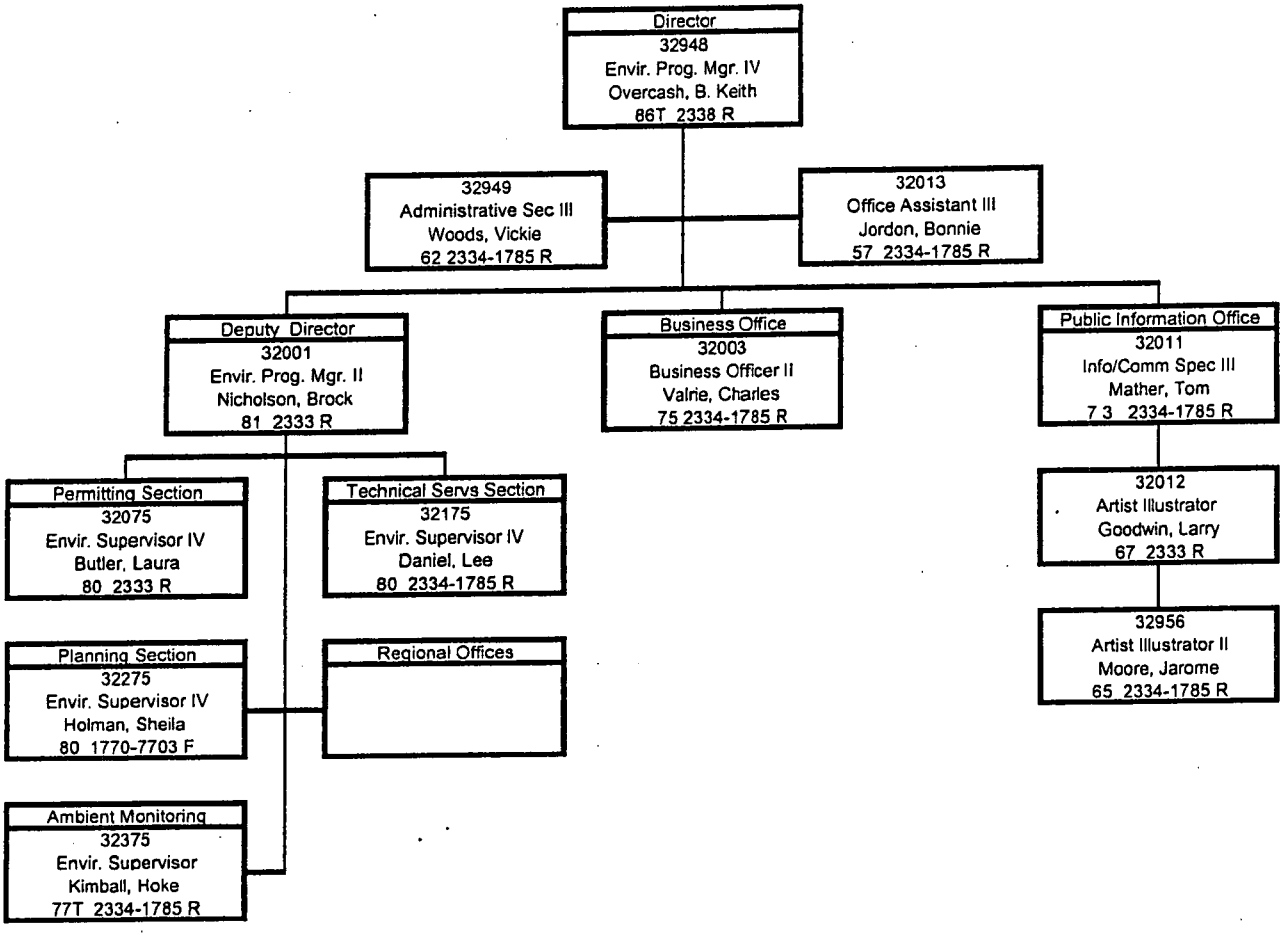
The Division of Air Quality, based on an analysis of variability in fuel tax revenue, decided that it is prudent to have a carry forward of about 35 percent. The 35 percent is well within the statutory limitation that allows a state's Title V program to carry forward 100 percent of the expected cost of the Title V program for the next year. By terms of the Federal Clean Air Act, the entire cost of the Title V program must be paid with Title V permit fees, and Title V permit fees can only be used for this purpose.

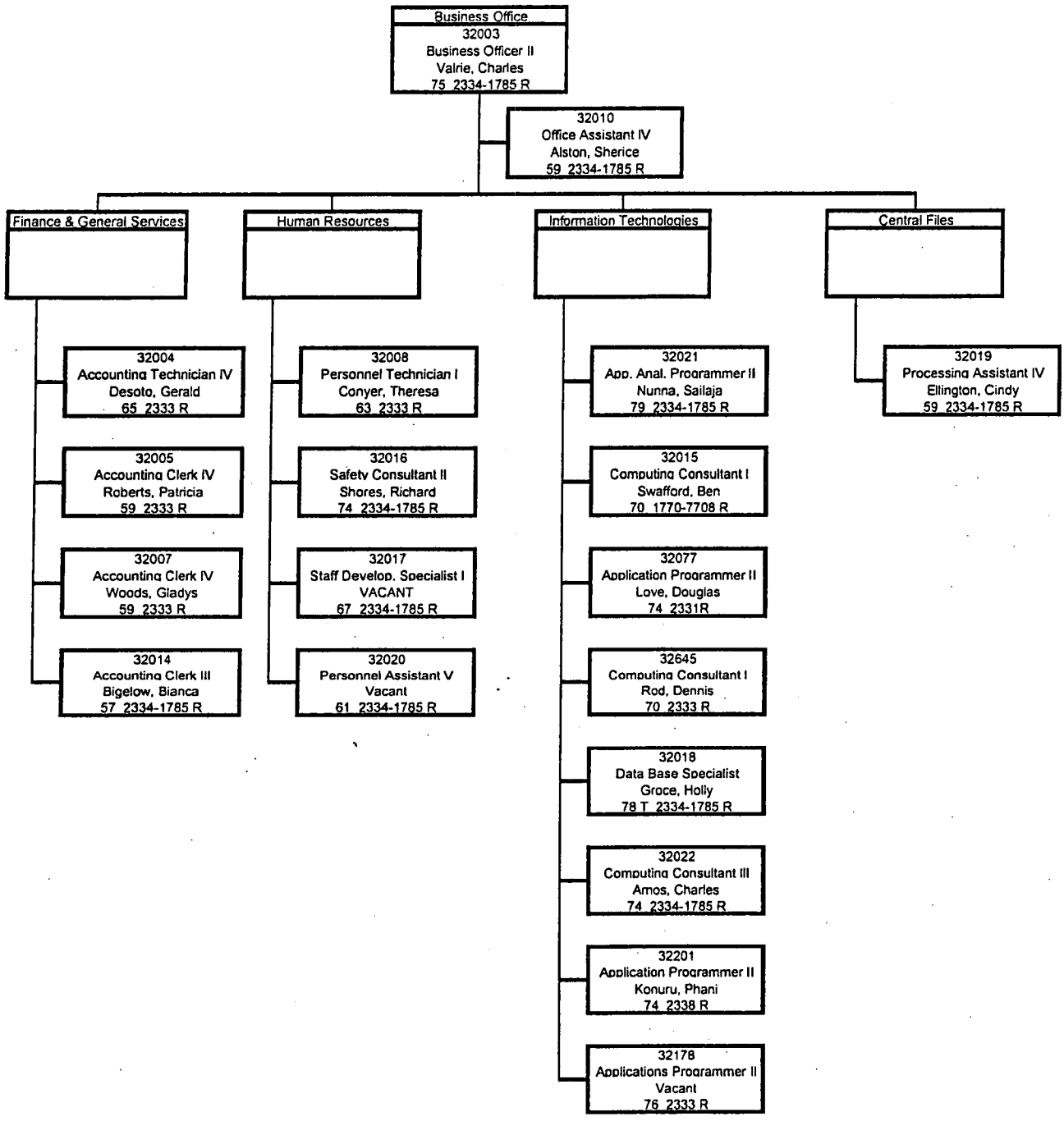
HISTORY
TITLE V FEES/ASSESSMENTS AND EXPENDITURES
(MILLIONS $)

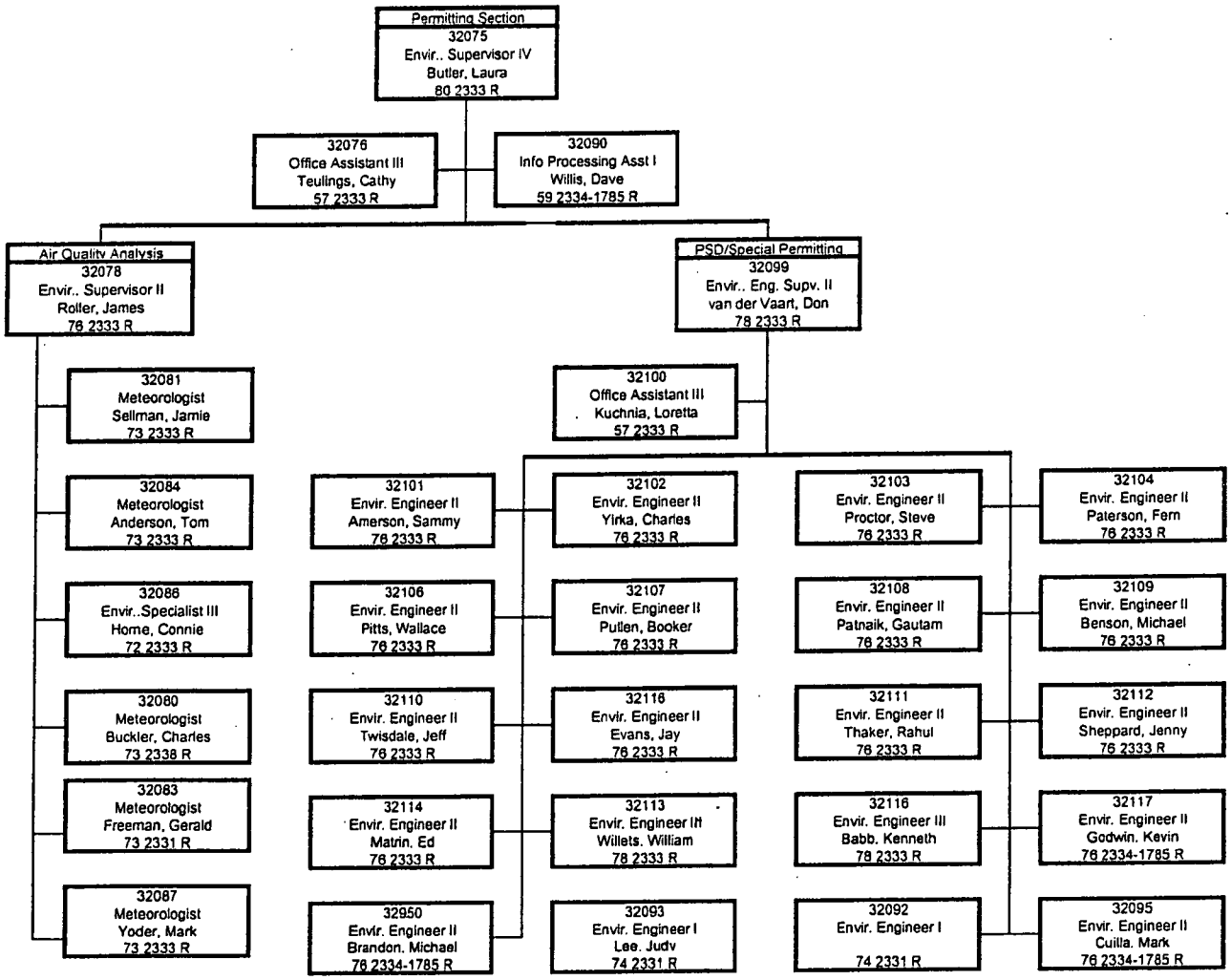
State Fiscal Year	92	93	94	95	96	97	98	99	00	01	02	03	04	05 Projected	06
Carried Forward	0	0.6	1.8	1.7	2.8	4.5	5.5	5.7	5.4	4.8	4.5	5.6	4.7	4.1	3.3
Fees Beginning '95/Assessments before	0.9	3.9	3.5	6.3	7.9	7.6	9.3	7.8	7.9	8.7	9.1	7.7	8.2	7.9	8.1
Salary	0.1	0.9	2.3	3.6	4.2	4.7	5.1	5.8	6	6.4	5.9	6	6.2	6.7	6.7
Travel		0.1	0	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Supplies	0.1	0.3	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.5	0.2	0.2
Equipment	0.1	1.1	0.3	0.5	0.3	0.2	0.4	0.3	0.4	0.2	0.1	0.3	0.1	0.1	0.1
Contracts		0.3	0.4	0.2	0.1	0.2	0.3	0.1	0.3	0.3	0.3	0.4	0.4	0.3	0.3
Other (Rent, Utilities, Reg. Office Fund, etc)			0.3	0.4	0.7	0.6	0.9	0.8	0.8	1.2	0.7	0.9	0.6	0.5	0.5
Small Business Ombudsman's			0.2	0.2	0.3	0.3	0.1	0.3	0.3	0.3	0.3	0.4	0.1	0.1	0.1
Transfer to DENR Agencies					0.2	0.3	0.4	0.6	0.4	0.4	0.4	0.3	0.8	0.7	0.7
Total Expenses	0.3	2.7	3.6	5.2	6.2	6.6	7.5	8.1	8.5	9	7.9	8.5	8.8	8.7	8.7
Refund to Sources							1.6								
TO BE CARRIED FORWARD	0.6	1.8	1.7	2.8	4.5	5.5	5.7	5.4	4.8	4.5	5.6	4.8	4.1	3.3	2.7

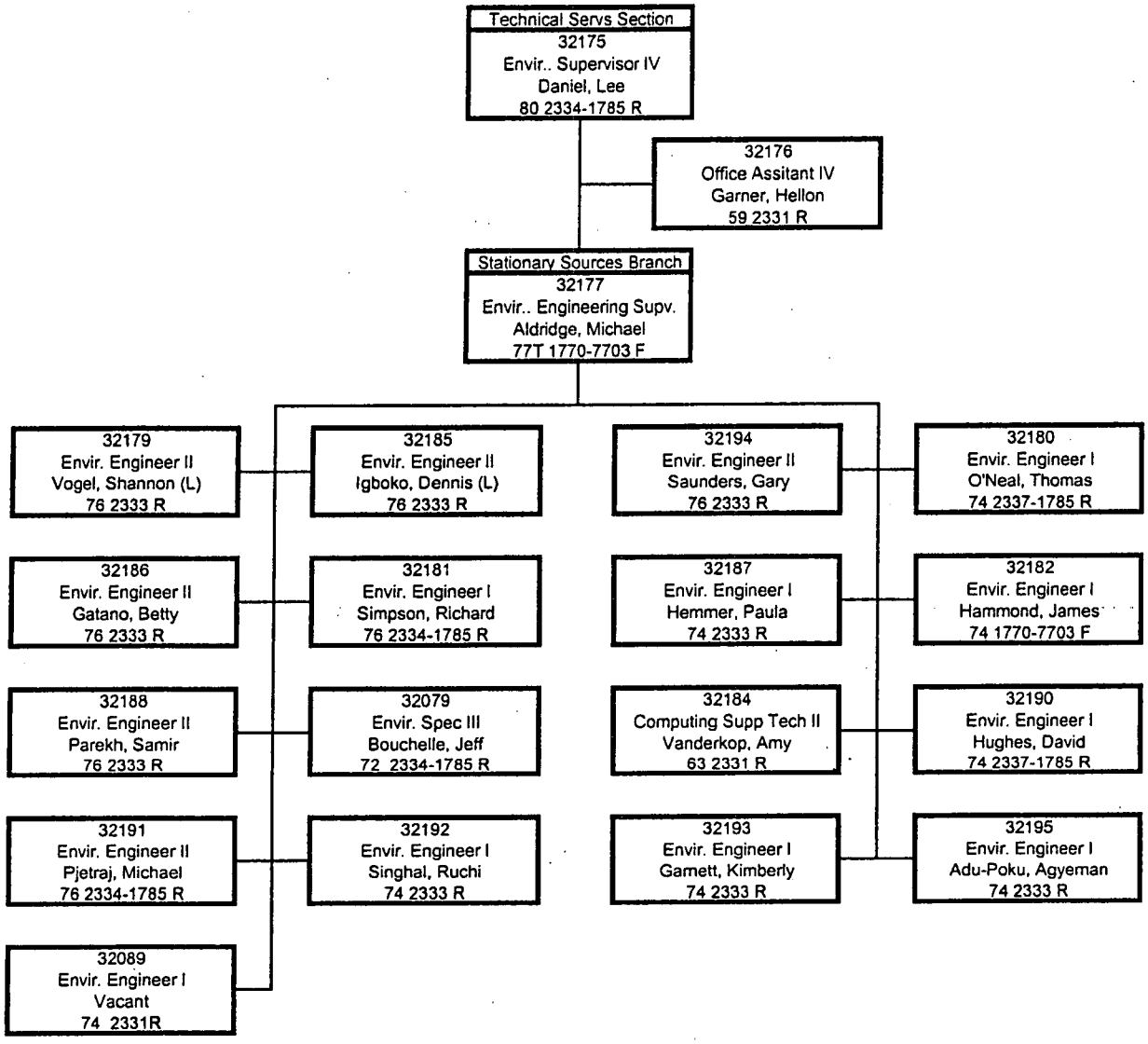
ORGANIZATION CHART EXPLANATION

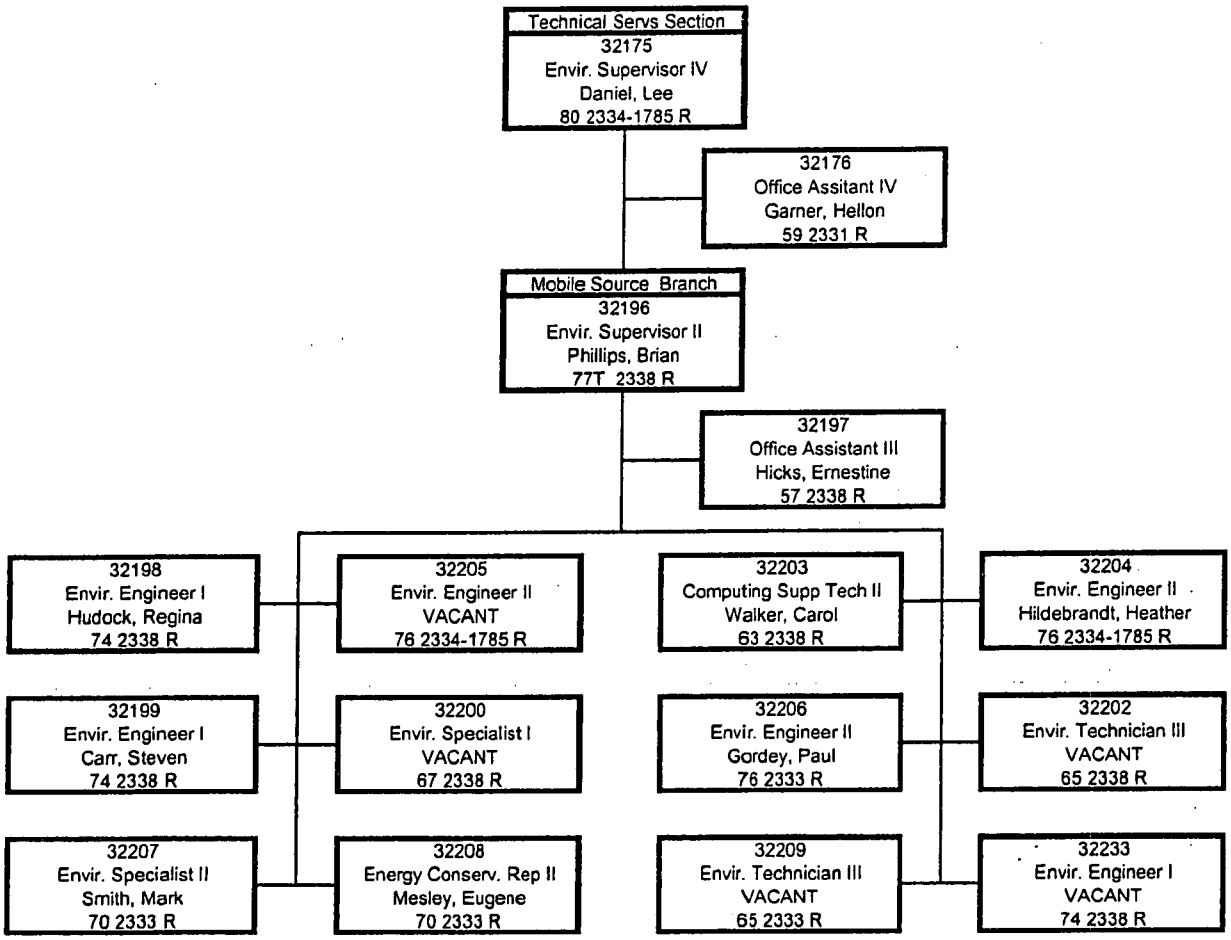
The organization chart shown in this document lists all the positions authorized by State Personnel for the Division of Air Quality. Positions that are funded using Title V fees are listed with a funding designation of 2333R. Additionally, positions outside the Division of Air Quality that are funded through the transfer of Title V funds are listed separately.

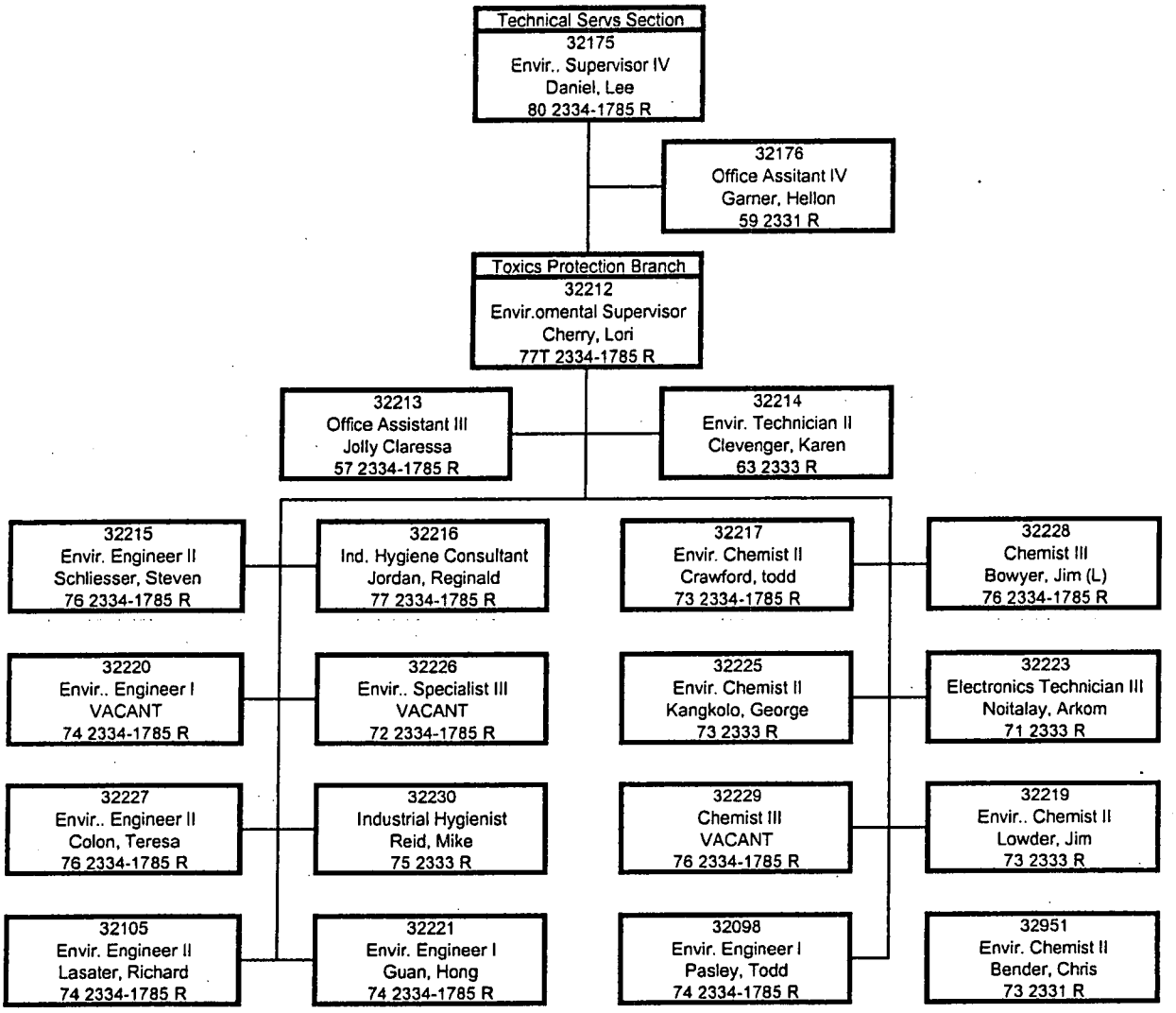

Director
32948
Envir. Prog. Mgr. IV
Overcash, B. Keith
86T 2338 R
32949
Administrative Sec III
Woods, Vickie
62 2334-1785 R
32013
Office Assistant III
Jordon, Bonnie
57 2334-1785 R
Deputy Director
32001
Envir. Prog. Mgr. II
Nicholson, Brock
81 2333 R
Business Office
32003
Business Officer II
Valrie, Charles
75 2334-1785 R
Public Information Office
32011
Info/Comm Spec III
Mather, Tom
7 3 2334-1785 R
Permitting Section
32075
Envir. Supervisor IV
Butler, Laura
80 2333 R
Technical Servs Section
32175
Envir. Supervisor IV
Daniel, Lee
80 2334-1785 R
32012
Artist Illustrator
Goodwin, Larry
67 2333 R
32956
Artist Illustrator II
Moore, Jarome
65 2334-1785 R
Planning Section
32275
Envir. Supervisor IV
Holman, Sheila
80 1770-7703 F
Regional Offices
Ambient Monitoring
32375
Envir. Supervisor
Kimball, Hoke
77T 2334-1785 R

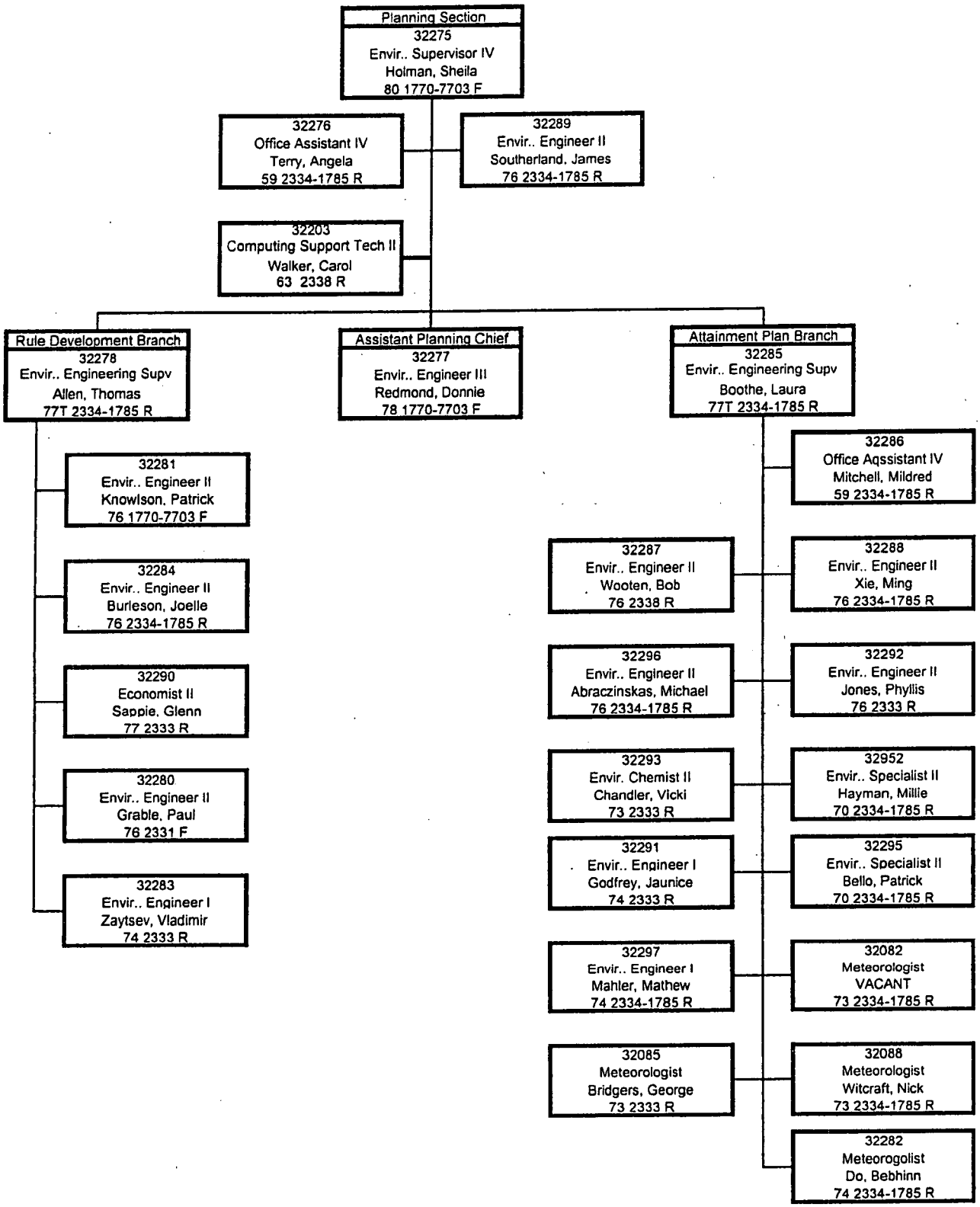

Business Office
32003
Business Officer II
Valrie, Charles
75 2334-1785 R
32010
Office Assistant IV
Alston, Sherice
59 2334-1785 R
Finance & General Services
Human Resources
Information Technologies
Central Files
32004
Accounting Technician IV
Desoto, Gerald
65 2333 R
32005
Accounting Clerk IV
Roberts, Patricia
59 2333 R
32007
Accounting Clerk IV
Woods, Gladys
59 2333 R
32014
Accounting Clerk III
Bigelow, Bianca
57 2334-1785 R
32008
Personnel Technician I
Conyer, Theresa
63 2333 R
32016
Safety Consultant II
Shores, Richard
74 2334-1785 R
32017
Staff Develop. Specialist I
VACANT
67 2334-1785 R
32020
Personnel Assistant V
Vacant
61 2334-1785 R
32021
App. Anal. Programmer II
Nunna, Sailaja
79 2334-1785 R
32015
Computing Consultant I
Swafford, Ben
70 1770-7708 R
32077
Application Programmer II
Love, Douglas
74 2331R
32645
Computing Consultant I
Rod, Dennis
70 2333 R
32018
Data Base Specialist
Groce, Holly
78 T 2334-1785 R
32022
Computing Consultant III
Amos, Charles
74 2334-1785 R
32201
Application Programmer II
Konuru, Phani
74 2338 R
32178
Applications Programmer II
Vacant
76 2333 R
32019
Processing Assistant IV
Ellington, Cindy
59 2334-1785 R

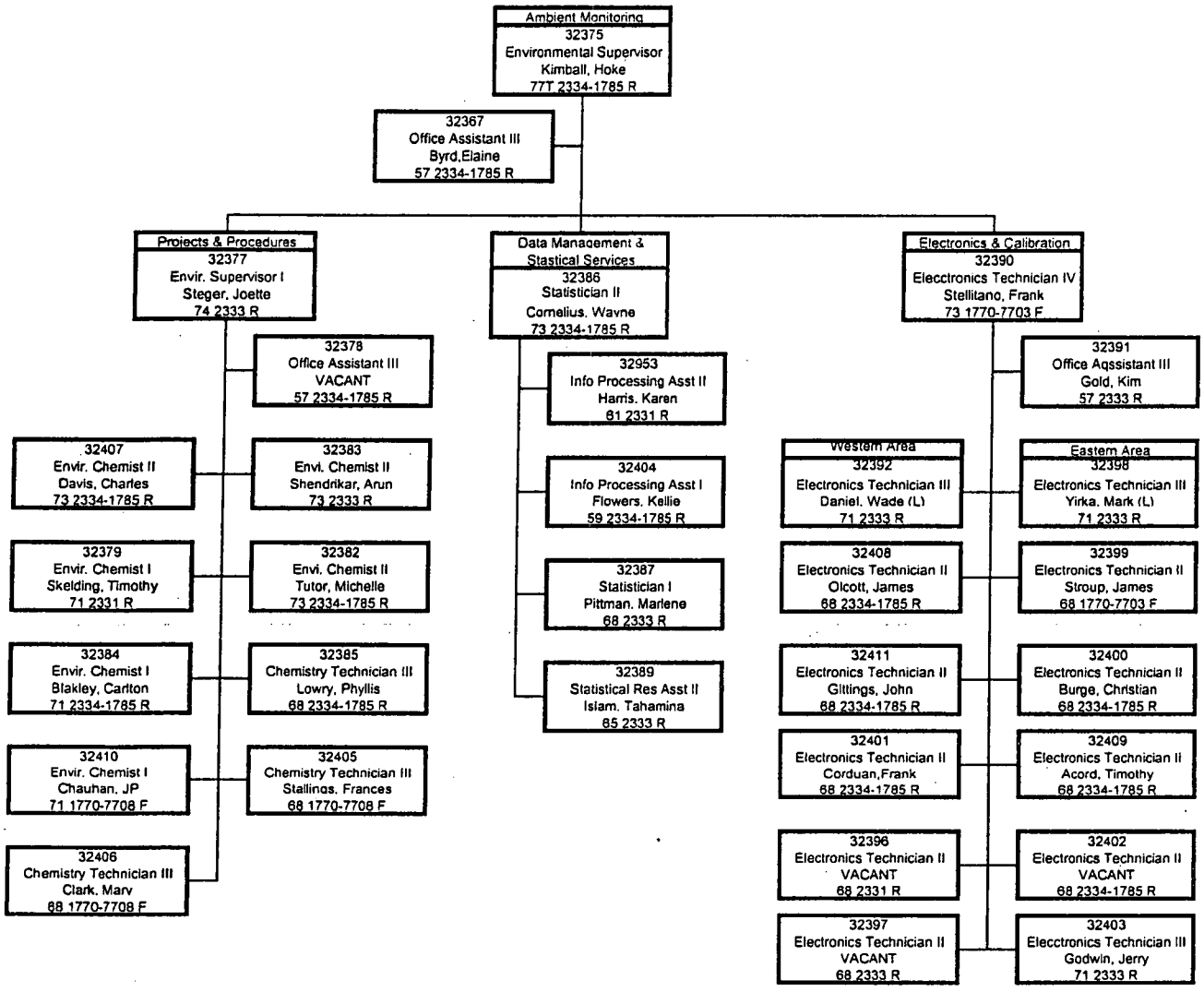

Permitting Section
32075
Envir., Supervisor IV
Butler, Laura
80 2333 R
32076
Office Assistant III
Teulings, Cathy
57 2333 R
32090
Info Processing Asst I
Willis, Dave
59 2334-1785 R
Air Quality Analysis
32078
Envir., Supervisor II
Roller, James
76 2333 R
PSD/Special Permitting
32099
Envir., Eng. Supv. II
van der Vaart, Don
78 2333 R
32081
Meteorologist
Sellman, Jamie
73 2333 R
32100
Office Assistant III
Kuchnia, Loretta
57 2333 R
32084
Meteorologist
Anderson, Tom
73 2333 R
32101
Envir. Engineer II
Amerson, Sammy
76 2333 R
32102
Envir. Engineer II
Yirka, Charles
76 2333 R
32103
Envir. Engineer II
Proctor, Steve
76 2333 R
32104
Envir. Engineer II
Paterson, Fern
76 2333 R
32086
Envir..Specialist III
Horne, Connie
72 2333 R
32106
Envir. Engineer II
Pitts, Wallace
76 2333 R
32107
Envir. Engineer II
Putlen, Booker
76 2333 R
32108
Envir. Engineer II
Patnaik, Gautam
76 2333 R
32109
Envir. Engineer II
Benson, Michael
76 2333 R
32080
Meteorologist
Buckler, Charles
73 2338 R
32110
Envir. Engineer II
Twisdale, Jeff
76 2333 R
32116
Envir. Engineer II
Evans, Jay
76 2333 R
32111
Envir. Engineer II
Thaker, Rahul
76 2333 R
32112
Envir. Engineer II
Sheppard, Jenny
76 2333 R
32083
Meteorologist
Freeman, Gerald
73 2331 R
32114
Envir. Engineer II
Matrin, Ed
76 2333 R
32113
Envir. Engineer III
Willets, William
78 2333 R
32116
Envir. Engineer III
Babb, Kenneth
78 2333 R
32117
Envir. Engineer II
Godwin, Kevin
76 2334-1785 R
32087
Meteorologist
Yoder, Mark
73 2333 R
32950
Envir. Engineer II
Brandon, Michael
76 2334-1785 R
32093
Envir. Engineer I
Lee, Judy
74 2331 R
32092
Envir. Engineer I
74 2331 R
32095
Envir. Engineer II
Cuilla, Mark
76 2334-1785 R

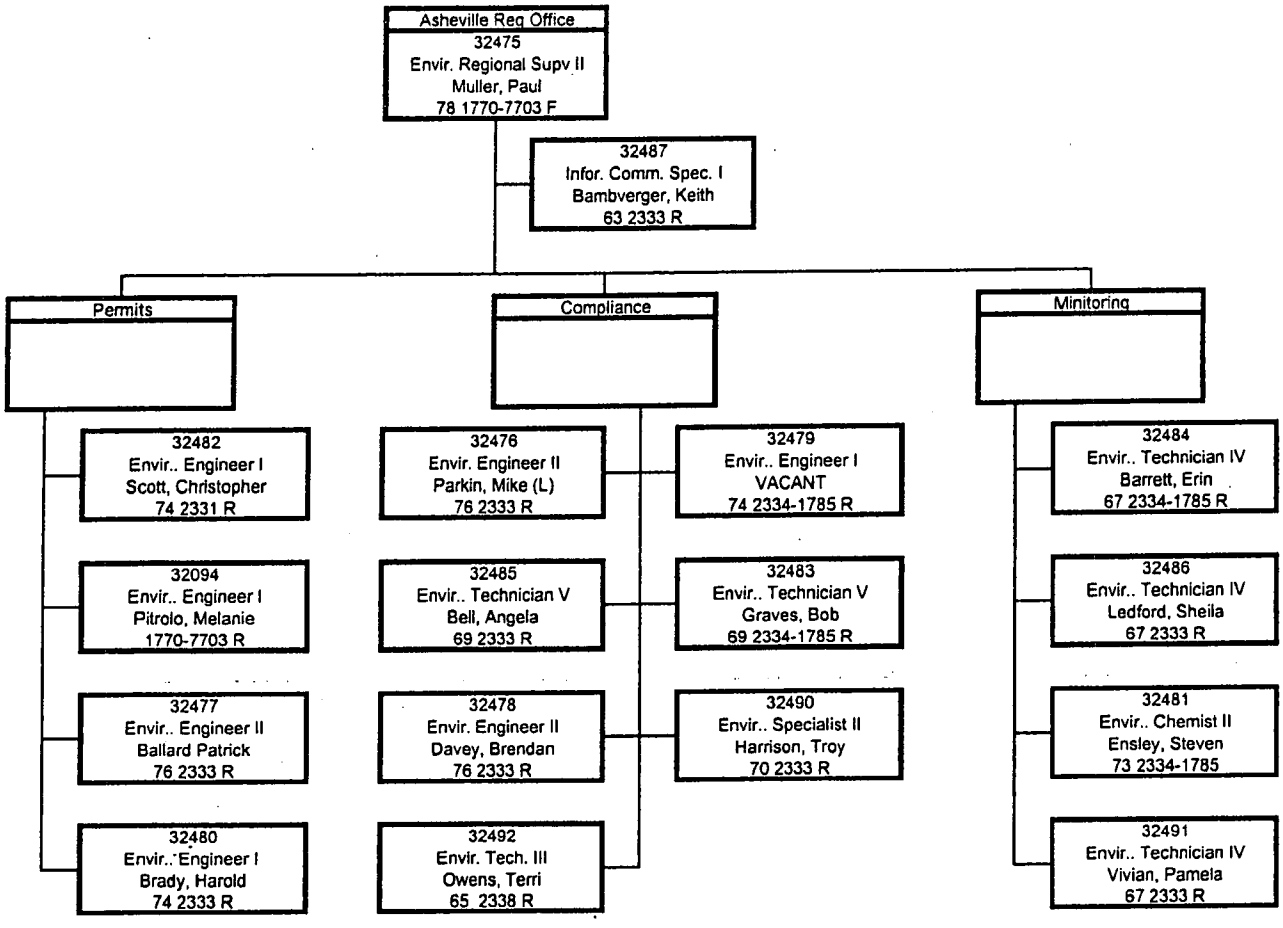

Technical Servs Section
32175
Envir.. Supervisor IV
Daniel, Lee
80 2334-1785 R
32176
Office Assitant IV
Garner, Hellon
59 2331 R
Stationary Sources Branch
32177
Envir.. Engineering Supv.
Aldridge, Michael
77T 1770-7703 F
32179
Envir. Engineer II
Vogel, Shannon (L)
76 2333 R
32185
Envir. Engineer II
Igboko, Dennis (L)
76 2333 R
32194
Envir. Engineer II
Saunders, Gary
76 2333 R
32180
Envir. Engineer I
O'Neal, Thomas
74 2337-1785 R
32186
Envir. Engineer II
Gatano, Betty
76 2333 R
32181
Envir. Engineer I
Simpson, Richard
76 2334-1785 R
32187
Envir. Engineer I
Hemmer, Paula
74 2333 R
32182
Envir. Engineer I
Hammond, James
74 1770-7703 F
32188
Envir. Engineer II
Parekh, Samir
76 2333 R
32079
Envir. Spec III
Bouchelle, Jeff
72 2334-1785 R
32184
Computing Supp Tech II
Vanderkop, Amy
63 2331 R
32190
Envir. Engineer I
Hughes, David
74 2337-1785 R
32191
Envir. Engineer II
Pjetraj, Michael
76 2334-1785 R
32192
Envir. Engineer I
Singhal, Ruchi
74 2333 R
32193
Envir. Engineer I
Garnett, Kimberly
74 2333 R
32195
Envir. Engineer I
Adu-Poku, Agyeman
74 2333 R
32089
Envir. Engineer I
Vacant
74 2331R

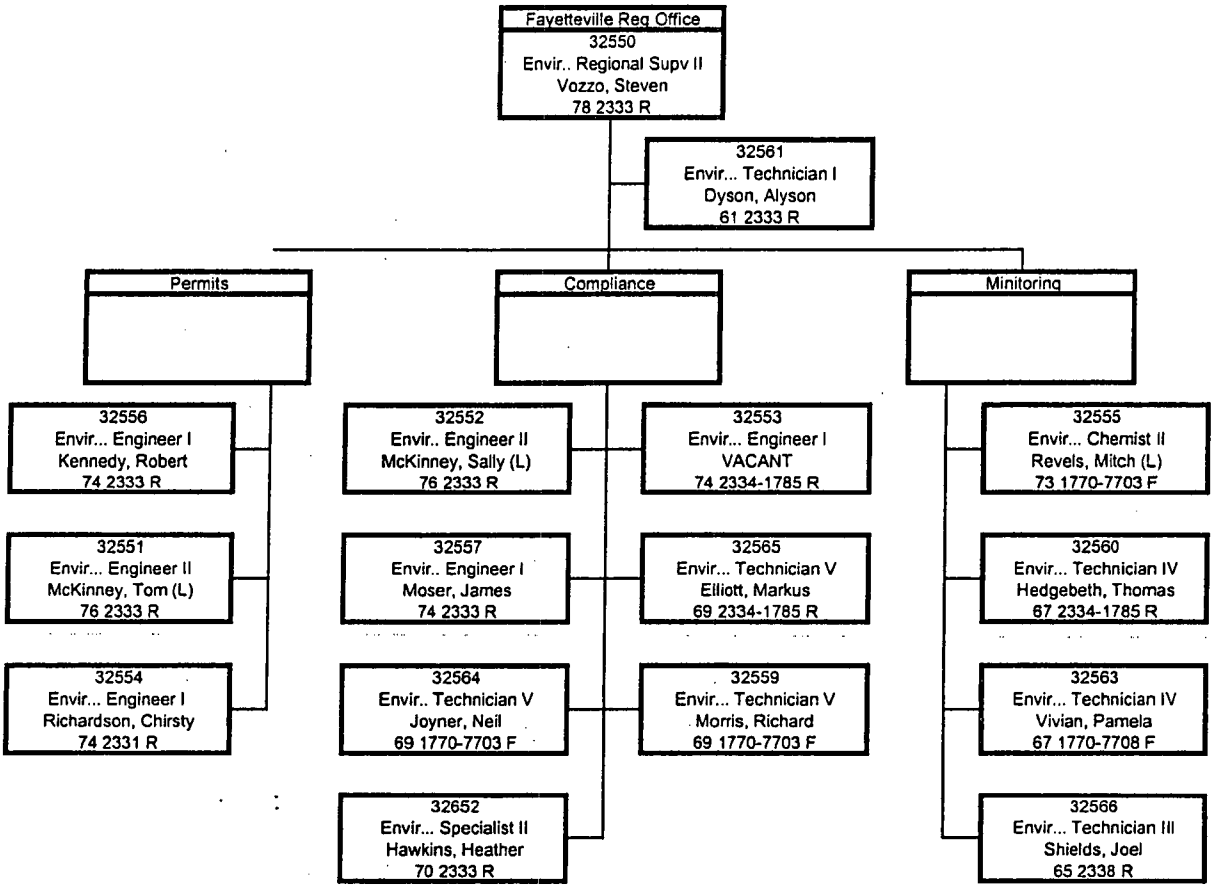

Technical Servs Section
32175
Envir. Supervisor IV
Daniel, Lee
80 2334-1785 R
32176
Office Assitant IV
Garner, Hellon
59 2331 R
Mobile Source Branch
32196
Envir. Supervisor II
Phillips, Brian
77T 2338 R
32197
Office Assistant III
Hicks, Ernestine
57 2338 R
32198
Envir. Engineer I
Hudock, Regina
74 2338 R
32205
Envir. Engineer II
VACANT
76 2334-1785 R
32203
Computing Supp Tech II
Walker, Carol
63 2338 R
32204
Envir. Engineer II
Hildebrandt, Heather
76 2334-1785 R
32199
Envir. Engineer I
Carr, Steven
74 2338 R
32200
Envir. Specialist I
VACANT
67 2338 R
32206
Envir. Engineer II
Gordey, Paul
76 2333 R
32202
Envir. Technician III
VACANT
65 2338 R
32207
Envir. Specialist II
Smith, Mark
70 2333 R
32208
Energy Conserv. Rep II
Mesley, Eugene
70 2333 R
32209
Envir. Technician III
VACANT
65 2333 R
32233
Envir. Engineer I
VACANT
74 2338 R

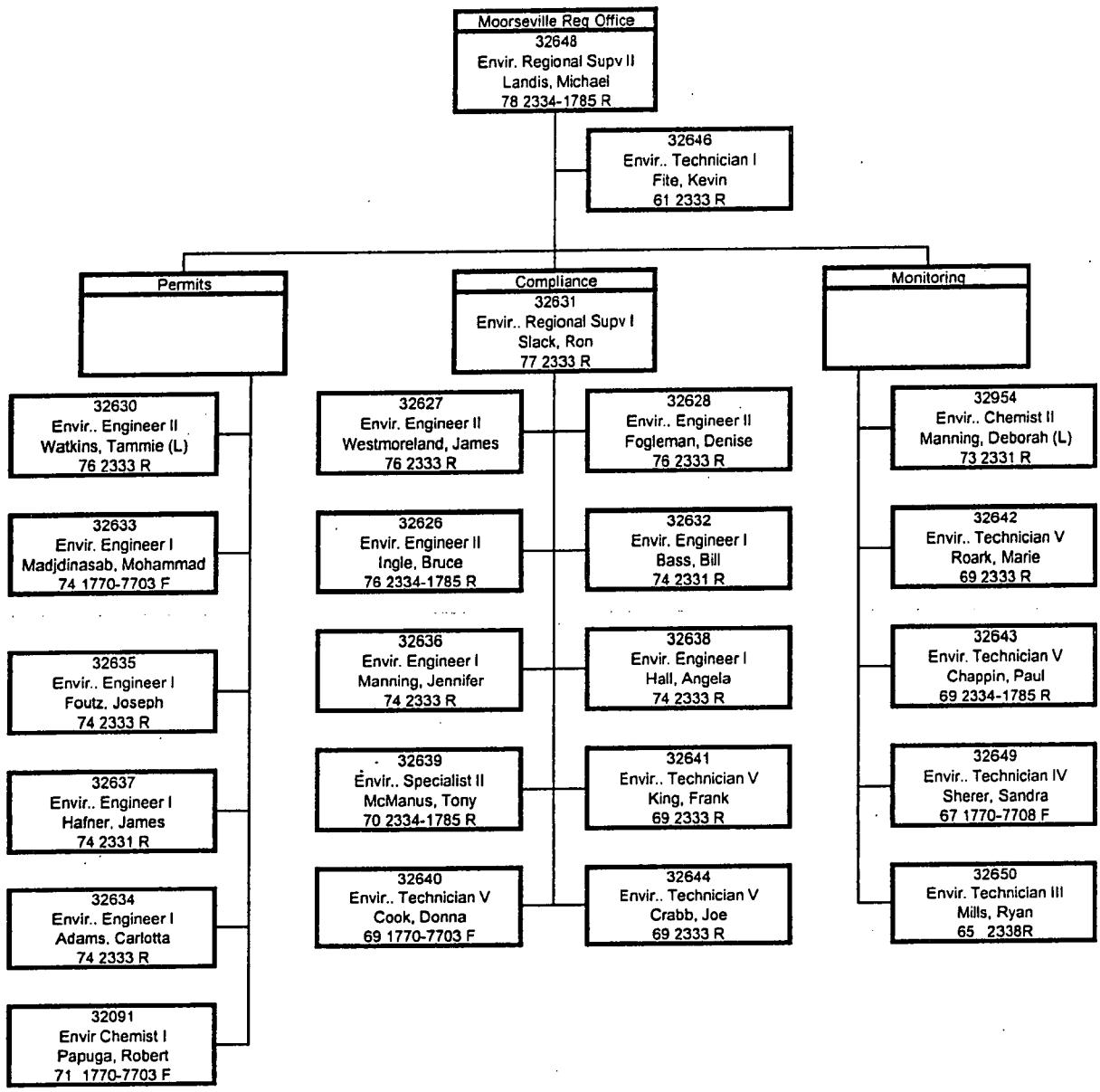

Technical Servs Section
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Envir.. Supervisor IV
Daniel, Lee
80 2334-1785 R
32176
Office Assitant IV
Garner, Hellon
59 2331 R
Toxics Protection Branch
32212
Envir.omental Supervisor
Cherry, Lori
77T 2334-1785 R
32213
Office Assistant III
Jolly Claressa
57 2334-1785 R
32214
Envir. Technician II
Clevenger, Karen
63 2333 R
32215
Envir. Engineer II
Schliesser, Steven
76 2334-1785 R
32216
Ind. Hygiene Consultant
Jordan, Reginald
77 2334-1785 R
32217
Envir. Chemist II
Crawford, todd
73 2334-1785 R
32228
Chemist III
Bowyer, Jim (L)
76 2334-1785 R
32220
Envir.. Engineer I
VACANT
74 2334-1785 R
32226
Envir.. Specialist III
VACANT
72 2334-1785 R
32225
Envir. Chemist II
Kangkolo, George
73 2333 R
32223
Electronics Technician III
Noitalay, Arkom
71 2333 R
32227
Envir.. Engineer II
Colon, Teresa
76 2334-1785 R
32230
Industrial Hygienist
Reid, Mike
75 2333 R
32229
Chemist III
VACANT
76 2334-1785 R
32219
Envir.. Chemist II
Lowder, Jim
73 2333 R
32105
Envir. Engineer II
Lasater, Richard
74 2334-1785 R
32221
Envir. Engineer I
Guan, Hong
74 2334-1785 R
32098
Envir. Engineer I
Pasley, Todd
74 2334-1785 R
32951
Envir. Chemist II
Bender, Chris
73 2331 R

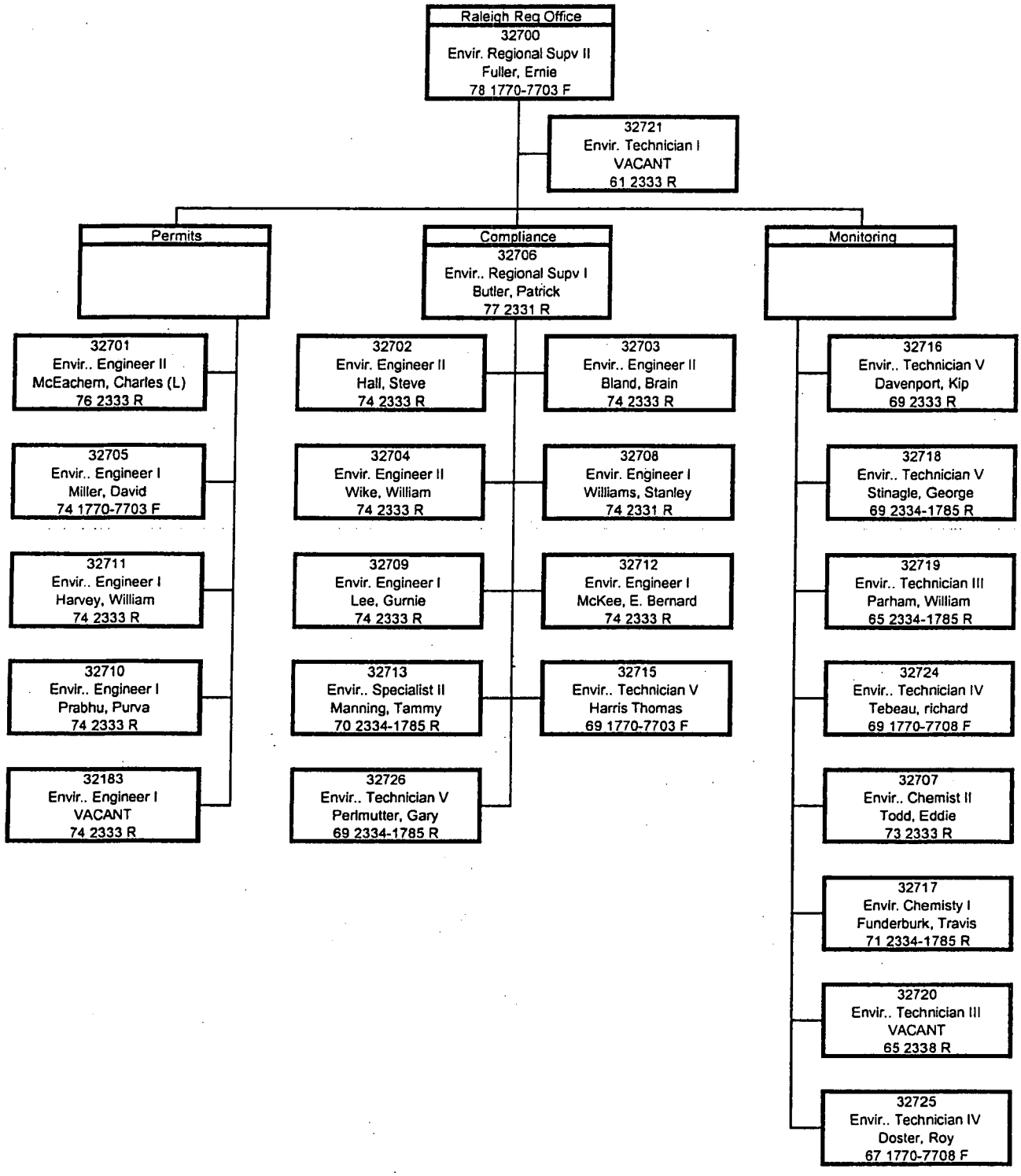

Planning Section
32275
Envir.. Supervisor IV
Holman, Sheila
80 1770-7703 F
32276
Office Assistant IV
Terry, Angela
59 2334-1785 R
32289
Envir.. Engineer II
Southerland, James
76 2334-1785 R
32203
Computing Support Tech II
Walker, Carol
63 2338 R
Rule Development Branch
32278
Envir.. Engineering Supv
Allen, Thomas
77T 2334-1785 R
Assistant Planning Chief
32277
Envir.. Engineer III
Redmond, Donnie
78 1770-7703 F
Attainment Plan Branch
32285
Envir.. Engineering Supv
Boothe, Laura
77T 2334-1785 R
32281
Envir.. Engineer II
Knowlson, Patrick
76 1770-7703 F
32284
Envir.. Engineer II
Burleson, Joelle
76 2334-1785 R
32290
Economist II
Sappie, Glenn
77 2333 R
32280
Envir.. Engineer II
Grable, Paul
76 2331 F
32283
Envir.. Engineer I
Zaytsev, Vladimir
74 2333 R
32286
Office Aqssistant IV
Mitchell, Mildred
59 2334-1785 R
32287
Envir.. Engineer II
Wooten, Bob
76 2338 R
32288
Envir.. Engineer II
Xie, Ming
76 2334-1785 R
32296
Envir.. Engineer II
Abraczinskas, Michael
76 2334-1785 R
32292
Envir.. Engineer II
Jones, Phyllis
76 2333 R
32293
Envir. Chemist II
Chandler, Vicki
73 2333 R
32952
Envir.. Specialist II
Hayman, Millie
70 2334-1785 R
32291
Envir.. Engineer I
Godfrey, Jaunice
74 2333 R
32295
Envir.. Specialist II
Bello, Patrick
70 2334-1785 R
32297
Envir.. Engineer I
Mahler, Mathew
74 2334-1785 R
32082
Meteorologist
VACANT
73 2334-1785 R
32085
Meteorologist
Bridgers, George
73 2333 R
32088
Meteorologist
Witcraft, Nick
73 2334-1785 R
32282
Meteorogolist
Do, Bebhinn
74 2334-1785 R

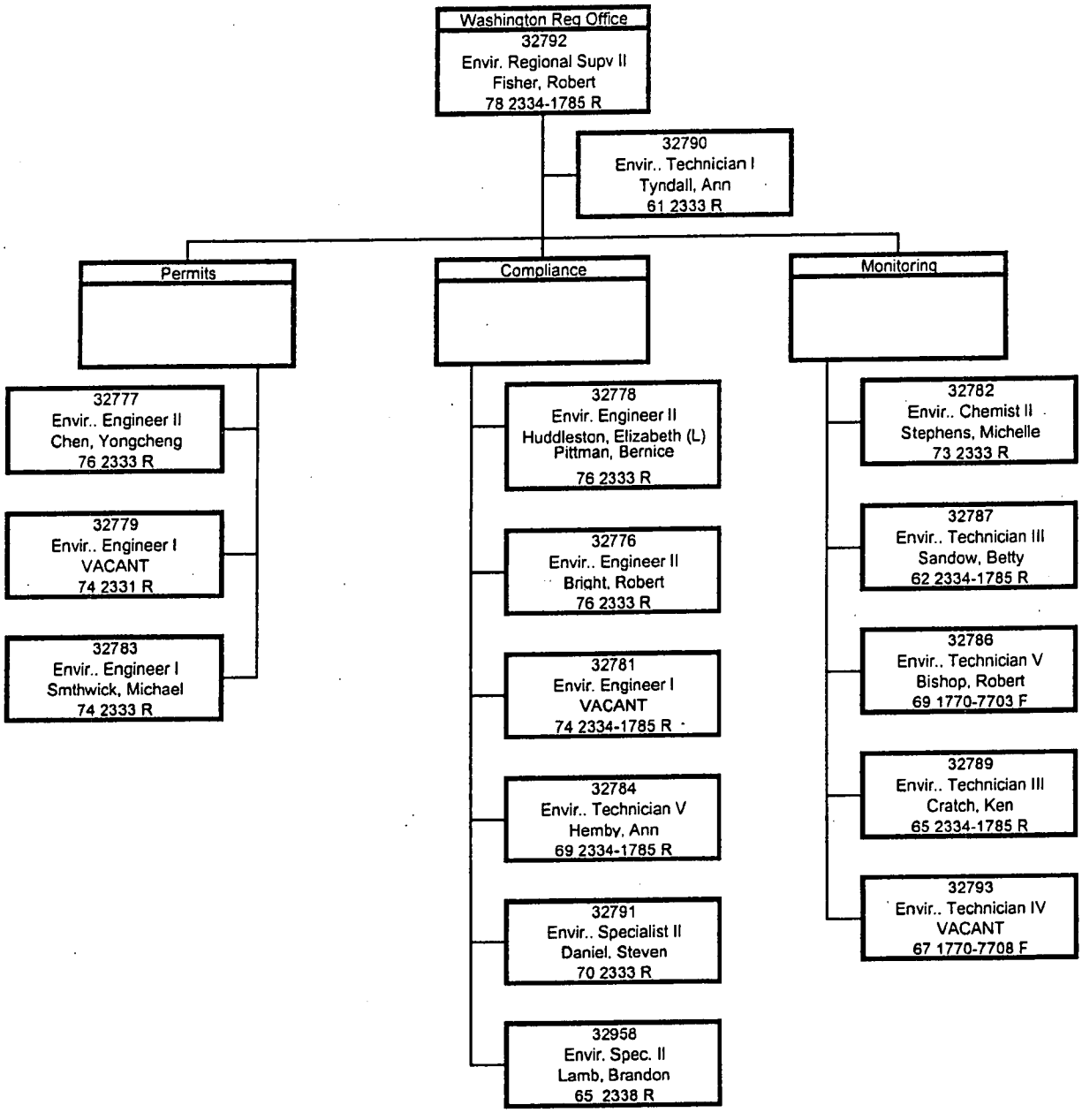

Ambient Monitoring
32375
Environmental Supervisor
Kimball, Hoke
77T 2334-1785 R
32367
Office Assistant III
Byrd,Elaine
57 2334-1785 R
Projects & Procedures
32377
Envir. Supervisor I
Steger, Joette
74 2333 R
Data Management & Stastical Services
32386
Statistician II
Cornelius, Wayne
73 2334-1785 R
Electronics & Calibration
32390
Elecctronics Technician IV
Stellitano, Frank
73 1770-7703 F
32378
Office Assistant III
VACANT
57 2334-1785 R
32953
Info Processing Asst II
Harris, Karen
61 2331 R
32391
Office Aqssistant III
Gold, Kim
57 2333 R
32407
Envir. Chemist II
Davis, Charles
73 2334-1785 R
32383
Envi. Chemist II
Shendrikar, Arun
73 2333 R
32404
Info Processing Asst I
Flowers, Kellie
59 2334-1785 R
Western Area
32392
Electronics Technician III
Daniel, Wade (L)
71 2333 R
Eastern Area
32398
Electronics Technician III
Yirka, Mark (L)
71 2333 R
32379
Envir. Chemist I
Skelding, Timothy
71 2331 R
32382
Envi. Chemist II
Tutor, Michelle
73 2334-1785 R
32387
Statistician I
Pittman, Marlene
68 2333 R
32408
Electronics Technician II
Olcott, James
68 2334-1785 R
32399
Electronics Technician II
Stroup, James
68 1770-7703 F
32384
Envir. Chemist I
Blakley, Carlton
71 2334-1785 R
32385
Chemistry Technician III
Lowry, Phyllis
68 2334-1785 R
32389
Statistical Res Asst II
Islam, Tahamina
85 2333 R
32411
Electronics Technician II
Gittings, John
68 2334-1785 R
32400
Electronics Technician II
Burge, Christian
68 2334-1785 R
32410
Envir. Chemist I
Chauhan, JP
71 1770-7708 F
32405
Chemistry Technician III
Stallings, Frances
68 1770-7708 F
32401
Electronics Technician II
Corduan,Frank
68 2334-1785 R
32409
Electronics Technician II
Acord, Timothy
68 2334-1785 R
32406
Chemistry Technician III
Clark, Mary
68 1770-7708 F
32396
Electronics Technician II
VACANT
68 2331 R
32402
Electronics Technician II
VACANT
68 2334-1785 R
32397
Electronics Technician II
VACANT
68 2333 R
32403
Elecctronics Technician III
Godwin, Jerry
71 2333 R

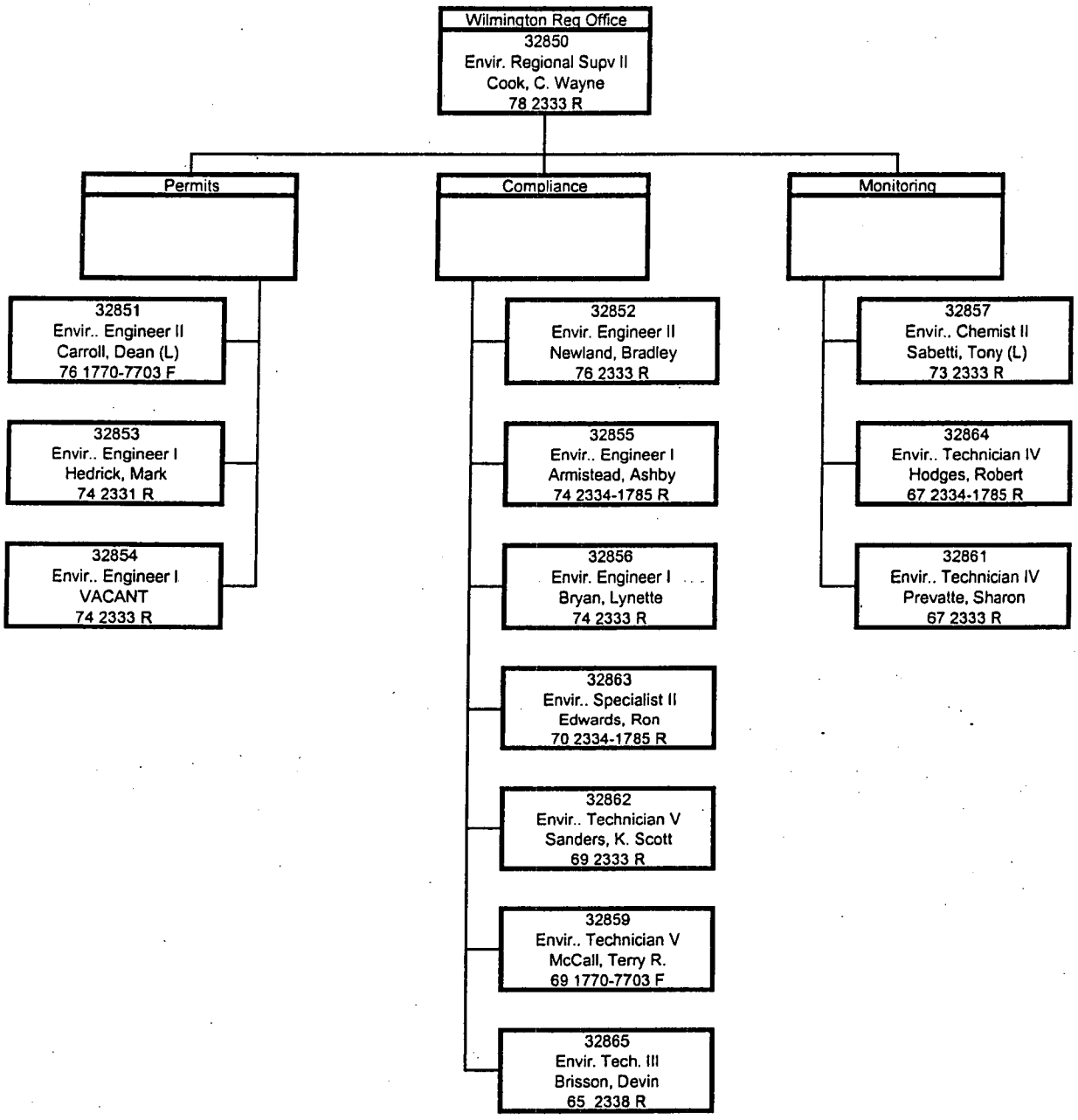

Asheville Reg Office
32475
Envir. Regional Supv II
Muller, Paul
78 1770-7703 F
32487
Infor. Comm. Spec. I
Bambverger, Keith
63 2333 R
Permits
Compliance
Minitoring
32482
Envir.. Engineer I
Scott, Christopher
74 2331 R
32094
Envir.. Engineer I
Pitrolo, Melanie
1770-7703 R
32477
Envir.. Engineer II
Ballard Patrick
76 2333 R
32480
Envir.. Engineer I
Brady, Harold
74 2333 R
32476
Envir. Engineer II
Parkin, Mike (L)
76 2333 R
32485
Envir.. Technician V
Bell, Angela
69 2333 R
32478
Envir. Engineer II
Davey, Brendan
76 2333 R
32492
Envir. Tech. III
Owens, Terri
65 2338 R
32479
Envir.. Engineer I
VACANT
74 2334-1785 R
32483
Envir.. Technician V
Graves, Bob
69 2334-1785 R
32490
Envir.. Specialist II
Harrison, Troy
70 2333 R
32484
Envir.. Technician IV
Barrett, Erin
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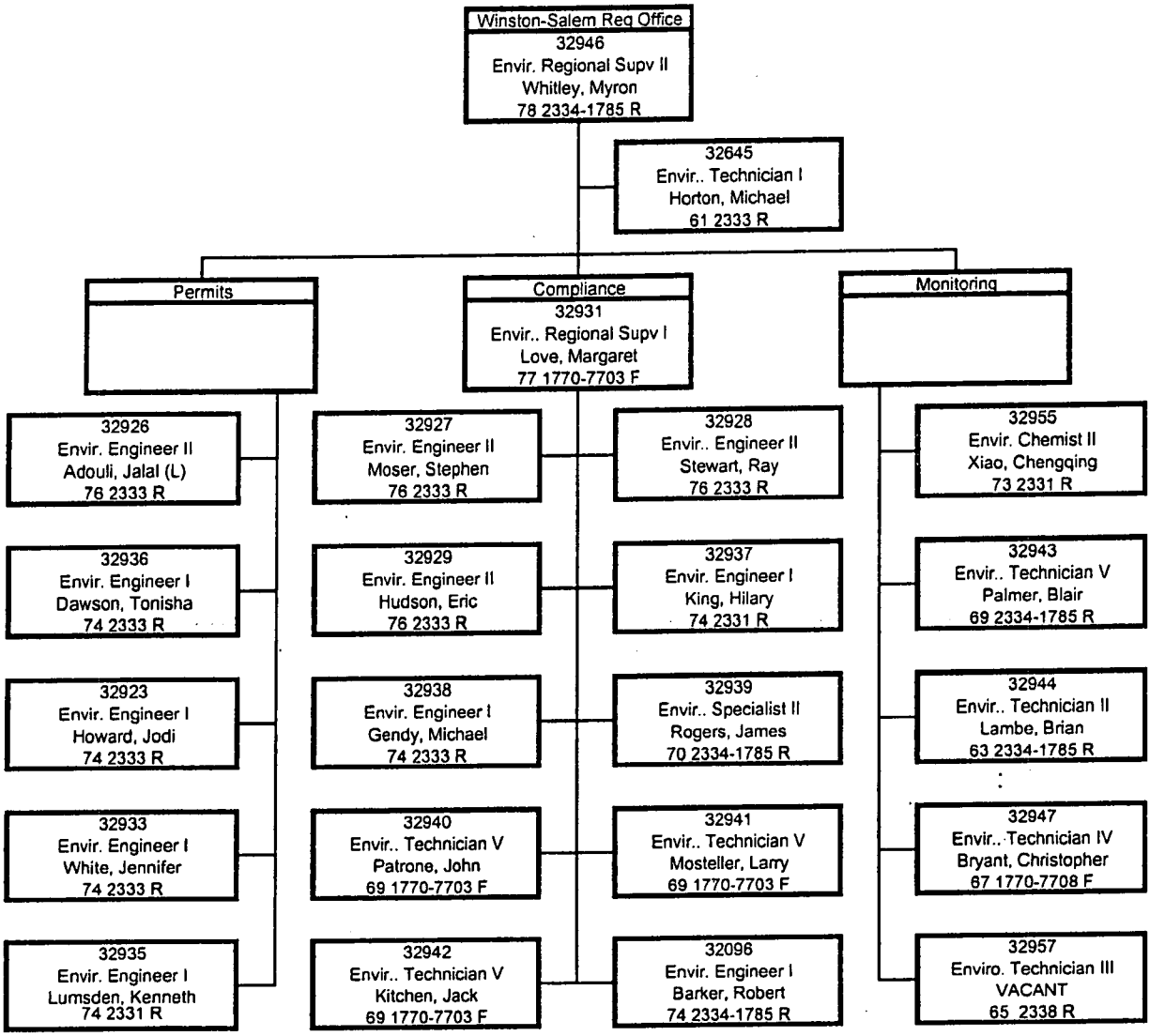

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Kennedy, Robert
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Richardson, Chirsty
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Elliott, Markus
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Enviro. Technician III
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POSITIONS OUTSIDE THE DIVISION OF AIR QUALITY FUNDED BY TITLE V DURING STATE FISCAL YEAR 2005

2 Positions
Regional Office Local Area Network Managers
Regional Offices: Raleigh and Winston-Salem
$101,060

1 Position
Division of Pollution Prevention and Environmental Assistance
$56,000

2.3 Positions
Department of Environment and Natural Resources
$126,299

4 Positions
Office of Small Business Ombudsman
$249,932

5 Positions (2 are half-time)
Regional Office, Office Assistants
Regional Offices: Fayetteville, Raleigh, Mooresville, Washington, and Winston-Salem
$117,185

0.5 Positions
Division of Waste Management
$10,112

2.3 Positions
Attorney General's Office
$296,817

Total $957,405

EXHIBIT D-5

NCDENR

North Carolina Department of Environment and Natural Resources
State Parks and Recreation

Michael F. Easley, Governor | William G. Ross Jr., Secretary | Lewis R. Ledford, Director

December 1, 2005

MEMORANDUM

TO: Senator Dan Clodfelter
Senator Charlie Albertson
Representative Pryor Gibson

FROM: Lewis R. Ledford, Director

SUBJECT: Blewett Falls Lake Study

Session Law 2004-24 directed the Division of Parks and Recreation to study the feasibility and desirability of establishing a state recreation area at Blewett Falls Lake. Attached is the required report to the Environmental Review Commission showing the findings of that study. If you have any questions, please contact me at 919-733-4181.

1615 Mail Service Center, Raleigh, North Carolina 27699-1615
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One NorthCarolina Naturally

Feasibility Study: Establishing a State Recreation Area at Blewett Falls Lake

November 28, 2005

North Carolina Department of Environment and Natural Resources
Division of Parks and Recreation



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Executive Summary

In 2003, the Division of Parks and Recreation (DPR) identified Blewett Falls Lake, located in Anson and Richmond counties, as an area that might have the potential to become a state recreation area. The 2570-acre lake with its relatively undeveloped shoreline appeared to offer the potential for a lakeside park that would allow access to and use of public waters, sufficient acreage for land-based recreational facilities, and protection of some rare biological resources identified by the North Carolina Natural Heritage Program. For these reasons, it was included in a list of 47 sites – called *New Parks for a New Century* – that named areas of the state that were priorities for investigation for possible additions to the state parks system.

Although a 2,570-acre lake was considered to have the potential to support a wide range of water-based activities, during the feasibility study authorized by the General Assembly, Division of Parks and Recreation staff identified several characteristics of the lake that severely limit the potential for boating and other water sports at Blewett Falls Lake. When the timber was cut and the lake impounded, the tree stumps were not removed from the land that would be submerged. Numerous stump fields are just under or just above the water surface at normal lake levels. This condition creates a hazard for boating and water-related sports, particularly motor boating at the lake.

The lake is shallow with an average depth of only 10.8 feet. In addition, the normal operation of the hydroelectric plant causes the lake level to fluctuate about 2-3 feet each day during the summer. This fluctuation makes the first two conditions – submerged stump fields and shallow water – more acute.

The lake and all Progress Energy lands surrounding the lake are designated as the Pee Dee River state game land except for a safety zone around the dam and boat ramp. Hunting on the game land has been a traditional use of the lake for many years. Hunting on the lake as well as the surrounding lands would create conflicts between hunters and park visitors as well as present potential safety issues.

Given these factors, the establishment of a state park or recreation area at Blewett Falls Lake is not recommended. The lake is better suited to continue as a state game land than become a state recreation area. The Wildlife Resources Commission (WRC) is currently working to expand the Pee Dee River Game Land at Blewett Falls Lake by acquiring property adjacent to the lake. An increased presence at the lake will enable the WRC to support the traditional uses that include hunting, boating and fishing; to expand public access by increasing the amount of public land around the lake; and to protect the significant natural resources of the area.

Introduction

The 2003 Session of the General Assembly of North Carolina passed a bill (Session Law 2004-24, House Bill 1574) that directed the Division of Parks and Recreation to study the feasibility and desirability of establishing a state recreation area at Blewett Falls Lake. The Act directs that the study include the feasibility and desirability of acquiring land and estimates of the cost of development. The study's finding and recommendations are due to the Environmental Review Commission on or before December 1, 2005. A copy of the Act is contained in Appendix A.

This study report has been completed to comply with the Act's directives. The report also addresses requirements of the 1987 State Parks Act (G.S. 113-44.7 through 113-44.14). The State Parks Act stipulates that new parks added to the State Parks System "*shall be consistent with and shall address the needs of the State Parks System as described in the [Systemwide] Plan.*" Additions are to be authorized by the General Assembly and must be accompanied by adequate "... *appropriations for land acquisition, development, and operations.*"

The State Parks Act defines the policy and the purpose of the State Parks System. The system is to consist of parks that include representative examples of " *unique archaeologic, geologic, biological, scenic, and recreation resources.*" These resources are the heritage of the people of North Carolina, and they are to be preserved and managed for use by the people, their visitors, and descendents. Park lands are to be used *"...to promote understanding of and pride in the natural heritage of this state.*" The 2000-2005 Systemwide Plan for the North Carolina State Parks System, mandated by the State Parks Act, guides the Division of Parks and Recreation (DPR) as it evaluates proposed new state park units and makes progress toward achieving its mission and purposes described in the State Parks Act.

To study the feasibility of a state park or recreation area at Blewett Falls Lake, numerous visits to the site were conducted by DPR planners, biologists, trails specialists and field operations staff. DPR staff discussed ideas and alternatives with county officials, Progress Energy personnel, Wildlife Resources Commission staff, local land owners, and others knowledgeable about the lake and the region. A public meeting was conducted to gather input from the general public and a mail survey was conducted. Additional information about these efforts is available upon request.

New Parks for a New Century

In 2003, the Division of Parks and Recreation identified Blewett Falls Lake, located in Anson and Richmond counties, as an area that should be evaluated to determine if it should become a state recreation area. The 2,570-acre lake with its relatively undeveloped shoreline appeared to have the potential for a lakeside park that would allow access to and use of public waters, offer sufficient land for recreational facilities, and protect some high quality biological resources identified by the North Carolina Natural Heritage Program. For these reasons, it was included in a list of 47 sites called *New Parks for a New Century* – that named areas of the state that were priorities for investigation for possible additions to the state parks system.

Why New State Parks System Units are Needed

The state parks system includes some of North Carolina's most beautiful scenery and significant natural resources, but it is far from complete. While substantial financial resources are needed to complete land acquisition and development envisioned in approved plans for the existing parks and recreation areas, the addition of new units to the system will be important in coming years for reasons that include:

- The State Parks Act directs the system to include representative examples of North Carolina's archaeological, geological, biological, scenic and recreational resources. Under those categories, specific examples of the state's natural diversity are considered resource themes — such as mountain bog, spruce-fir forest, tidal wetlands, etc. Of 108 resource themes identified in the state, only 29 are adequately represented in the parks system now. Thirteen resource themes have little representation in any geographic region, and four are not represented at all.
- The state parks experienced record visitation of 13.2 million in 2002. By 2030, North Carolina's population is projected to be nearly 12.5 million, 54 percent higher than 2000. More state park units are needed to meet the demands of a growing population. As population increases and becomes more urbanized, more state parks will see visitation at capacity more often. Increased public use can result in damage to sensitive natural resources in the parks and a decrease in visitors' enjoyment of their experiences due to overcrowding. Adding acreage to existing parks can help to address these problems, but more parks will also be needed to meet future demand.
- Concomitant with population growth, development will decrease the land available for outdoor recreation. For example, between 1992 and 1997, 781,500 acres were developed statewide and the pace of development is increasing (Brookings Institute. July, 2000).
- Wildlife habitat is becoming further fragmented and many species of plants and animals are dwindling in number. High-quality examples of the state's great diversity of natural communities are being damaged every day as population growth and development infringe on important natural areas.

Carefully selected new state park units will conserve and protect North Carolina's natural heritage and will enhance the value of the system as a whole. These new units will help the system fulfill its statutory obligations for future generations.

Types of Units in the State Parks System

Potential new park units include state parks, state recreation areas and state natural areas. As described in the State Parks Act, the system includes six types of units:

State parks, such as Hanging Rock State Park in Stokes County, are expected to possess at least state significant natural resource values and to provide high quality recreational opportunities. State parks are expected to offer developed facilities, but the extent of that development may vary depending on what can be provided without damage to the scenic or natural features. The establishment of any new state park would include the expectation that the park would eventually be open to the public and with some level of recreational and support facilities provided.

State recreation areas, such as Kerr Lake in Vance and Warren counties, are sites where the primary purpose is natural resource-based outdoor recreation rather than preservation. There is often more intensive development of facilities than in state parks. Protection and enjoyment of the natural resources are still important, and the sites are expected to contain scenic and attractive natural features.

State natural areas, such as Theodore Roosevelt State Natural Area in Carteret County, are intended to preserve and protect areas of scientific, aesthetic or ecological value. Long-term management objectives for a natural area may include little or no public facilities or access. Generally, recreational activities such as camping, swimming or picnicking are not allowed, although some natural areas offer trails and interpretive programming.

State lakes, such as Lake Waccamaw in Columbus County, were placed under the management of the Department of Conservation and Development (currently the Department of Environment and Natural Resources) in 1929 and later became units of the parks system. Most of these are administered as part of an adjoining state park.

State trails, such as the Yadkin River State Trail, are established in accordance with the North Carolina Trails System Act of 1973 to help provide for the state's outdoor recreation needs and to promote public access to natural and scenic areas.

State rivers, such as the New River in Ashe and Alleghany counties, are components of the North Carolina Natural and Scenic Rivers System

created by the 1971 General Assembly to preserve and protect certain free-flowing rivers, their water quality and their adjacent lands.

Criteria for New State Park Units

Enlarging the parks system is important, but potential new units must be selected carefully to make sure they fulfill the purposes of the system and that they justify the considerable public investment in acquisition, development and long-term management. The Division of Parks and Recreation developed criteria to identify potential new units. This provides a system for ranking potential sites as well as a way to remove unsuitable sites from consideration. Each of the following criteria is used to evaluate the suitability of a proposed site.

- Statewide significance of resource themes represented.
- Size — sufficient acreage to protect principal resources and provide appropriate facilities with minimal impacts on those resources.
- Absence of incompatible features such as roads, intrusive development, incompatible vistas and air, water and noise pollution.
- Sufficient access for management and public use.

Sites that do not meet these basic requirements are removed from consideration.

Significance of the Lower Pee Dee River / Blewett Falls Lake Area

The staff evaluation of the Lower Pee Dee River, which includes Blewett Falls Lake, identified significant natural resources that are not adequately represented in the state parks system. Acquiring these biological, geological, and scenic resources would help meet the State Parks Act mandate. The lake was selected for investigation as a state recreation area because it appeared to have the potential to provide swimming, boating and fishing opportunities. Few large lakes in North Carolina still have extensive undeveloped land along the lakeshore. However, additional information about the lake's potential for water-based recreation was needed from site visits to the area.

The Lower Pee Dee River area includes approximately thirty miles of the Anson County/ Richmond County boundary. The primary area that was studied as a potential state recreation area surrounds Blewett Falls Lake and encompasses about 8,000 acres (Figure 1). The area appeared to have potential for water and land-based outdoor recreation facilities.

State significant natural resources are located in a corridor that stretches about 18 miles along the Pee Dee River and within the river itself, both north and south of Blewett Falls Lake. Fifteen rare plants and animals including the shortnose sturgeon (Acipsenser

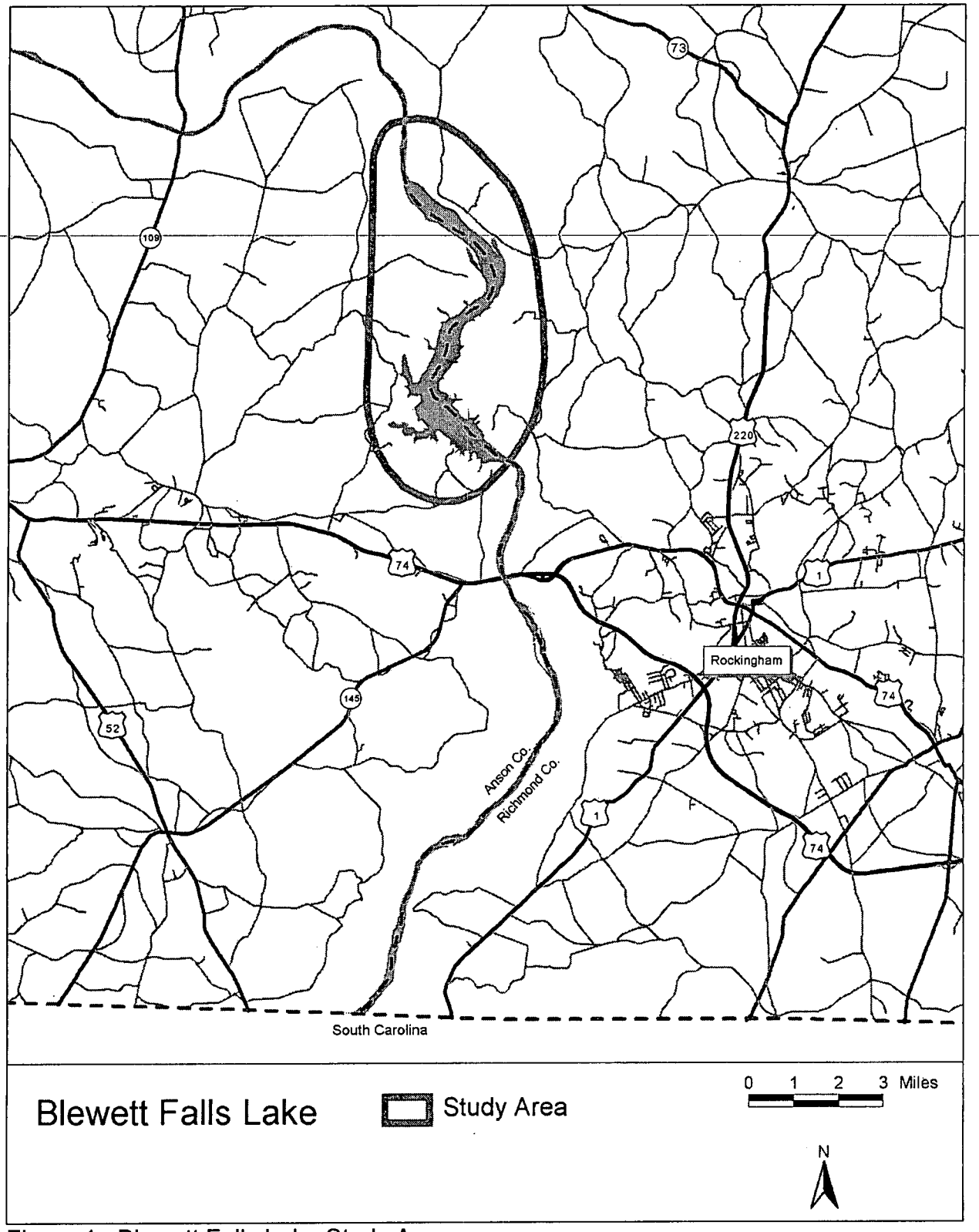


Figure 1. Blewett Falls Lake Study Area

brevirostrum) and Bald Eagle are found among the area's four significant natural communities: piedmont and coastal plain mesic forests, piedmont and coastal plain oak forests, piedmont and mountain floodplains and riverine aquatic communities. Three natural heritage sites (Hitchcock Creek / Pee Dee River slopes, Pee Dee River Fall Zone and Pee Dee Gabbro Slopes) occur along the river. A state recreation area at the lake, however, would not protect these resources because they are located along the river both north and south of the lake.

There are four geologic themes of statewide significance in the area: dissected uplands, faults and joints, fluvial deposition features, and intrusions. The scenic features located in the area are forests, islands, reservoirs, rivers, and scenic vistas.

Characteristics of the Region

Population of the Region

The surrounding counties are Anson, Moore, Montgomery, Richmond, Scotland, Stanly, and Union. The area is largely rural, with a total population about 435,000 in 2005. The population density for these counties ranges from about 50 to 100 people per square mile. These figures are below the state average of about 175 people per square mile and are indicative of the rural character of the region. Population growth is projected to also be below the state average. Most of these county populations will grow at less than six percent between 2000 and 2010 while North Carolina's population grows 15 percent. Union County is the exception as its population will grow in concert with the growth of the Charlotte – Mecklenburg area (North Carolina State Data Center).

Units of the State Parks System

Three units of the North Carolina State Parks System are located in the region: Morrow Mountain State Park in Stanly County, Weymouth Woods Sandhills Nature Preserve in Moore County, and Lumber River State Park in Scotland County (Figure 2).

Morrow Mountain State Park is a 4,500 acre park located adjacent to Lake Tillery, in the ancient Uwharrie Mountains. Now worn down to rounded ridges that average less than 1,000 feet in elevation, these pinnacles are the remains of one of the oldest mountain ranges in the eastern United States. Morrow Mountain is the highest peak at an elevation of 936 feet. The park provides visitors a variety of recreational opportunities including hiking, camping, canoeing, picnicking, swimming, fishing, and horseback riding.

Weymouth Woods Sandhills Nature Preserve is a state natural area consisting of three areas totaling 900 acres. As a state natural area, Weymouth Woods is different from a state park. The area serves to preserve and portray the natural features unique to its region. Weymouth Woods contains longleaf pine forests that are managed with controlled fires. The site is also home to rare and endangered species—the red-cockaded woodpecker, the pine barrens tree frog and the bog spicebush.

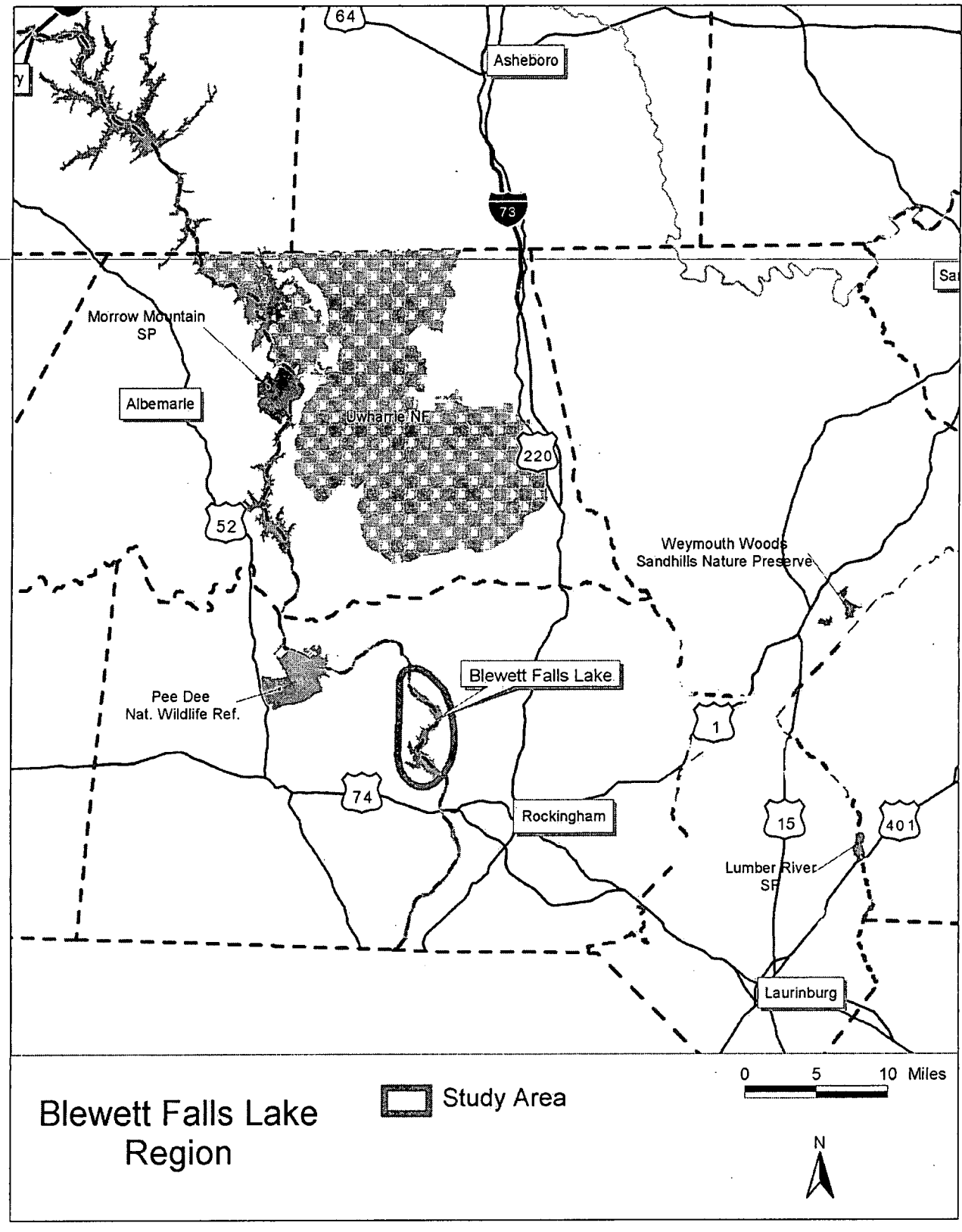


Figure 2. Blewett Falls Lake Region

The Lumber River flows through the south-central portion of the state. The river's headwaters are in Montgomery, Moore and Scotland counties where the waterway is known as Drowning Creek. The Lumber River starts at SR 1412/1203 along the Scotland-Hoke county line, and its waters flow into South Carolina, eventually joining the Little Pee Dee River. Lumber River State Park contains 7,936 acres of land and 115 miles of state natural and scenic waters, 81 miles of which are also designated national wild and scenic waters. The Chalk Banks area, near Wagram in Scotland County, currently offers primitive camping and will eventually become the park's northern headquarters. The park's office and recreational facilities activities are currently centered at the Princess Ann Access in Robeson County.

Federal Forests and Refuges

The Pee Dee River National Wildlife Refuge is located a few miles north of Blewett Falls Lake in Anson County. The wildlife refuge, which is nearly 8,500 acres, was established to protect habitat for migratory birds. It provides visitors with opportunities to fish, hike, tour the refuge by car, and observe wildlife as well as hunt by permit. A canoe access area on the Pee Dee River is also located in the refuge.

The Uwharrie National Forest in Montgomery County consists of over 50,000 acres. It is named for the Uwharrie Mountains, some of the oldest in North America. According to geologists, the Uwharries were created from an ancient chain of volcanoes. The 1,000-foot hills of today were once 20,000-foot peaks. The Uwharrie is located at the crossroads of prehistoric settlement resulting in a large concentration of archeological sites.

The national forest provides a wide variety of recreational activities. These include boating, fishing, and swimming at Badin Lake as well as an extensive trail system for hikers, bicyclists, equestrians, and off-highway vehicle driving. Campgrounds are available for tent and trailer camping as well as sites to accommodate groups and equestrians. (Both the Pee Dee River National Wildlife Refuge and the Uwharrie National Forest as shown on Figure 2)

Game Lands

The Pee Dee River Game Land consists of three areas along the river including Blewett Falls Lake, and is managed by the North Carolina Wildlife Resources Commission (WRC). The gameland at Blewett Falls Lake includes the 2,570-acre lake as well as land surrounding the lake owned by Progress Energy (Figure 3). The activities on the game land are primarily hunting, boating and fishing. The WRC also manages the three access areas on the lake. There are two boat ramps, one near the dam and one at Grassy Island, as well as a tailrace fishing area below the dam. During hunting season, hunters can use the area six days per week, Monday through Saturday. In addition, several primitive campsites accessible by boat are available along the shoreline.

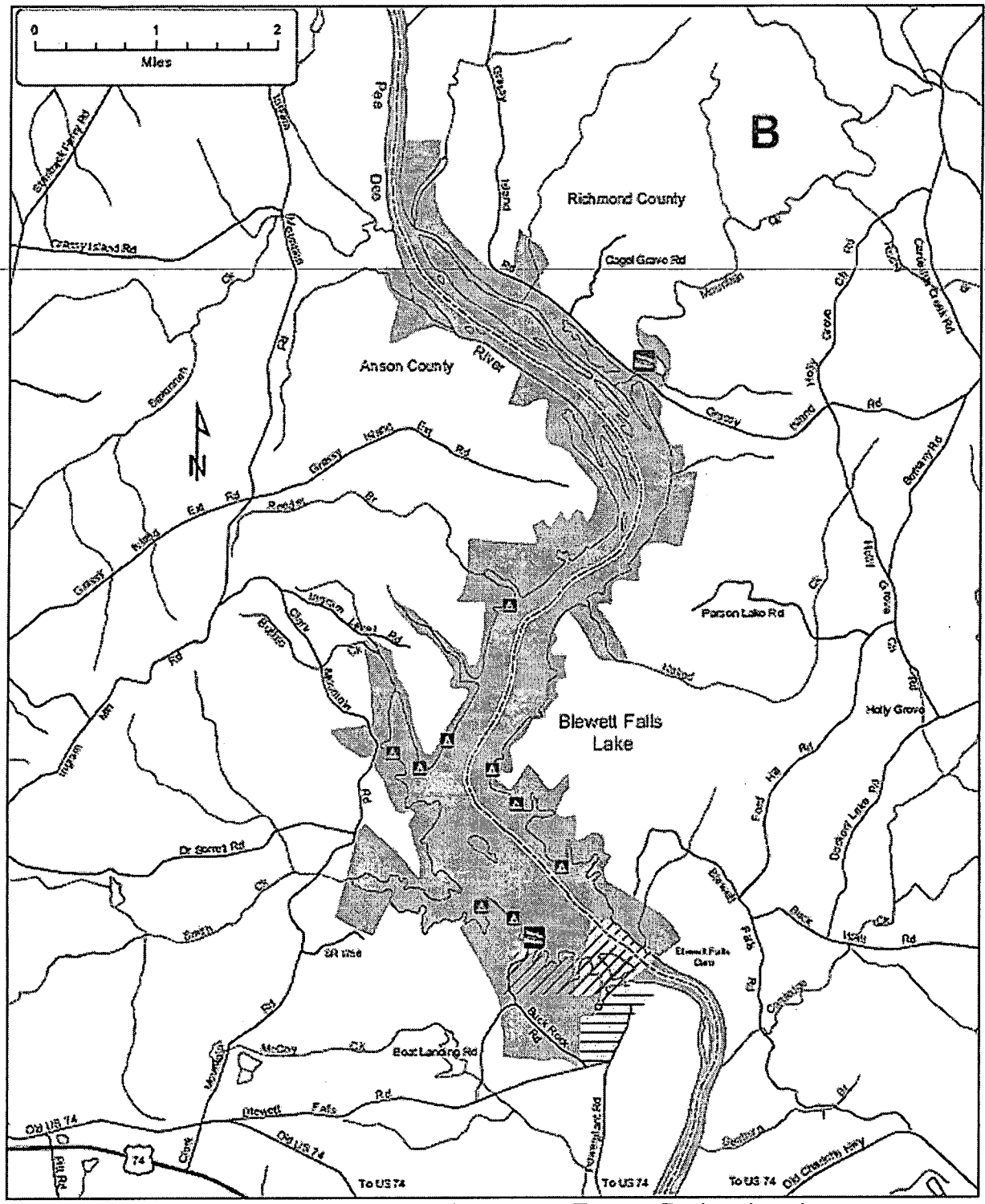


Figure 3. Pee Dee River Game Lands / Progress Energy Project Lands

- Game Land
- Safety Zone
- Restricted Zone
- Designated Hunter Camping Area
- Wildlife Resources Commission Boating Access Area

Description of the Blewett Falls Lake Area

Blewett Falls Lake is an impoundment of the Pee Dee River bordering Anson and Richmond counties, north of U.S Highway 74. It is one of a series of impoundments on the Yadkin / Pee Dee River which also include High Rock Lake, Badin Lake, and Lake Tillery, all located upstream of Blewett Falls Lake. Blewett Falls Lake is the smallest of these lakes, with about 2,570 acres of surface water, which is about half the size of Lake Tillery and Badin Lake. High Rock Lake is the largest lake on the river at over 15,000 acres.

Blewett Falls Lake is a long, shallow lake. Shallow lakes tend to be more biologically productive than deeper lakes because they have a large area of bottom sediments relative to the volume of water. Large, shallow areas along the lake perimeter can be colonized by rooted and floating macrophytes.

The land cover in the surrounding area is either forested or used as agricultural lands. Nearly 80 percent of the area is forested and nearly 20 percent is either cultivated or used as pasture land. About two percent of the land cover in the region is water, primarily Blewett Falls Lake and the Pee Dee River. Urban areas account for less than 0.5 percent of the land. (Division of Water Quality, Yadkin / Pee Dee River Subbasin Plan, 2003)

Access

The west side of the lake is accessible using State Roads 1744, 1748, 1747, and 1759. The primary boating access area is located near the dam on State Road 1759. On the east side, the lake area is accessible via State Roads 1144 and 1141. A second boat ramp area is located on Grassy Island Road. Both boat ramps are located on land owned by Progress Energy and operated for public use by the Wildlife Resources Commission.

Uses of Adjacent Land

All lands along the shoreline of the lake are owned by Progress Energy as part of the hydropower project at the lake. The primary land use in Richmond County within two miles of the lakeshore is forest land. The land ownership patterns consist of large tracts, and many of the landowners allow hunting through agreements with private hunting clubs. In Anson County, the land uses within two miles of the lakeshore include forest land, agriculture, and residential. New residential developments are being developed near the lakeshore, off Clark Mountain Road as well as Grassy Island Extension Road.

Limitations of Blewett Falls Lake for Water-Based Recreation

Site visits by DPR staff and discussions with knowledgeable individuals revealed significant constraints to the use of the lake for recreation.

Submerged Stump Fields

During the feasibility study, Division staff identified several characteristics of the lake that severely limit the potential for boating and swimming at Blewett Falls Lake. Prior to the creation of the lake in 1912, the tree stumps were not removed from the land that would be submerged leaving stump fields. These stump fields are just under or just above the water surface at a normal lake levels. The condition creates a hazard for boating, particularly motor boating and other water sports that are usually associated with state recreation areas.

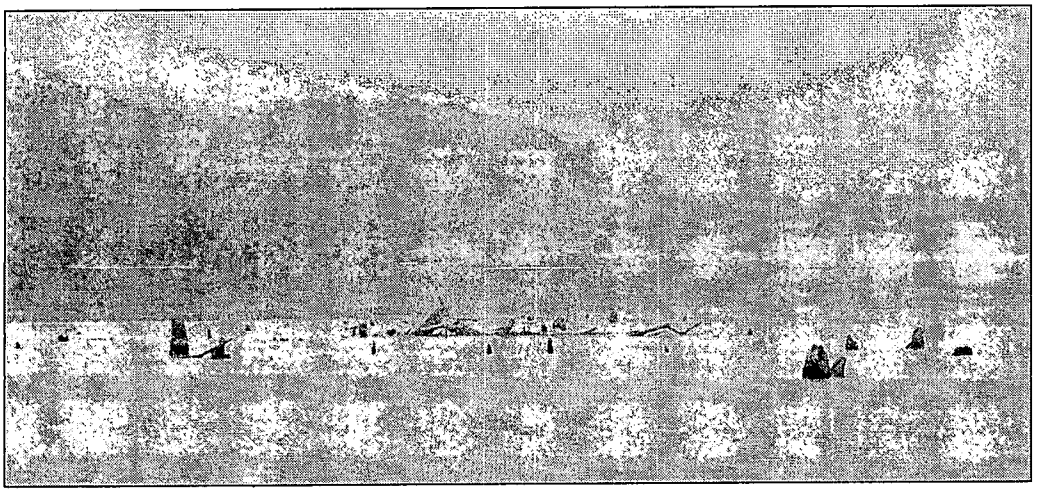


Figure 4 - Example of stumps fields at Blewett Falls Lake

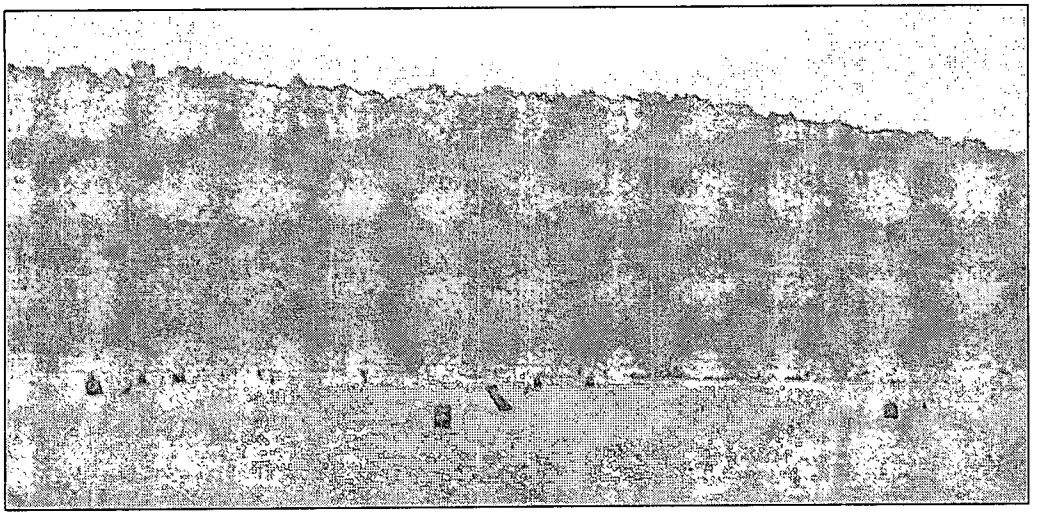


Figure 5 - Example of stumps fields at Blewett Falls Lake

Shallow Water

Although the lake has a maximum depth of more than 50 feet, the lake overall is very shallow with an average depth of 10.8 feet (NC Div. of Water Quality, Yadkin-Pee Dee Basinwide Water Quality Plan, 2003). The lake is deeper than 15 feet within one mile of the dam and becomes more shallow further north traveling upstream. Near the Grassy Creek boat ramp, much of the lake is less than five feet deep (Progress Energy Elevation and Bathymetry Map, Survey Date: 2001).

Daily Fluctuation of Lake Levels

The normal operation of the hydroelectric plant causes the lake level to fluctuate between two and three feet each day during the summer (Progress Energy, Initial Document, Pee Dee Yadkin River Project, Feb. 2003), when visitor use is usually greatest. This fluctuation makes the first two conditions – submerged stump fields and shallow water – more acute. Because of the fluctuating water levels, stump fields, and shallow water in much of the lake, the areas of the 2,570 lake suitable for recreational use is much smaller than the entire lake.

Potential Conflicts Between Park Visitors and Hunters

Hunting on the lake as well as the surrounding lands would conflict with potential park visitors and present potential safety issues. At Blewett Falls Lake, the lake and all Progress Energy lands surrounding the lake are designated as the Pee Dee River Game Land (excluding a safety zone around the dam and boat ramp). If a similar safety zone were established around a large state recreation area and water of the lake, the game land would be reduced in size significantly. Although the lake is large in surface area, the configuration follows the river to create a long, narrow lake. The distance across the lake at the widest section is about one mile.

The game land has been a traditional use of the lake for many years. The lake and surrounding game land already function as a recreation area managed by the Wildlife Resources Commission, with a focus on hunting and fishing. In addition, the WRC is currently purchasing land that borders Blewett Falls Lake in order to expand the game land. Additional opportunities for hunters would probably bring more conflicts between hunters and other visitors.

Public Comment

Mail Survey

Surveys attempting to gauge the desirability of a new state park unit at Blewett Falls Lake were mailed to a random sample of Anson and Richmond County residents in November 2004. Responses received by the Division of Parks and Recreation in favor of a potential new unit were roughly 10:1 of the total 302 responses. Some of the most

popular requests and currently participated in activities were picnicking, fishing, viewing scenery and motorized boating. Copies of the survey and accompanying cover letter are included in Appendix B.

Public Meeting

A public meeting was held on November 30, 2004 at Lilesville Elementary School in Anson County which provided a public venue central to both Anson and Richmond counties. Approximately 100 individuals from the surrounding areas attended the meeting. Forms were available for attendees to share any comments, suggestions or ideas regarding a potential state park unit at Blewett Falls Lake. The forms were handed out as attendees entered the meeting and collected as they left. Responses in favor of a potential new unit were roughly 5:1 over responses not in favor. This contingent not in favor of a potential new state park unit was very vocal during the meeting, taking a great amount of time to discuss with Division staff the reasons for opposition.

Some of the strongest arguments against a new unit revolved around changes that would occur to historic, traditional uses such as hunting, fishing and boating. Duck and deer hunting are existing viable and popular uses at Blewett Falls Lake and the surrounding lands. The ideas shared at the meeting were that a State Park would alter existing patterns of use or, in the case of hunting, eliminate them completely since hunting is not permitted in state park units.

Additional written and verbal comments not in favor of a new state park unit at Blewett Falls Lake were received. These repeatedly focused on the poor suitability of the lake itself, including factors such as shallowness, small size, stump fields, and relatively high fluctuations in water level. Boaters using the lake stressed that one needed to be familiar with the lake and its hazards. A copy of the informational packet including the comment sheet handed out at the public meeting is included in the Appendix C.

Conclusion

Blewett Falls Lake was selected as a possible site for a state recreation area because of the size of the reservoir and its relatively undeveloped shoreline. Upon further investigation including site visits, several factors have been identified that limit the lake's potential for outdoor recreation. The lake is more shallow than anticipated and there are stump fields within the lake that are the remnants of timber that which was not removed before the lake was impounded. These two limitations are made more severe by daily fluctuations in the lake level caused by the production of hydropower. These conditions cause the lake to be poorly suited for a state recreation area that would draw people from across the state and out-of-state visitors. In addition, a traditional use of the Blewett Falls Lake has been hunting and the lake continues to be a game land.

Given these factors, the establishment of a state park or recreation area at Blewett Falls Lake is not recommended. The lake is better suited to continue as a state game land

than a state recreation area. The Wildlife Resources Commission is currently working to expand the Pee Dee River Game Land at Blewett Falls Lake by acquiring adjacent property. An increased presence at the lake will enable the WRC to support the traditional uses; to expand public access and recreational use of the lake by increasing the amount of public land around the lake; and to protect the significant natural resources of the area which tend to border on and exist within the river.

Establishing a state recreation area at the lake has the potential to create confusion for the public. There would be conflicts, and perhaps safety concerns, for park visitors and hunters who are both using the lake. Finally, establishing a state park at the lake could cause a change in the use of the Pee Dee River Game Land because state park regulations prohibit hunting and carrying loaded weapons. Consequently, it appears to be more beneficial to the public to have the Wildlife Resources Commission play an expanded role at Blewett Falls Lake by acquiring additional land for public use.

Appendix A

SESSION LAW 2004-24

GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2003
SESSION LAW 2004-24
HOUSE BILL 1574

AN ACT to authorize the addition of the lower haw river state Natural Area to the state parks system, AS RECOMMENDED BY THE ENVIRONMENTAL REVIEW COMMISSION, and to direct the division of parks and recreation of the department of environment and natural resources to study the feasibility and desirability of establishing a state RECREATION AREA at Blewett Falls Lake.

Whereas, Section 5 of Article XIV of the Constitution of North Carolina states that it shall be a proper function of the State of North Carolina to acquire and preserve park, recreational, and scenic areas, and in every other appropriate way to preserve as a part of the common heritage of this State, its open lands and places of beauty; and

Whereas, the 1987 General Assembly enacted the State Parks Act, which declares that the State of North Carolina offers unique archaeological, geologic, biological, scenic, and recreational resources, and that these resources are part of the heritage of the people of the State, which should be preserved and managed by the people for their use and for the use of their visitors and descendants; and

Whereas, the Lower Haw River in Chatham County is considered nationally significant for its biological resources, including several rare species and possesses biological, scenic, and recreational resources of statewide significance; and

Whereas, the Division of Parks and Recreation of the Department of Environment and Natural Resources has identified the Lower Pee Dee, which includes Blewett Falls Lake, as the highest ranked candidate for establishment of a State Recreation Area; Now, therefore, the General Assembly of North Carolina enacts:

SECTION 1. The General Assembly authorizes the Department of Environment and Natural Resources to add the Lower Haw River State Natural Area to the State Parks System as provided by G.S. 113-44.14(b).

SECTION 2. The Division of Parks and Recreation of the Department of Environment and Natural Resources shall study the feasibility and the desirability of acquiring land and establishing a State Recreation Area at Blewett Falls Lake. The study shall include estimates of the cost of developing the proposed recreation area. The Division shall report its findings and recommendations, including any legislative proposals, to the Environmental Review Commission on or before 1 December 2005.

SECTION 3. This act is effective when it becomes law.

In the General Assembly read three times and ratified this the 17th day of June, 2004.

Appendix B

Survey Questionnaire

North Carolina Department of Environment and Natural Resources
Division of Parks and Recreation

Michael F. Easley, Governor | William G. Ross Jr., Secretary | Lewis R. Ledford, Director

November 5, 2004 Anson County

Division of Parks and Recreation Blewett Falls Lake Area Survey Questions:

1. Would you be in favor of a new state park unit at Blewett Falls Lake? (Circle one)
   a. Yes
   b. No

2. Which of the following do you currently participate in at Blewett Falls Lake? (Circle all that apply)
   a. Camping
   b. Motorized Boating
   c. Canoeing/Kayaking
   d. Fishing
   e. Trail Hiking
   f. Picnicking
   g. Nature/Wildlife Study
   h. Swimming
   i. Viewing Scenery
   j. None
   k. Other – please specify: _____

3. If a state park unit were created at Blewett Falls Lake, which of the following activities would you be interested in participating in? (Circle all that apply)
   a. Camping
   b. Motorized Boating
   c. Canoeing/Kayaking
   d. Fishing
   e. Trail Hiking
   f. Picnicking
   g. Nature/Wildlife Study
   h. Swimming
   i. Viewing Scenery
   j. None
   k. Other – please specify: _____

4. Additional comments you would like to add:

_____
_____
_____
_____
_____
_____
_____

Thank you again for completing this survey. Please return it in the accompanying postage-paid envelope prior to November 19, 2004.

Summary of Results

Would you be in favor of a new state park unit at Blewett Falls Lake?

	Anson	Richmond	Total
Yes	143	133	**276**
No	12	9	**21**
No Answer	3	2	**5**
	158	144	**302**

Which of the following do you currently participate in at Blewett Falls Lake?

	Anson	Richmond	Total
Fishing	78	90	**168**
Viewing Scenery	77	76	**153**
Motorized Boating	55	57	**112**
Picnicking	57	52	**109**
None	44	33	**77**
Swimming	33	41	**74**
Trail Hiking	33	31	**64**
Nature/Wildlife Study	33	28	**61**
Canoeing/Kayaking	19	15	**34**
Other	4	4	**8**

Appendix C

Public Meeting Information Packet

Introduction

Blewett Falls Lake Study Area Public Meeting
November 30, 2004

Division of Parks and Recreation Mission Statement

The North Carolina State Parks System exists for the enjoyment, education, health and inspiration of all our citizens and visitors. The mission of the state parks system is to conserve and protect representative examples of the natural beauty, ecological features and recreational resources of statewide significance; to provide outdoor recreational opportunities in a safe and healthy environment; and to provide environmental education opportunities that promote stewardship of the state's natural heritage.

Blewett Falls Lake Study Area Narrative

This study area focuses on the 2,570 acre Blewett Falls Lake owned by Progress Energy. It is located on the lower Pee Dee River along the border between Anson and Richmond counties, just above the North Carolina/South Carolina border. The area has good potential for water and land based outdoor recreation and is located in a region with a high demand for state facilities. Land immediately surrounding the lake contains floodplains, pine plantations, hardwood and mixed forests, and private development. Within or close to the study area are four significant natural communities (piedmont and coastal plain mesic forests, piedmont and coastal plain oak forests, piedmont and mountain floodplains and riverine aquatic communities), as well as fifteen rare plants and animals, including the shortnose sturgeon and Bald Eagle.

Potential recreational activities for this park would include fishing, camping, picnicking, visiting natural areas, hiking, viewing scenery, nature study, open area use, swimming, motorized boating and canoeing/kayaking.

Comment Sheet

Blewett Falls Lake Study Area Public Meeting
November 30, 2004

Please share with us any comments, suggestions or ideas you may have regarding a potential state park unit at Blewett Falls Lake:

Please check one:

- ☐ YES – I am in favor of a new state park unit at Blewett Falls Lake.
- ☐ NO – I am not in favor of a new state park unit at Blewett Falls Lake.

OPTIONAL – Your contact information (name, address, phone, email, etc):

Comments may be continued on the back of this sheet. Please return completed comments to NC Division of Parks and Recreation staff members at the meeting. Additional comments may be mailed to:

Blewett Falls Lake Study
Division of Parks and Recreation
1615 Mail Service Center
Raleigh, NC 27699-1615

EXHIBIT D-6

NCDENR

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

January 25, 2005

MEMORANDUM

TO: Environmental Management Commission Members

FROM: William G. Ross, Secretary

SUBJECT: Vehicle Use at Fort Fisher State Recreation Area

S.L. 2004-124, Section 12.3.(b) requires the Department of Environment and Natural Resources to report to the Environmental Review Commission on vehicle use at Fort Fisher State Recreation Area. Attached is the required report that includes the research data and recommendations provided by the faculty of UNC Wilmington.

If you have any questions, please contact Lewis Ledford at 919-733-4181.

WGR/LRL

cc: Lewis R. Ledford, Division of Parks and Recreation

1601 Mail Service Center, Raleigh, North Carolina 27699-1601
Phone: 919-733-4984 \ FAX: 919-715-3060 \ Internet: www.enr.state.nc.us/ENR/
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One NorthCarolina Naturally

ASSESSMENT OF OCEAN BEACH VEHICULAR USE at FORT FISHER STATE RECREATION AREA KURE BEACH, NC



A study funded by the N.C. General Assembly and performed by faculty of The University of North Carolina at Wilmington for the N.C. Department of Environment and Natural Resources

NCDENR
North Carolina Department of Environment and Natural Resources

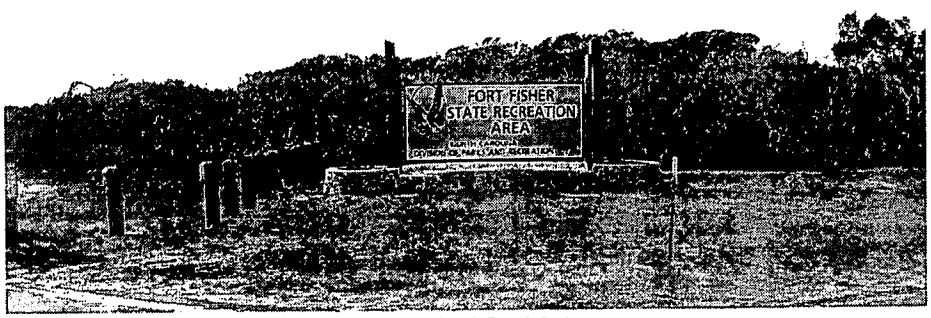
NORTH CAROLINA STATE PARKS
Naturally Wonderful

UNCW

January 2005

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FOFI Entrance off US 421



Access Gate for Beach Vehicles

Executive Summary

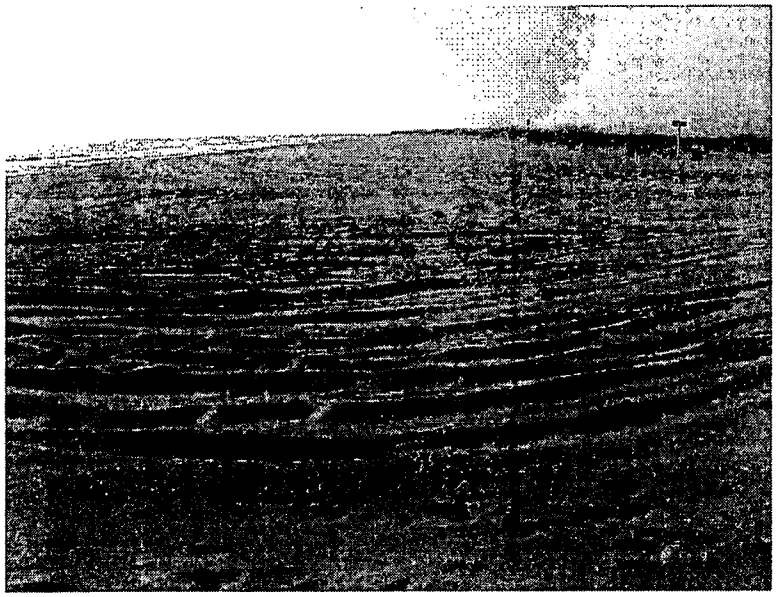
In response to ongoing public concerns, the FY 2005 North Carolina budget bill directed approximately $25,000 to fund a study of vehicular beach use and associated effects at the Fort Fisher State Recreation Area (FOFI) located near Kure Beach, NC. Faculty members at the University of North Carolina at Wilmington were contracted by the N.C. Department of Environment and Natural Resources (DENR) to investigate access demand, biological impacts of ocean beach vehicular use and economic impact analysis of use restriction. Duration of the three studies was from August 15, 2004, to December 15, 2004, with submission of final reports to DENR/Division of Parks and Recreation (DPR) by December 31, 2004. Public input was solicited by a public meeting held on October 11, 2004, in Wilmington and by subsequent opportunity to submit written comments directly to DPR.

Results of the **access demand** study (see pp. 3-21) by Drs. James Herstine, Jeffery Hill and Robert Buerger found that among surveyed users and vehicles counted at the access gate, the majority of ocean beach vehicular use at FOFI involved one or two persons per vehicle and occurred during the daytime: "...During the September—February time period, 73% of the users were exclusively daytime users, and during the March—August time period, the figure increases to 79%. This finding indicates that nighttime use of the ocean beach at FOFI is not significant. This is confirmed by the four-wheel drive vehicular access counts which indicate that 75% of the users entered during the daytime hours. Therefore, limiting ocean beach vehicular access to FOFI during the nighttime hours would impact a relatively small percentage of users." Also, spot surveys indicated that nighttime use during the March – August period involved more driving along the beach strand, as opposed to staying in one location, that could negatively impact ocean beach-dependent species such as nesting sea turtles and water birds. However, the authors recommended that a final management decision should be made only after a longer (i.e., two-year) investigation to obtain seasonally accurate data beyond the three-month scope of this study.

Biological impacts of vehicles on protected species were assessed by Dr. Wm. David Webster (see pp. 22-44). He found that FOFI is home to 10 species of federal or state significance. The site is used throughout the year by one or more of these listed species; the majority present during the spring through fall months. Off-road vehicle (ORV) lights and tire ruts negatively affect nesting/hatchling sea turtles. Young seabeach amaranth plants are destroyed by traffic and unable to set seed. ORV traffic in the beachfront and in marsh intertidal areas compacts soil, thereby rendering it unsuitable for worms and other invertebrates used as forage by shorebirds. Recommendations included: 1. synchronize dates used in management decisions affecting listed species, 2. there is no basis to close FOFI to ORV traffic for three nights around the full moon, 3. either: a.)suspend <u>all</u> ORV traffic during April 1 through November 15 --or-- b.) permanently prohibit <u>all</u> ORV traffic from the southernmost two miles of FOFI, 4. institute weekly shorebird and colonial waterbird surveys for three years and 5. develop and implement an outcomes assessment document (i.e., after the three-year period) to determine if ORV restrictions have had a positive effect on protected species; revise use policies accordingly.

An **economic impact analysis** (see pp. 45-66) of ocean beach vehicular access scenarios was performed by Dr. Chris Dumas. Input-output analysis, based on vehicular counts and spot surveys conducted as part of the access demand investigation, was employed to derive economic impacts for comparison of: 24-hour

access, daytime only access and complete discontinuation of ocean beach driving. Using the best available information for unrestricted access as a baseline, an estimated 28,884 trips/yr. onto the FOFI four-wheel drive access area support $21.6 million in annual regional sales, 382 regional jobs and $3.7 million in combined governmental tax revenues. Daytime only driving -- throughout the year -- would reduce these figures to $19.6 million in regional sales, 348 regional jobs and $3.4 million in tax revenues. (note: Presumably the effect on regional sales, regional jobs and tax revenues is less pronounced under the current management plan, which limits nighttime access for only six months. However, this cannot be extrapolated using available data.) Complete elimination of vehicular beach access would reduce the level of economic activity supported to $10.6 million in regional sales, 191 regional jobs and $1.8 million in tax revenues. The analysis accounts for those users (i.e., not all users) who would continue to visit the local area and purchase goods/services even if vehicular access were totally banned at FOFI. Also, economic impacts of access restriction will be affected by policies at other regional beach areas (e.g., north end of Carolina Beach). Dr. Dumas recommended that further study was needed, particularly relative to determining impacts of restriction during the spring and summer seasons, because of the limited project timeframe.



Ocean Beach at First Public Dune Crossover (1/8/05)

DENR Recommendation

The Department of Environment and Natural Resources (DENR) finds that the UNCW study provides the best information possible for vehicular access demand, biological impacts and economic impacts within the timeline specified by the General Assembly. Further research concerning various topics could be pursued, but general trends described herein are not likely to change: nighttime use is a relatively small component of overall vehicular activity, rare species at FOFI must be protected and the local economy will be affected to a minor degree by nighttime restriction during March 15 – September 15. For these reasons, the DENR concludes that the current Ft. Fisher State Recreation Area management policy is affirmed by the results of this report.

Introduction

Ocean beach vehicular access has been a controversy at Fort Fisher State Recreation Area (FOFI) for a number of years. Concerns have been voiced by local fisherman and residents who wish to have access to the site at all times. However, other users and state park staff feel that protection of federal/state listed species (e.g., nesting loggerhead sea turtles and water birds) from vehicular impacts on the oceanfront plus staffing limitations during March through September should require a schedule typical of state park properties. To provide focused information on this matter, the North Carolina General Assembly included the following language in the FY 2005 budget bill:

TWENTY-FOUR-HOUR ACCESS TO FORT FISHER STATE RECREATION AREA DURING THE FALL AND WINTER/ FUNDS FOR DEPARTMENT STUDY/ACTIVITIES AT FORT FISHER

SECTION 12.3.(a) G.S. 113 – 35 is amended by adding a new subsection to read: "(b1) Members of the public who pay a fee under subsection (b) of this section for access to Fort Fisher State Recreation Area may have 24-hour access to Fort Fisher State Recreation Area from September 15 through March 15 of each year."

SECTION 12.3.(b) The Department of Environment and Natural Resources shall conduct a study of vehicle use at Fort Fisher State Recreation Area. In preparing the study, the Department shall consult with experts in the fields pertinent to this study at the University of North Carolina at Wilmington. This study shall consider and determine in its findings the demand for vehicle access to the beach at Fort Fisher State Recreation Area during different times of the year. This study also shall include a review of scientific studies on the impact of vehicle use on sea turtles and nesting seabirds and shorebirds. This study shall provide an opportunity for comment from interested citizens. This study shall include in its report its finding on sea turtle and bird nesting activity at Fort Fisher State Recreation Area as compared with nesting activity on the adjoining beach that is managed by Bald Head Conservancy and on Masonboro Island and an analysis of the economic impact of restricting 24-hour vehicle access to the beach at Fort Fisher State Recreation Area. No later than February 1, 2005, the Department shall report its findings under this subsection, any other pertinent findings, and any recommendations or legislative proposals to the Environmental Review Commission.

SECTION 12.3.(c) Of the funds appropriated to the Department of Environment and Natural Resources for the 2004 – 2005 fiscal year, the sum of twenty-five thousand dollars ($25,000) shall be used for the costs to the Department of conducting the study under subsection (b) of this section and for education, conservation, and enforcement activities by the Department at Fort Fisher State Recreation Area.

(House Bill 1414-Ratified)

As mentioned in the above bill, expertise to perform these studies was available at the University of North Carolina at Wilmington (UNCW). In August 2004 the N.C. Department of Environment and Natural Resources (DENR) contracted selected researchers to investigate the specified tasks of access demand, biological impacts of vehicles and economic impacts of access restriction.

Faculty in the university departments of Health and Applied Human Sciences/Environmental Studies (Drs. Robert Buerger, James Herstine and Jeffrey Hill), Biology (Dr. Wm. David Webster) and Economics and Finance (Dr. Chris Dumas) were

chosen to perform the work. Drs. Buerger, Herstine and Hill have completed human dimension studies (e.g., principle investigators on a long-term study of visitor use impacts on nearby Masonboro Island and Zeke's Island, both managed by the DENR/Division of Coastal Management) plus Dr. Herstine is a member of the Fort Fisher Park Advisory Committee. Dr. Webster has performed multi-year studies of nesting sea turtles at Masonboro Island and the Bald Head Island complex and assisted with monitoring of local nesting water bird populations. Dr. Dumas has completed various economic impact studies relating to environmental issues.

Contracts between DENR and UNCW were developed for each of the three study areas. Work was performed during August 15 through December 15, 2004, with final reports submitted to DENR/Division of Parks and Recreation (DPR) on December 31.

A public forum was held on October 11, 2004, at the UNCW Center for Marine Science in Wilmington to receive verbal and written comments on all ocean beach vehicular access-related issues. DENR/DPR staff and contracted faculty discussed the proposed research with the audience. UNCW investigators took notes on verbal public input that evening. All letters received by the DPR following the meeting were forwarded to university researchers.

I. FOFI Vehicular Access Demand

Submitted by:

Dr. Jim Herstine, Ph.D., CPRP
Assistant Professor
Department of Health and Applied Human Sciences
University of North Carolina Wilmington
herstinej@uncw.edu
910.962-3283

Dr. Jeffery Hill, Re.D.
Associate Dean and Associate Professor
College of Arts and Sciences
University of North Carolina Wilmington

Dr. Robert Buerger, Ph.D.
Professor
Department of Environmental Studies
University of North Carolina Wilmington

Abstract

The ocean beach vehicular access study at Fort Fisher State Recreation Area (FOFI) was conducted between August 15, 2004, and December 15, 2004. A total of 10,545 vehicles entered FOFI during this period. Of the total, 5,555 would be considered daytime users (entered the area between sun-up and sun-down) and 1,841 nighttime users (entered the area between sun-down and sun-up). Three thousand one hundred and forty-nine (3,149) vehicles entered FOFI between August 15th and September 14th, but were not differentiated as daytime and nighttime users by the photoelectric cell system in place during this period. No counts were made between September 15th and September 23rd due to a malfunctioning of the electronic counting system.

A total of 181 spot surveys were administered to vehicles entering FOFI between September 15th and December 15th. Of these, 127 were valid surveys, for a response rate of over 71%*.

Background

This document has been prepared in partial fulfillment of a contract to the University of North Carolina Wilmington (UNCW) for an Ocean Beach Vehicular Access Study at FOFI located near Kure Beach, North Carolina **Appendix A—Map of Fort Fisher State Recreation Area**). This study was authorized under the 2004 North Carolina House Bill 1414, Section 12.3(b).

Scope of Work

Demand Analysis: Drs. Robert Buerger, Jim Herstine and Jeffery Hill will determine from available past and present data the demand for ocean beach vehicular access throughout the year with emphasis on assessing nighttime use. This will be derived from vehicular counts taken at FOFI plus spot surveys performed to determine the geographic distribution of users and likely frequency of use.

Deliverables

The deliverables consist of a summary report that encompasses a record of the number of vehicles utilizing FOFI during the study period, any relevant prior data and results of spot surveys of users.

Methodology

The methodology for this study consisted of two (2) components: 1) electronic counts of vehicles entering FOFI (**Appendix B—Four-Wheel Drive Vehicle Access Count**); and, 2) spot surveys administered to individuals in vehicles entering FOFI (**Appendix C—Ocean Beach Vehicular Access Survey**).

Electronic counts: The electronic counts of vehicles entering FOFI were taken by FOFI staff using two different methodologies. Initially, the counts were taken utilizing a photoelectric cell system which registered whenever the beam between the units was interrupted. This system was utilized from July 2nd through October 31st. However, no electronic counts are available between September 15th and September 23rd due to a malfunction of the photoelectric cell system. A gate system with an access keypad was installed and utilized to record the number of vehicles entering FOFI from November 1st through December 15th.

Spot surveys: A survey instrument was developed in conjunction with the economist contracted for this project (**Appendix C—Ocean Beach Vehicular Access Survey**). Once the instrument was finalized, a training session was held with the 10 survey administrators. The spot surveys were administered on twenty-seven (27) different dates at varied times and days between September 15th and December 15th (**Appendix D—Survey Schedule**). Dates and times were selected using purposive sampling in order to gain representative data from users throughout the weekdays and weekends, as well as to ensure that data were gathered from time periods throughout both the daytime and nighttime. Survey administrators were located at the entrance to the four-wheel drive access trail. They were specifically instructed to approach and stop all vehicles entering or exiting the four-wheel drive access trail, identify themselves, and ask whether the users would be willing to participate in a voluntary survey of ocean beach vehicular access to FOFI. If the user refused or had previously participated, the survey administrator was instructed to note this on the survey form, thank them and terminate the interview. If the user provided any justification for not participating in the survey, this was recorded. Additionally, if the

survey administrator was able to determine the number of users in the vehicle, this was recorded as well. If the user agreed, the survey was administered.

Electronic Count Results

Frequency of Visitation by Time of Day

Electronic counts (**Appendix B—Four-Wheel Drive Vehicle Access Count**) were intended to provide data regarding total daily visitation as well as differentiation of visitation by time of day. During the July 2nd through December 15th time period, 15,883 vehicles were recorded passing through the FOFI ocean beach vehicular access entrance. As anticipated, total visitation declined during this period, with the exception of the month of October when the surf fishing tournament was held (**Table 1—Monthly FOFI Four-Wheel Drive Vehicle Access Count**).

Month	Count	Percentage	Mitigating Factors
July	3,848	24%	
August	3,390	21%	Closed August 14th for Hurricane Charlie
September	2,347	15%	Counter malfunction September 15th-23rd
October	4,850	31%	Surf fishing tournament October 1st-3rd
November	1,280	8%	
December	168	1%	Counts ended December 15th
Total	15,883	100%	

Table 1—Monthly FOFI Four-Wheel Drive Vehicle Access Count

After September 23rd, a differentiation was made between daytime and nighttime vehicular entrance into the FOFI ocean beach. The results indicate that the majority of vehicles (75%) entered during the daytime hours (**Table 2—Four-Wheel Drive Vehicle Access Count Differentiating Between Daytime and Nighttime Entrance**).

Month	Daytime Count	Daytime Percentage	Nighttime Count	Nighttime Percentage
September	855	79%	231	21%
October	3,552	73%	1,298	27%
November	992	78%	288	22%
December	156	93%	12	7%
Total	5,555	75%	1,829	25%

Table 2—Monthly FOFI Four-Wheel Drive Vehicle Access Count Differentiating Between Daytime and Nighttime Usage

Spot Survey Results

The FOFI Ocean Beach Vehicular Access Survey contained eight questions (**Appendix C—Ocean Beach Vehicular Access Survey**). Of these, Question 1 was a qualifying question to determine whether the respondent was of majority age. Only those individuals of majority age were asked to complete the survey. Questions 2, 3 and 4 focused upon the demand for ocean beach vehicular access throughout the year. As such, the data from these questions comprise the results of the ocean beach vehicular access demand component of the study. The remaining questions focus upon deriving data for an economic impact analysis of restricting 24-hour access to the ocean beach at FOFI. The analysis of these questions will be completed by an economist specifically addressing the resultant data.

Number of Users Per Vehicle

The number of individuals in the surveyed vehicles driving on the FOFI ocean beach ranged from 1 to 5, with the majority of vehicles (78%) containing either 1 or 2 individuals (**Figure 1—Number of People per Vehicle in Surveyed Vehicles Driving on the FOFI Ocean Beach**).

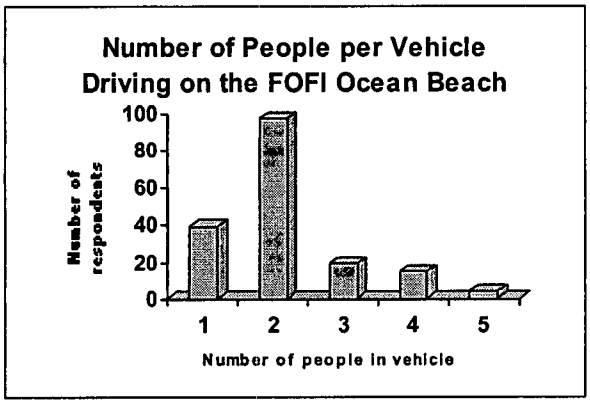


Figure 1—Number of People per Vehicle in Surveyed Vehicles Driving on the FOFI Ocean Beach

Distribution of Visitation by Season

Results of the analysis of demand data indicate that 90 of the 127 respondents (71%) drove on the FOFI ocean beach during the months of March—August during the previous 12 months. Conversely, 37 of the 127 respondents (29%) reported that they had never driven their vehicle on the ocean beach at FOFI during the months of March—August during the previous 12 months (**Figure 2—Percentage of Respondents Who Indicated They Drove Their Vehicle on the Ocean Beach at FOFI Between March and August**).

On the other hand, 120 of the 127 respondents (94%) drove on the FOFI ocean beach during the months of September—February during the previous 12 months. Only 7 of the 127 respondents (6%) reported that they had never driven their vehicle on the ocean beach at FOFI during the months of September—February during the

previous 12 months (**Figure 3—Percentages of Respondents Who Indicated They Drove Their Vehicle on the Ocean Beach at FOFI Between September and February**).

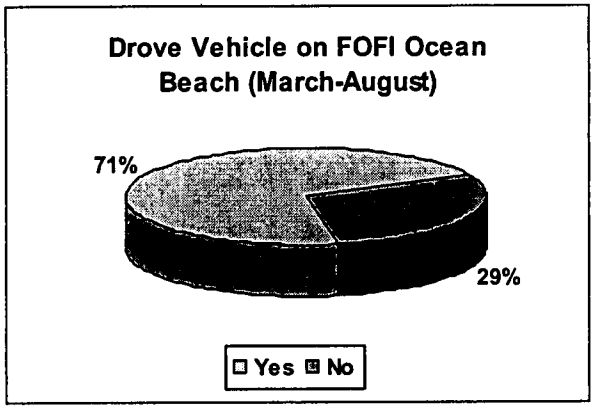


Figure 2—Percentages of Respondents Who Indicated They Drove Their Vehicle on the Ocean Beach at FOFI Between March and August

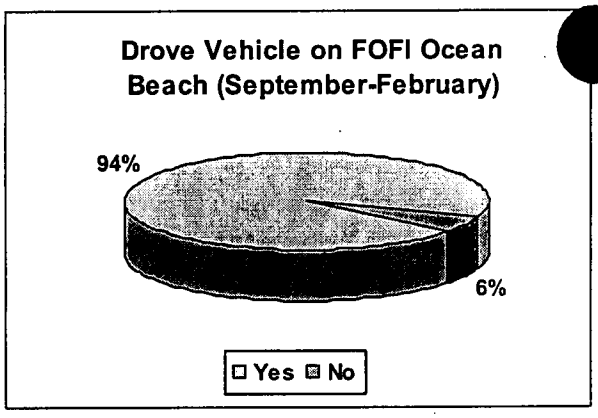


Figure 3—Percentages of Respondents Who Indicated They Drove Their Vehicle on the Ocean Beach at FOFI Between September and February

Frequency of Visitation by Season

Forty-one (41) of the 127 respondents (32%) reported that they drove their vehicle on the ocean beach at FOFI during March—August between 1 and 10 times during the previous 12 months. The majority of such users, 67 of the 127 respondents (53%), indicated that they drove their vehicle on the ocean beach at FOFI during March—August between 1 and 30 times during the previous 12 months (**Figure 4—Number of Times During the Previous 12 Months Respondents Drove Their Vehicle on the Ocean Beach at FOFI Between March and August**).

However, 68 of the 127 respondents (54%) reported that they drove their vehicle on the ocean beach at FOFI during September—February between 1 and 10 times during the previous 12 months, which comprise the majority of respondents (**Figure 5—Number of Times During the Previous 12 Months Respondents Drove Their Vehicle on the Ocean Beach at FOFI Between September and February**).

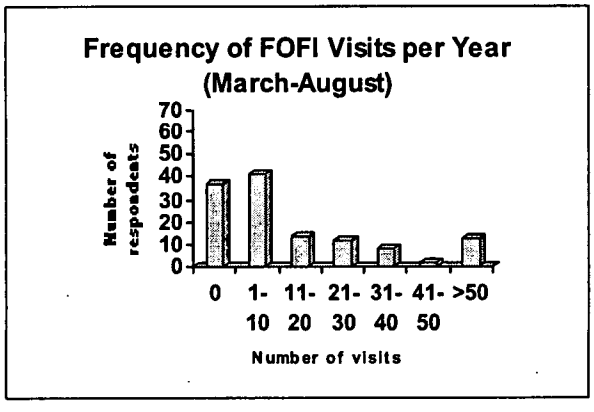


Figure 4—Number of Times During the Previous 12 Months Respondents Drove Their Vehicle on the Ocean Beach at FOFI Between March and August

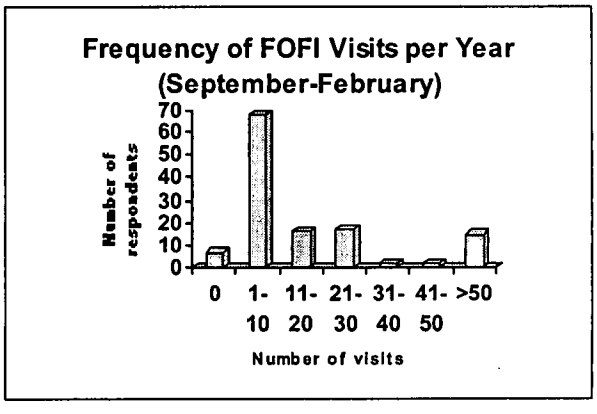


Figure 5—Number of Times During the Previous 12 Months Respondents Drove Their Vehicle on the Ocean Beach at FOFI Between September and February

Frequency of Visitation by Time of Day

Of the 127 respondents, only 27 (21%) included some nighttime driving on the ocean beach during the months of March—August during the previous 12 months. Only 17 of the 127 respondents (13%) indicated that some of their trips were exclusively nighttime driving during the months of March—August during the previous 12 months (**Figure 6—Percentages of Respondents Who Indicated They Drove Their Vehicle at Night on the Ocean Beach at FOFI Between March and August**).

However, 36 of the 127 respondents (27%) included some nighttime driving on the ocean beach during the months of September—February during the previous 12 months. Only 29 of the 127 respondents (23%) indicated that their trips were exclusively nighttime driving during the months of September—February during the previous 12 months (**Figure 7—Percentages of Respondents Who Indicated They Drove Their Vehicle at Night on the Ocean Beach at FOFI Between September and February**).

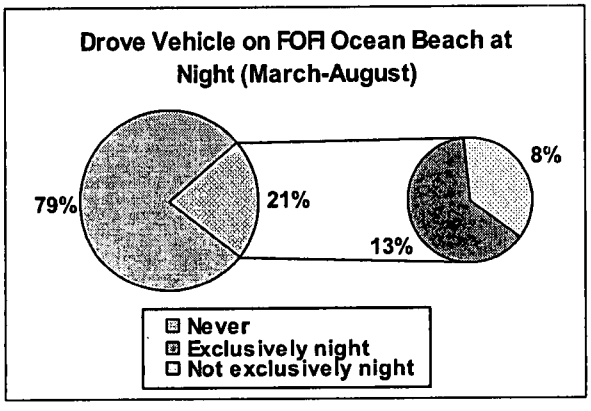


Figure 6—Percentages of Respondents Who Indicated They Drove Their Vehicle at Night on the Ocean Beach at FOFI Between March and August

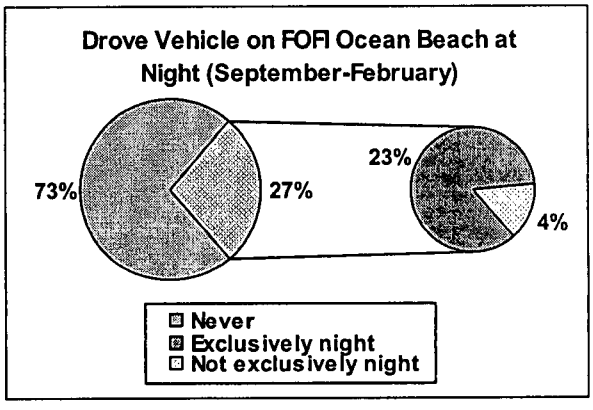


Figure 7—Percentages of Respondents Who Indicated They Drove Their Vehicle at Night on the Ocean Beach at FOFI Between September and February

In all instances, not only did nighttime driving on the ocean beach at FOFI comprise a marginal amount of overall use, but the number of nighttime driving trips was limited as well. Only 20 of the 127 total respondents (16%) reported that they drove their vehicle at nighttime on the ocean beach at FOFI during March—August between 1 and 10 times during the previous 12 months. Nonetheless, this proved to be the majority of that group who drove their vehicle at nighttime on the ocean beach at FOFI during March—August during the previous 12 months (74%) (**Figure 8—Number of Times During the Previous 12 Months Respondents Drove Their Vehicle at Night on the Ocean Beach at FOFI Between March and August**).

Only 17 of the 127 total respondents (16%) reported that they drove their vehicle at nighttime on the ocean beach at FOFI during September—February between 1 and 10 times during the previous 12 months. The majority of those users who drove their vehicle at nighttime on the ocean beach at FOFI during September—February during the previous 12 months, 25 of the 36 respondents (69%), indicated that they did so

between 1 and 20 times during this period (**Figure 9—Number of Times During the Previous 12 Months Respondents Drove Their Vehicle at Night on the Ocean Beach at FOFI Between September and February**).

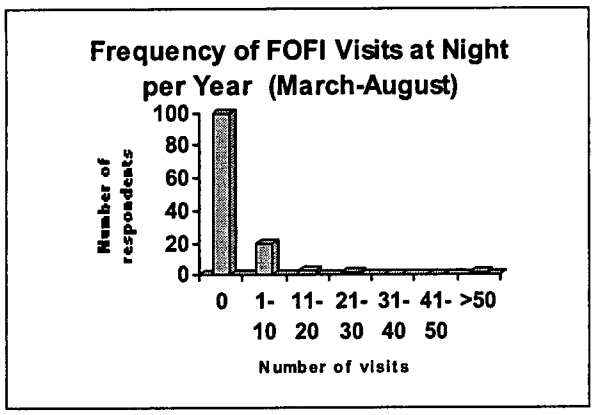


Figure 8—Number of Times During the Previous 12 Months Respondents Drove Their Vehicle at Night on the Ocean Beach at FOFI Between March and August

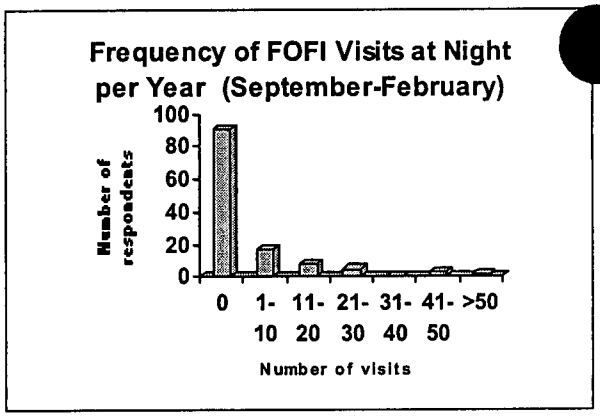


Figure 9—Number of Times During the Previous 12 Months Respondents Drove Their Vehicle at Night on the Ocean Beach at FOFI Between September and February

Physical Distribution of Visitation

Eighty-three (83) of the 128 respondents (65%) indicated that they do not normally drive their vehicle to a specific spot on the beach, stop and remain in that location for the duration of their visit. The remaining 45 respondents (35%) indicated that they normally do drive their vehicle to a specific spot on the beach, stop and remain in that location for the duration of their visit (**Figure 10—Percentages of Respondents Who Indicated They Drove Their Vehicle to a Specific Spot on the Ocean Beach at FOFI, Stopped and Remained in that Location for the Duration of Their Visit**). However, those locations where individuals drive their vehicle to a specific spot on the beach, stop and remain in that location for the duration of their visit are minimally clustered, yet widely dispersed along the ocean beach at FOFI (**Appendix E—Distribution of Stationary FOFI Ocean Beach Vehicular Users**).

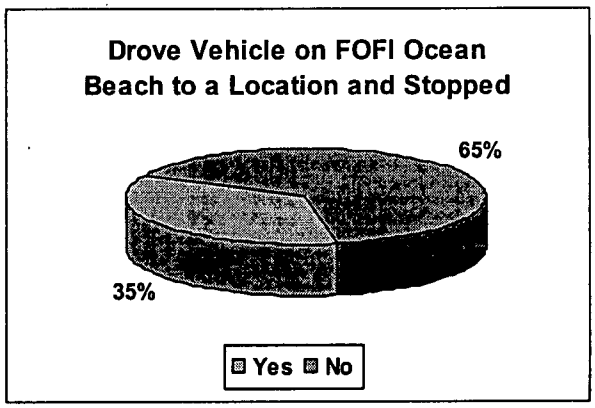


Figure 10—Percentages of Respondents Who Indicated They Drove Their Vehicle to a Specific Spot on the Ocean Beach at FOFI, Stopped and Remained in that Location for the Duration of Their Visit

Those indicating driving on the FOFI ocean beach reported minor differences in their intent to drive their vehicle to a specific spot on the beach, stop and remain in that location for the duration of their visit between the March—August (**Figure 11—Percentages of Respondents Who Indicated They Drove Their Vehicle to a Specific Spot on the Ocean Beach at FOFI, Stopped and Remained in that Location for the Duration of Their Visit Between March and August**) and September—February (**Figure 12—Percentages of Respondents Who Indicated They Drove Their Vehicle to a Specific Spot on the Ocean Beach at FOFI, Stopped and Remained in that Location for the Duration of Their Visit Between September and February**) time periods. Those driving on the FOFI ocean beach in the September—February time period were slightly more inclined not to remain stationary, and in both cases, this group was the majority (57% and 64% respectively).

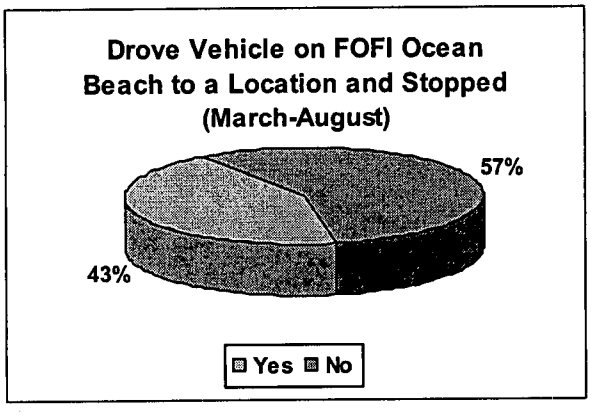


Figure 11—Percentages of Respondents Who Indicated They Drove Their Vehicle to a Specific Spot on the Ocean Beach at FOFI, Stopped and Remained in that Location for the Duration of Their Visit Between March and August

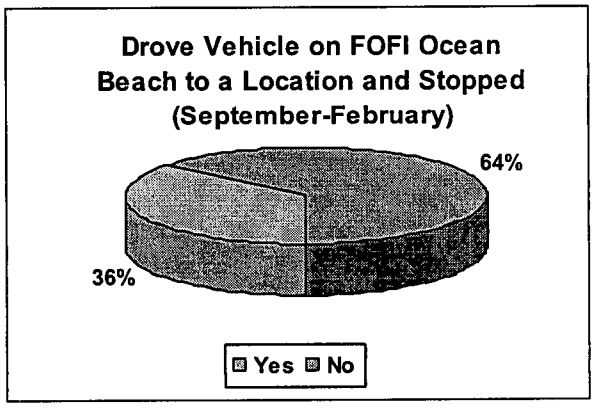


Figure 12—Percentages of Respondents Who Indicated They Drove Their Vehicle to a Specific Spot on the Ocean Beach at FOFI, Stopped and Remained in that Location for the Duration of Their Visit Between September and February

However, even though those users who indicated driving at nighttime on the FOFI ocean beach were a minority, these groups did report differences in their intent to drive their vehicle to a specific spot on the beach, stop and remain in that location for the duration of their visit between the March—August (**Figure 13—Percentages of Respondents Who Indicated They Drove Their Vehicle at Night to a Specific Spot on the Ocean Beach at FOFI, Stopped and Remained in that Location for the Duration of Their Visit Between March and August**) and September—February (**Figure 14—Percentages of Respondents Who Indicated They Drove Their Vehicle at Night to a Specific Spot on the Ocean Beach at FOFI, Stopped and Remained in that Location for the Duration of Their Visit Between September and February**) time periods. Those driving at nighttime on the FOFI ocean beach in the March—August time period were significantly more inclined not to remain stationary (70%) than those in the September—February time period (47%), and more consistent with the respondent pool as a whole (65%). In conflict with the overall respondent trend, those individuals who reported driving at nighttime on the ocean beach at FOFI during the September—February time period were significantly more inclined to drive their vehicle to a specific spot on the beach, stop and remain in that location for the duration of their visit (53%) than either those in the March—August time period (30%) or the respondent pool as a whole (35%).

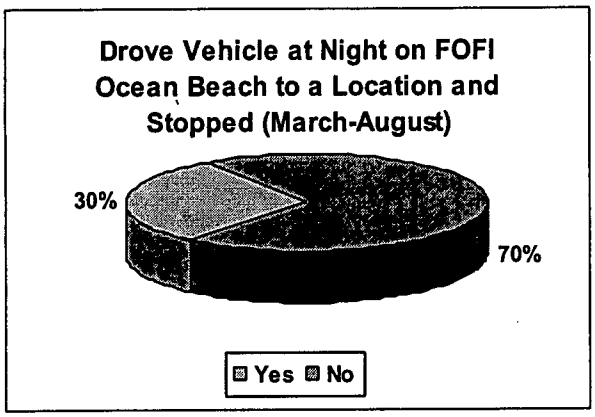


Figure 13—Percentages of Respondents Who Indicated They Drove Their Vehicle at Night to a Specific Spot on the Ocean Beach at FOFI, Stopped and Remained in that Location for the Duration of Their Visit Between March and August

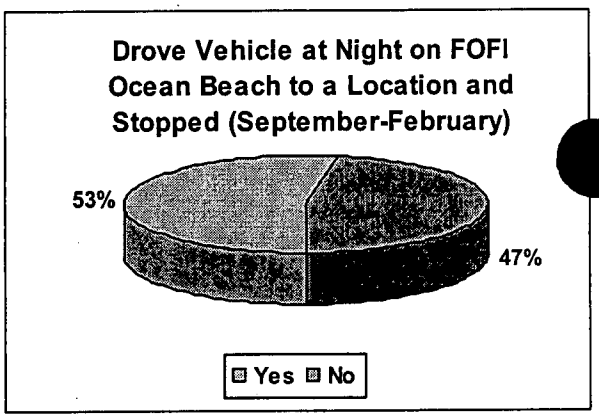


Figure 14—Percentages of Respondents Who Indicated They Drove Their Vehicle at Night to a Specific Spot on the Ocean Beach at FOFI, Stopped and Remained in that Location for the Duration of Their Visit Between September and February

Study Limitations

The results must be viewed in context of a full understanding of the parameters of the study defined by the scope of work as authorized under *North Carolina House Bill 1414-Ratified* (see prior Background section of this document). The intent of this particular phase of the study is to ascertain the demand for ocean beach vehicular access at FOFI throughout the year. However, the defining legislation limited the study to the months of August—December 2004. This had the effect of significantly restricting both the number and type of respondents from whom data could be derived. Although vehicular counts dating from July 2nd to December 15th exist, there are no vehicular counts prior to this time period. In addition, given the imposed time constraints of the study, critical survey data could only be collected from respondents between September 15th and December 15th.

These limitations confound the analysis of data in several ways. First, the overall number of actual respondents is severely limited since neither the vehicular counts nor surveys took place over an extended period of time (i.e. a two-year period). Second, given that the survey responses were only generated from users who came to the ocean beach at FOFI during the early fall through winter months (September 15th through December 15th), the question of whether the sample truly represents the population of FOFI users throughout the year arises. Individuals who use the ocean beach at FOFI exclusively during the spring and summer months were not included in the sample pool.

Therefore, given the above limitations, any conclusions that may be derived from analysis of this data can only be generalized to vehicular users of the ocean beach at FOFI during the early fall through winter months.

Discussion and Conclusions

Although the results of this study cannot be generalized to the entire population of ocean beach vehicular users at FOFI throughout the year, certain conclusions can be reached regarding early fall through winter users.

The majority of ocean beach vehicular users at FOFI arrive in vehicles with only one or two individuals. Larger groups are infrequent. This would indicate that FOFI is not utilized as a location for large social gatherings. This is reinforced by the wide distribution of users across the oceanfront beach.

Conclusions regarding the distribution of visitation by season are the most problematic to derive. This is due to the fact that survey data was only collected between September 15th and December 15th.

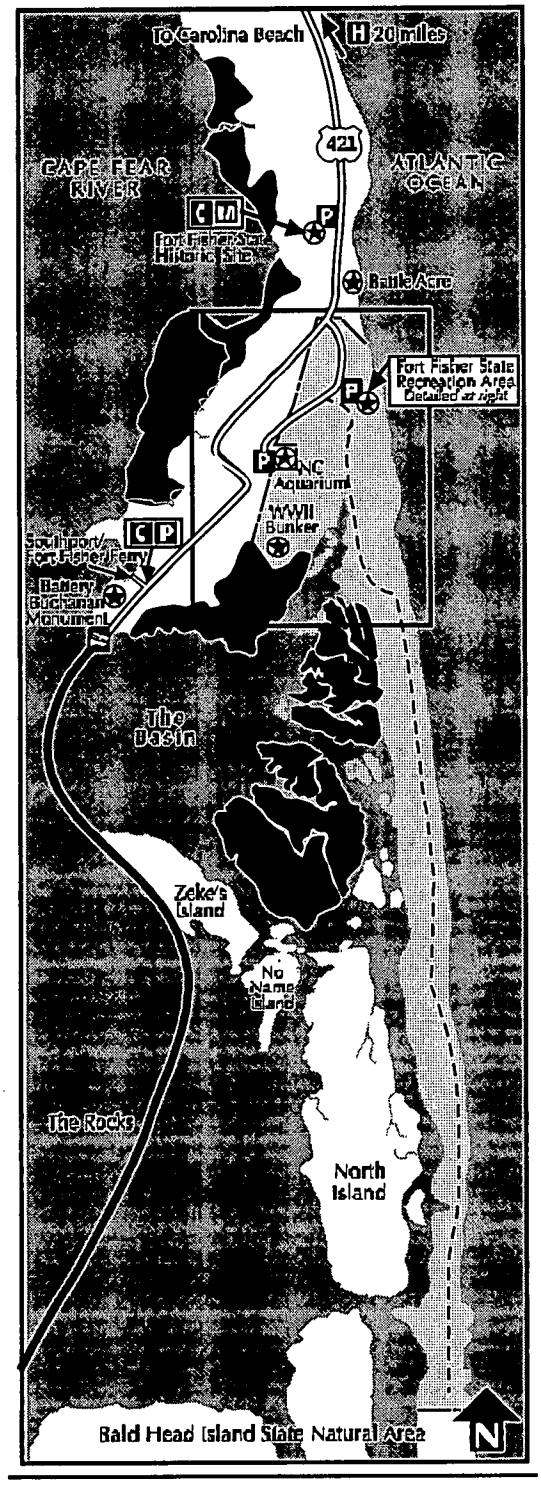
Perhaps the most relevant finding of this study is that the majority of ocean beach vehicular users at FOFI visit exclusively during the daytime hours (sunup to sundown). During the September—February time period, 73% of the users were exclusively daytime users, and during the March—August time period, the figure increases to 79%. This finding indicates that nighttime use of the ocean beach at FOFI is not significant. This is confirmed by the four-wheel drive vehicular access counts which indicate that 75% of the users entered during the daytime hours. Therefore, limiting ocean beach vehicular access to FOFI during the nighttime hours would impact a relatively small percentage of users.

Also of interest is the finding that the majority (70%) of nighttime ocean beach vehicular users at FOFI during March—August do not drive their vehicle to a specific spot on the beach, stop and remain in that location for the duration of their visit as compared to 47% of the September—February users. This would indicate that the nighttime users during March—August may be impacting critical nighttime biological functions associated with nesting sea turtles and colonial nesting water birds. However, given the inherent limitations consistent with the size and composition of the sample, this finding warrants additional investigation.

Recommendations

It would appear, based upon the available limited data, that restricting nighttime ocean beach vehicular access to FOFI would have minimal negative impact upon visitor usage and demand since the majority are daytime users. However, it would be premature to make definitive management decisions regarding ocean beach vehicular access at FOFI based upon the results of this study given the study's inherent limitations (see prior Limitations section of this document). Therefore, it is further recommended that this study be continued to cover a full two-year period. This would provide a more reliable dataset that would mitigate such limitations, and thereby support sound management decisions regarding ocean beach vehicular access at FOFI.

Appendix A—Map of Fort Fisher State Recreation Area



Appendix B—Four-Wheel Drive Vehicle Access Count

Date	Day/Night	Number of Vehicles	Reason for "No" Count or Abnormal Count
Friday, July 02, 2004	D and N	311	
Saturday, July 03, 2004	D and N	390	
Sunday, July 04, 2004	D and N	350	
Monday, July 05, 2004	D and N	212	
Sunday, July 11, 2004	D and N	160	
Monday, July 12, 2004	D and N	74	
Tuesday, July 13, 2004	D and N	76	
Wednesday, July 14, 2004	D and N	82	
Thursday, July 15, 2004	D and N	112	
Friday, July 16, 2004	D and N	91	
Saturday, July 17, 2004	D and N	265	
Sunday, July 18, 2004	D and N	177	
Monday, July 19, 2004	D and N	83	
Tuesday, July 20, 2004	D and N	75	
Wednesday, July 21, 2004	D and N	98	
Thursday, July 22, 2004	D and N	137	
Friday, July 23, 2004	D and N	85	
Saturday, July 24, 2004	D and N	256	
Sunday, July 25, 2004	D and N	172	
Monday, July 26, 2004	D and N	70	
Tuesday, July 27, 2004	D and N	40	
Wednesday, July 28, 2004	D and N	91	
Thursday, July 29, 2004	D and N	86	
Friday, July 30, 2004	D and N	132	
Saturday, July 31, 2004	D and N	223	
Sunday, August 01, 2004	D and N	152	
Monday, August 02, 2004	D and N	63	
Tuesday, August 03, 2004	D and N	99	
Wednesday, August 04, 2004	D and N	76	
Thursday, August 05, 2004	D and N	93	
Friday, August 06, 2004	D and N	105	
Saturday, August 07, 2004	D and N	291	
Sunday, August 08, 2004	D and N	280	
Monday, August 09, 2004	D and N	73	
Tuesday, August 10, 2004	D and N	77	
Wednesday, August 11, 2004	D and N	51	
Thursday, August 12, 2004	D and N	66	
Friday, August 13, 2004	D and N	64	
Saturday, August 14, 2004			Closed for Hurricane Charlie
Sunday, August 15, 2004	D and N	95	
Monday, August 16, 2004	D and N	64	
Tuesday, August 17, 2004	D and N	70	
Wednesday, August 18, 2004	D and N	91	
Thursday, August 19, 2004	D and N	100	
Friday, August 20, 2004	D and N	138	

Saturday, August 21, 2004	D and N	287	
Sunday, August 22, 2004	D and N	263	
Monday, August 23, 2004	D and N	222	
Tuesday, August 24, 2004	D and N	42	
Wednesday, August 25, 2004	D and N	33	
Thursday, August 26, 2004	D and N	113	
Friday, August 27, 2004	D and N	54	
Saturday, August 28, 2004	D and N	167	
Sunday, August 29, 2004	D and N	63	
Monday, August 30, 2004	D and N	48	
Tuesday, August 31, 2004	D and N	50	
Wednesday, September 01, 2004	D and N	12	
Thursday, September 02, 2004	D and N	46	
Friday, September 03, 2004	D and N	79	
Saturday, September 04, 2004	D and N	162	
Sunday, September 05, 2004	D and N	214	
Monday, September 06, 2004	D and N	66	
Tuesday, September 07, 2004	D and N	20	
Wednesday, September 08, 2004	D and N	36	
Thursday, September 09, 2004	D and N	52	
Friday, September 10, 2004	D and N	51	
Saturday, September 11, 2004	D and N	107	
Sunday, September 12, 2004	D and N	289	
Monday, September 13, 2004	D and N	55	
Tuesday, September 14, 2004	D and N	60	
Wednesday, September 15, 2004			Counter Malfunctioning
Thursday, September 16, 2004			Counter Malfunctioning
Friday, September 17, 2004			Counter Malfunctioning
Saturday, September 18, 2004			Counter Malfunctioning
Sunday, September 19, 2004			Counter Malfunctioning
Monday, September 20, 2004			Counter Malfunctioning
Tuesday, September 21, 2004			Counter Malfunctioning
Wednesday, September 22, 2004			Counter Malfunctioning
Thursday, September 23, 2004			Counter Malfunctioning
Thursday, September 23, 2004	N	12	
Friday, September 24, 2004	D	72	
Friday, September 24, 2004	N	23	
Saturday, September 25, 2004	D	183	
Saturday, September 25, 2004	N	10	
Sunday, September 26, 2004	D	55	
Sunday, September 26, 2004	N	34	
Monday, September 27, 2004	D	264	
Monday, September 27, 2004	N	30	
Tuesday, September 28, 2004	D	80	
Tuesday, September 28, 2004	N	41	
Wednesday, September 29, 2004	D	101	
Wednesday, September 29, 2004	N	55	
Thursday, September 30, 2004	D	100	
Thursday, September 30, 2004	N	38	

Friday, October 01, 2004	D	152	Surf Fishing Tournament
Friday, October 01, 2004	N	239	Surf Fishing Tournament
Saturday, October 02, 2004	D	571	Surf Fishing Tournament
Saturday, October 02, 2004	N	239	Surf Fishing Tournament
Sunday, October 03, 2004	D	415	Surf Fishing Tournament
Sunday, October 03, 2004	N	110	Surf Fishing Tournament
Monday, October 04, 2004	D	112	
Monday, October 04, 2004	N	33	
Tuesday, October 05, 2004	D	120	
Tuesday, October 05, 2004	N	25	
Wednesday, October 06, 2004	D	13	
Wednesday, October 06, 2004	N	30	
Thursday, October 07, 2004	D	73	
Thursday, October 07, 2004	N	11	
Friday, October 08, 2004	D	26	
Friday, October 08, 2004	N	94	
Saturday, October 09, 2004	D	240	
Saturday, October 09, 2004	N	43	
Sunday, October 10, 2004	D	220	
Sunday, October 10, 2004	N	35	
Monday, October 11, 2004	D	59	
Monday, October 11, 2004	N	21	
Tuesday, October 12, 2004	D	134	
Tuesday, October 12, 2004	N	18	
Wednesday, October 13, 2004	D	41	
Wednesday, October 13, 2004	N	6	
Thursday, October 14, 2004	D	62	
Thursday, October 14, 2004	N	6	
Friday, October 15, 2004	D	57	
Friday, October 15, 2004	N	29	
Saturday, October 16, 2004	D	170	
Saturday, October 16, 2004	N	32	
Sunday, October 17, 2004	D	123	
Sunday, October 17, 2004	N	20	
Monday, October 18, 2004	D	60	
Monday, October 18, 2004	N	7	
Tuesday, October 19, 2004	D	43	
Tuesday, October 19, 2004	N	15	
Wednesday, October 20, 2004	D	48	
Wednesday, October 20, 2004	N	31	
Thursday, October 21, 2004	D	48	
Thursday, October 21, 2004	N	11	
Friday, October 22, 2004	D	64	
Friday, October 22, 2004	N	28	
Saturday, October 23, 2004	D	83	
Saturday, October 23, 2004	N	21	
Sunday, October 24, 2004	D	61	
Sunday, October 24, 2004	N	11	
Monday, October 25, 2004	D	27	
Monday, October 25, 2004	N	8	
Tuesday, October 26, 2004	D	52	

Tuesday, October 26, 2004	N	20	
Wednesday, October 27, 2004	D	43	
Wednesday, October 27, 2004	N	8	
Thursday, October 28, 2004	D	60	
Thursday, October 28, 2004	N	11	
Friday, October 29, 2004	D	54	
Friday, October 29, 2004	N	61	
Saturday, October 30, 2004	D	194	
Saturday, October 30, 2004	N	60	
Sunday, October 31, 2004	D	127	
Sunday, October 31, 2004	N	15	
Monday, November 01, 2004	D	39	
Monday, November 01, 2004	N	6	
Tuesday, November 02, 2004	D	29	
Tuesday, November 02, 2004	N	10	
Wednesday, November 03, 2004	D	25	
Wednesday, November 03, 2004	N	6	
Thursday, November 04, 2004	D	23	
Thursday, November 04, 2004	N	12	
Friday, November 05, 2004	D	37	
Friday, November 05, 2004	N	23	
Saturday, November 06, 2004	D	100	
Saturday, November 06, 2004	N	38	
Sunday, November 07, 2004	D	80	
Sunday, November 07, 2004	N	16	
Monday, November 08, 2004	D	14	
Monday, November 08, 2004	N	3	
Tuesday, November 09, 2004	D	10	
Tuesday, November 09, 2004	N	4	
Wednesday, November 10, 2004	D	10	
Wednesday, November 10, 2004	N	3	
Thursday, November 11, 2004	D	33	
Thursday, November 11, 2004	N	7	
Friday, November 12, 2004	D	20	
Friday, November 12, 2004	N	10	
Saturday, November 13, 2004	D	49	
Saturday, November 13, 2004	N	10	
Sunday, November 14, 2004	D	15	
Sunday, November 14, 2004	N	8	
Monday, November 15, 2004	D	18	
Monday, November 15, 2004	N	6	
Tuesday, November 16, 2004	D	24	
Tuesday, November 16, 2004	N	11	
Wednesday, November 17, 2004	D	26	
Wednesday, November 17, 2004	N	6	
Thursday, November 18, 2004	D	29	
Thursday, November 18, 2004	N	4	
Friday, November 19, 2004	D	65	
Friday, November 19, 2004	N	13	
Saturday, November 20, 2004	D	61	

Saturday, November 20, 2004	N	16	
Sunday, November 21, 2004	D	32	
Sunday, November 21, 2004	N	4	
Monday, November 22, 2004	D	8	
Monday, November 22, 2004	N	6	
Tuesday, November 23, 2004	D	10	
Tuesday, November 23, 2004	N	5	
Wednesday, November 24, 2004	D	17	
Wednesday, November 24, 2004	N	8	
Thursday, November 25, 2004	D	37	
Thursday, November 25, 2004	N	9	
Friday, November 26, 2004	D	49	
Friday, November 26, 2004	N	14	
Saturday, November 27, 2004	D	87	
Saturday, November 27, 2004	N	12	
Sunday, November 28, 2004	D	30	
Sunday, November 28, 2004	N	6	
Monday, November 29, 2004	D	10	
Monday, November 29, 2004	N	7	
Tuesday, November 30, 2004	D	5	
Tuesday, November 30, 2004	N	5	
Wednesday, December 01, 2004	D	7	
Wednesday, December 01, 2004	N	0	
Thursday, December 02, 2004	D	5	
Thursday, December 02, 2004	N	4	
Friday, December 03, 2004	D	5	
Friday, December 03, 2004	N	1	
Saturday, December 04, 2004	D	12	
Saturday, December 04, 2004	N	2	
Sunday, December 05, 2004	D	15	
Sunday, December 05, 2004	N	3	
Monday, December 06, 2004	D	9	
Monday, December 06, 2004	N	0	
Tuesday, December 07, 2004	D	10	
Tuesday, December 07, 2004	N	0	
Wednesday, December 08, 2004	D	16	
Wednesday, December 08, 2004	N	0	
Thursday, December 09, 2004	D	2	
Thursday, December 09, 2004	N	2	
Friday, December 10, 2004	D	7	
Friday, December 10, 2004	N	0	
Saturday, December 11, 2004	D	22	
Saturday, December 11, 2004	N	0	
Sunday, December 12, 2004	D	12	
Sunday, December 12, 2004	N	0	
Monday, December 13, 2004	D	13	
Monday, December 13, 2004	N	0	
Tuesday, December 14, 2004	D	16	
Tuesday, December 14, 2004	N	0	
Wednesday, December 15, 2004	D/N	5/0	

Ocean Beach Vehicular Access Survey—Fort Fisher State Recreation Area

Hello, I'm_____ from the University of North Carolina at Wilmington and we are conducting an Ocean Beach Vehicular Access study at the Fort Fisher State Recreation Area. I would appreciate your answering a few questions about your vehicular use of the Fort Fisher State Recreation Area. Your participation in this survey is entirely voluntary and will likely take less than two minutes. All answers will be kept confidential. Would you be willing to answer a few questions? (If they respond YES, go to Question #1. If they respond NO, thank them for their time and terminate the interview)

Date of Interview: _____ Time of Interview: _____

1. Are you 18 years of age or older?
   a. _____ Yes (Proceed to Question #2)
   b. _____ No (TERMINATE INTERVIEW and thank them)
2. Including today/tonight, approximately how many times during the previous 12 months have you driven your vehicle on the ocean beach here at the Fort Fisher State Recreation Area:
   _____ in the spring and summer (March – August)?
   _____ how many of these spring and summer trips included night driving on the beach?
   _____ how many of these night driving trips were EXCLUSIVELY night driving (no day driving at all on the beach)?
   _____ how about in the fall and winter (September – February)?
   _____ how many of these fall and winter trips included night driving on the beach?
   _____ how many of these night driving trips were EXCLUSIVELY night driving (no day driving at all on the beach)?
3. When you come to the Fort Fisher State Recreation Area, do you normally drive your vehicle to a specific spot on the beach, stop and remain in that one location?
   _____Yes → go to Question #4
   _____No → go to Question #5
4. Would you please identify on this map the spot that you normally drive your vehicle to on the beach? (Mark the response on the map)
5. What is your zip code? _____
6. What is your primary occupation (job)? _____
7. How much money do you typically spend on a typical trip, PER PERSON, in the Carolina Beach/Kure Beach area on the following things?

Hotel/Motel	_____ ($ per person)
Restaurants and Bars	_____ ($ per person)
Other Food and Beverages (Groceries)	_____ ($ per person)
Fishing and Beach Supplies	_____ ($ per person)
Gasoline	_____ ($ per person)

8. If this beach had been closed today/tonight, what would you have done instead? _____

_____

_____

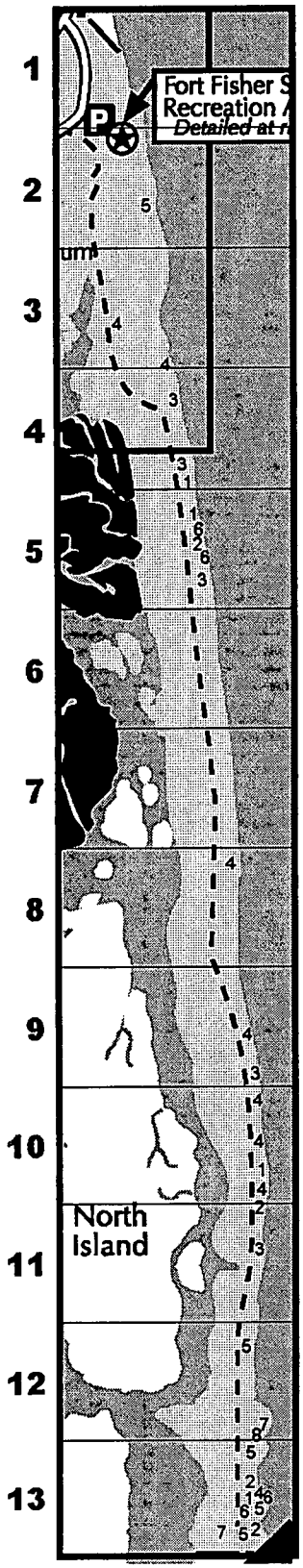
Thank you very much for your time.

Record: 1 - Male 2 – Female
Record: Number of individuals in the vehicle _____
Record: (If you encounter a vehicle that refuses to answer the survey) Number of individuals in the vehicle_____

Appendix D—Survey Schedule

Date	Time	Number of Surveys
Wednesday, September 15th	5:00 pm – 8:00 pm	8
Saturday, September 18th	11:00 pm – 2:00 am	2
Wednesday, October 13th	9:00 am – 12 noon	4
Friday, October 15th	9:00 pm – 12 midnight	3
Monday, October 18th	1:00 pm – 4:00 pm	23
Thursday, October 21st	11:00 pm – 2:00 am	2
Sunday, October 24th	2:00 pm – 5:00 pm	32
Tuesday, October 26th	8:00 pm – 11:00 pm	3
Saturday, October 30th	11:00 am – 2:00 pm	48
Sunday, October 31st	6:00 pm – 9:00 pm	4
Monday, November 8th	10:00 pm – 1:00 am	0
Saturday, November 13th	1:00 pm – 4:00 pm	24
Saturday, November 13th	11:00 pm – 2:00 am	0
Wednesday, November 17th	9:00 pm – 12 midnight	0
Sunday, November 21st	8:00 am – 11:00 am	8
Tuesday, November 23rd	4:00 pm – 7:00 pm	0
Monday, November 29th	9:00 am – 12 noon	0
Saturday, December 4th	10:00 am – 1:00 pm	8
Thursday, December 9th	2:00 pm – 5:00 pm	0
Friday, December 10th	9:00 am – 12 noon	3
Friday, December 10th	4:00 pm – 7:00 pm	0
Saturday, December 11th	10:00 am – 1:00 pm	7
Sunday, December 12th	9:00 am – 12 noon	0
Monday, December 13th	6:00 pm – 9:00 pm	1
Tuesday, December 14th	9:00 am – 12 noon	1
Wednesday, December 15th	2:00 pm – 5:00 pm	0

Appendix E—Distribution of Stationary FOFI Ocean Beach Vehicular Users



Reference Number	Survey Date and Time Period
1	September 15, 2004 5:00-8:00pm
2	October 13, 2004 9:00am-12:00noon
3	October 18, 2004 1:00-4:00pm
4	October 24, 2004 2:00-5:00pm
5	November 13, 2004 1:00-4:00pm
6	November 21, 2004 8:00-11:00am
7	December 11, 2004 10:00am-1:00pm
8	December 13, 2004 6:00-9:00pm

II. Biological Impacts

Submitted by:

Dr. Wm. David Webster, Ph.D.
Professor
Department Biological Sciences
University of North Carolina Wilmington
webste@uncw.edu
910.962-3756

INTRODUCTION AND SCOPE OF WORK

The purpose of this investigation is to use the best available data to determine the direct and indirect effects of vehicular access on Endangered, Threatened, and Significantly Rare species that use the Fort Fisher State Recreation Area (FOFI), as directed by 2004 N.C. House Bill 1414, Section 12.3(b).

PAST BIOLOGICAL STUDIES IN THE FORT FISHER REGION

In the late 1970's and early 1980's, personnel at the University of North Carolina at Wilmington (Paul Hosier, Tom Eaton, Medha Kochhar, Paul Thayer, and I) conducted a series of broad-based studies at FOFI and the north end of Bald Head Island to examine the impact of off-road vehicles (ORVs) on flora and fauna in the region. We used FOFI as our disturbed, experimental site and the north end of Bald Head Island as our undisturbed, control site—the study sites were separated by an inlet in those days, so there was no corridor for dispersal between the islands. One study found reduced plant diversity and abundance at FOFI compared to that on the north end of Bald Head Island (Hosier and Eaton, 1980). Another study determined that ORV tracks prevented hatchling sea turtles from reaching the ocean (Hosier et al., 1980). The final study found that mammalian community structure was altered by chronic ORV use, as small mammal populations were three times greater on FOFI than on the north end of Bald Head Island due to a dearth of predators (snakes, foxes, and many raptors) that were present on the north end of Bald Head Island (Webster et al., 1980). It should be mentioned that ORV drivers regularly drove over dunes and into the salt marsh at that time and that the landscape was much more disturbed than it is today.

In addition, there has been extensive survey work on the barrier beaches adjacent to FOFI during the last 25 years. The Bald Head Island Conservancy (BHIC) and the University of North Carolina at Wilmington (UNCW) have monitored nesting sea turtles on Bald Head Island since the early 1980s and they also have monitored shorebird and colonial waterbird populations on Bald Head Island on occasion. Personnel with the N.C. Wildlife Resources Commission (NCWRC) have assisted with sea turtle monitoring throughout the region (they organize volunteers to patrol beaches for nesting sea turtles) and they have attempted to conduct annual surveys for breeding, migrating, and resident birds throughout the region. My graduate students and I also have monitored sea turtles on Masonboro Island and Wrightsville

Beach irregularly since 1984, and we have monitored Figure Eight Island and the north end of Wrightsville Beach for all Endangered, Threatened, and Significantly Rare species since 1999. Charlie Baker has been monitoring Figure Eight Island for sea turtles since the early 1980s and he continues to participate in the UNCW study now. Personnel at the Fort Fisher Aquarium, National Audubon Society, Carolina Beach State Park (now Fort Fisher State Recreation Area), U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, and several graduate students at UNCW also have participated in an impressive number of floral and faunal surveys in the region.

All told, a tremendous amount of research has been conducted on the Endangered, Threatened, and Significantly Rare species in the Fort Fisher area. Therefore, there is a wealth of biological information that documents the importance of barrier island communities to Endangered, Threatened, and Significantly Rare species in southeastern North Carolina, and there are a significant number of studies that directly and indirectly document how ORV use affects the Endangered, Threatened, and Significantly Rare species that frequent FOFI. This study incorporates approximately 25 years of data but focuses on the last five years of data to ascertain the effects of ORVs on Endangered, Threatened, and Significantly Rare species at Fort Fisher State Recreation Area.

DESCRIPTION OF HABITAT TYPES IMPORTANT TO THIS INVESTIGATION

Biological data were collected for Endangered, Threatened, and Significantly Rare species for a five-year period from 2000-2004, focusing on five "islands" in southeastern North Carolina. The focal species were sea turtles (both loggerheads and greens), nesting and migrating shorebirds (Piping Plover, Wilson's Plover, American Oystercatcher, Willet), nesting and migrating colonial waterbirds (Black Skimmer, Least Tern, Common Tern), and seabeach amaranth (an annual plant endemic to the Upper Beach Community of Schafale and Weakley, 1990). The five islands included in this investigation are, from north to south, Figure Eight Island, Wrightsville Beach, Masonboro Island, Fort Fisher State Recreation Area, and Bald Head Island.

"Islands" is a vague term in this investigation because inlets open and close, sometimes in the course of only a few days. Inlets also migrate, which is important in this investigation because the constant shifting of sand in inlet areas maintains a wider array of habitat types, particularly large expanses of sandbars and mudflats isolated by channels and sloughs. Thus, inlet areas have the greatest amount of habitat diversity of any coastal system. Moreover, because this assortment of habitat types is in close proximity, inlet areas are important foraging, socializing, and resting areas for colonial waterbirds and shorebirds, including Piping Plovers, Wilson's Plovers, American Oystercatchers, Willets, Least Terns, Common Terns, and Black Skimmers. In addition, seabeach amaranth germinates in sandy open areas in inlet areas. Therefore, management measures designed to safeguard one species in the inlet community invariably safeguard many.

Ocean-facing beachfront habitat, the Upper Beach Community (Schafale and Weakley, 1990), is another coastal habitat that is important to this investigation. Compared to the inlet area, the Upper Beach Community is relatively stable and there is less habitat diversity. Although storms and water can cause pronounced erosion and accretion of sand at times, the continued long-term effect of wind and salt are the primary agents in determining community structure. The Upper Beach Community is characterized by widely to moderately scattered plants, such as sea oats, that are tolerant of these conditions. These pioneer plants trap sand and dunes eventually grow, provided storms do not sweep the beach clean and start the dune-building process anew. The Upper Beach Community is used by nesting and incubating sea turtles, nesting and migrating shorebirds, and seabeach amaranth. Again, management programs that protect one species in the beachfront community invariably protect many.

Proceeding landward from the beachfront community, the dune community has more vertical relief than other barrier beach communities, thereby marking the division between ocean-facing and marsh-facing communities. Community structure behind the dunes is more variable and directly dependent on dune height and inversely dependent on the amount of salt spray affecting its vegetation (i.e., wide islands with tall dunes have more floristic and faunistic diversity than do narrow islands with low dunes). Sea turtles frequently nest on the seaward side of dunes and shorebirds nest in the dune and open hind-dune communities as well.

Another characteristic habitat of barrier islands is formed when storms breech dune lines, developing sandy washover fans that extend into the salt marsh. These barren sandflats are important nesting habitat for several species of shorebirds and colonial waterbirds and they sometimes are colonized by seabeach amaranth. In addition, diamond-backed terrapins traverse these washover fans as they search for nesting sites on adjacent uplands.

Salt marshes are another important habitat used by shorebirds and colonial waterbirds. Tidally exposed mudflats are critical foraging habitat for shorebirds, and sandbars are important areas for loafing and socializing shorebirds and colonial waterbirds. Tidally exposed mudflats also are critically important staging areas where migrating shorebirds and colonial waterbirds forage, rest, and prepare for the next leg of their journey. Other barrier island habitats, such as maritime forests and freshwater ponds, are not included herein because they are not the focus of this investigation.

METHODS

Biological data used in this investigation were compiled by personnel in the Department of Biological Sciences at the University of North Carolina at Wilmington, N.C. Wildlife Resources Commission, Fort Fisher State Recreation Area, and Bald Head Island Conservancy (BHIC). Survey methods and survey effort differed among agencies, as described in the individual species accounts below. Despite these differences, it is possible to rank the results and compare the data relative to survey effort. Furthermore, the species in question are distributed more or less continuously

along the narrow coastal zone in the southeastern United States, so a lack of presence data typically reflects a lack of survey effort rather than an aversion by a particular species to a particular island. In cases where comparisons could not be made, I have suggested some recommendations that would provide information in a cost-effective and expeditious manner.

In addition, nine letters were submitted by eight persons interested in the issue at hand and one public forum was held in order for interested parties to have an opportunity to provide comments. All written comments, save for one, were submitted by individuals who spoke at the forum and largely redundant in content. Several additional people spoke at the forum but did not submit letters. In general, the written and oral comments were constructive but sometimes lacking in biological acumen. Overall, about 80% of the oral and written comments were critical of the changes proposed and 20% were in favor of the compromise plan to restrict ORV access during night-time hours during the period from March 15 through September 15.

In the paragraphs below, I provide a brief description of each species and why it is considered to be endangered, threatened, or significantly rare, followed by comments about the status of that species in the study area based on the best available data and some concluding anecdotal remarks when warranted.

Loggerhead Sea Turtle

Loggerhead sea turtles nest on subtropical sandy beaches throughout the world, including the entire region included in this investigation. Females begin to come ashore in May and lay nests, each containing about 120 eggs, which incubate for approximately 66 days in southeastern North Carolina. Females nest at two-week intervals until late August, but nests continue to incubate until mid-November. Some females are extremely specific in where they nest, and they return to the same beach over time; others, however, roam north and south and nest at different beaches each time they come ashore. Given this prodigious reproductive effort, it has been estimated that only one in 10,000 hatchlings reach sexual maturity or else the oceans would be full of sea turtles. All species of sea turtles have been decimated over the last two centuries from the harvest of eggs, loss of nesting habitat, drowning of adults in fishing gear, and the detrimental effects of beachfront lighting. All species of sea turtles are afforded protection under the Endangered Species Act (ESA)—the loggerhead is listed federally as Threatened (LeGrand et al., 2004).

Sea turtle nesting data have been collected on a daily basis from Figure Eight Island, Wrightsville Beach, FOFI, and Bald Head Island from 2000-2004. Data from Masonboro Island is largely lacking from the latter half of this period, as explained beyond. Nesting data were collected by personnel at UNCW (Figure Eight Island), volunteers organized by the NCWRC (Wrightsville Beach), FOFI (Fort Fisher State Recreation Area), and BHIC (Bald Head Island). UNCW personnel also collected nesting data on a daily basis from Masonboro Island in 2000 and 2001, but surveys were pared to alternate days in 2002, and the island was not surveyed in 2003 or 2004. Nonetheless, reports of nests were received for both 2003 and 2004 from locals that frequented Masonboro Island during the nesting season.

Female loggerheads nested on all five islands in the study area during all five years (Table 1). The most conspicuous trend in the nesting data is a subtle north-to-south increase in the nesting density from Figure Eight Island to Bald Head Island. However, this trend is obscured by low nest densities on Wrightsville Beach, where beachfront lighting is most pronounced. Beachfront development at Bald Head Island appears to be having a negative effect on its nesting sea turtles as well, when recent nesting data is compared to that from the 1980's. Despite this decline, loggerhead nesting densities at FOFI are intermediate between those at Masonboro Island and Bald Head Island.

ORV traffic apparently has had a minimal effect on nesting females at FOFI, although some females might be scared off by vehicle lights, flashlights, and other human disturbance. Sea turtle biologists use the term 'false crawl' to refer to a nesting female that comes ashore but then returns to the ocean without nesting. As nesting density declines at Bald Head Island and ostensibly Kure Beach as well, FOFI would be the closest undisturbed beach for females that false crawl there. Therefore, FOFI is an important nesting beach for resident females that regularly return there to nest and it is an important secondary nesting site for those females that relocate there from adjacent beaches where they have false crawled.

ORV traffic has profound negative affects on hatchling sea turtles. Hatchlings emerge at night so as to avoid daytime predators and the heat of the day. ORV drivers likely would not see hatchlings crawling toward the ocean at night, so without intervention by management personnel hatchlings would be crushed during night-time ORV activity. Moreover, as mentioned above, ORV tire tracks obstructed hatchlings from reaching the ocean (Hosier et al., 1980). This incompatible situation can be remedied in one of three ways—by restricting night-time ORV activity, by relocating sea turtles nests out of ORV-use zones, or by costly and time-consuming intervention by management personnel.

FOFI has a long-standing policy that prohibits night-time ORV traffic during a three-day period around the full moon (one day before, the day of, and one day after). Local legend mistakenly alleges that sea turtles nest during the full moon. I believe this legend originates from people walking on the beach at night during a full moon, when they can see farther and more likely see a nesting sea turtle. In reality, sea turtles nest at any time during the month, and lunar periodicity has no influence on sea turtle nesting patterns. Therefore, prohibiting nighttime traffic only during the full moon affords little protection to nesting turtles.

Green sea turtle

The green sea turtle is considered to be Endangered under the ESA (LeGrand et al., 2004). Nesting green sea turtles have not been reported from FOFI, but they have been reported on rare occasions from Masonboro Island and Bald Head Island (Woodson and Webster, 1999). It is therefore likely that female green sea turtles occasionally nest at FOFI.

Diamond-backed terrapin

The diamonded-backed terrapin is widely distributed in estuarine marshes in the study area; however, it is relatively uncommon and population numbers are depleted, owing to excessive harvest for the culinary trade. Therefore, it is listed as a species of Special Concern (LeGrand et al., 2004). Few terrapin studies have been conducted in the Fort Fisher region, but declines in other parts of its range have been attributed to the plethora of active and abandoned crab traps in estuarine waters. It is included herein because nesting individuals leave the salt marsh and move onto the barrier island uplands to lay eggs.

Piping Plover

Piping Plovers breed along the East Coast of North America from the Carolinas northward into the maritime provinces of Canada. Breeding pairs nest on bare sand, primarily near inlets. Nests frequently are lost to high tides and predators, nesting success is low, and the number of nesting pairs has diminished dramatically in the last century. More recently, much of the bird's nesting habitat has been altered directly by beach-front development and indirectly as barren unstable inlets areas become densely vegetated following inlet stabilization practices. In addition, Piping Plovers are unable to spend adequate time foraging at sites with even moderate amounts of human disturbance (Burger, 1994). The East Coast Piping Plover population is listed federally as Threatened because of declining numbers and loss of habitat (LeGrand et al., 2004).

Piping Plovers are present in southeastern North Carolina almost year round; however, different groups of birds are here at different times of the year. Breeding pairs are found in southeastern North Carolina from late April until late July. Pairs that breed farther north migrate through southeastern North Carolina, beginning in July and continuing through November, as they move southward to Florida and the Bahamas. The northernmost nesting Piping Plovers, those from the Canadian maritime provinces, arrive in southeastern North Carolina in December and stay here as winter residents until February, at which time they begin their northward spring migration. Spring migration continues throughout March and April as birds from Florida and the Bahamas move northward. Thus, four groups of Piping Plovers occur in southeastern North Carolina throughout the year: breeding pairs, fall migrants, winter residents, and spring migrants.

Piping Plover surveys (Table 2) have been conducted during the last five years (2000-2004) by UNCW (Figure Eight Island and the north end of Wrightsville Beach) and NCWRC (Masonboro Island, FOFI, and Bald Head Island) personnel. Surveys at Figure Eight Island and the north end of Wrightsville Beach have been conducted at least weekly since 2000, so these data are most reliable. Fall migrants, winter residents, and spring migrants have been observed on both islands, but breeding pairs have not been seen on either island save for a single observation of one breeding pair on Figure Eight in 2004 that likely nested on Hutaff Island, the next island to the north. Surveys for breeding Piping Plovers on Masonboro Island, FOFI, and Bald Head Island have occurred annually during the five-year study period. One breeding pair was observed at FOFI on 1 July 2002, a single adult was observed on

the north end of Bald Head Island on 1 July 2000, a lone adult was observed on 4 June 2004 at FOFI, and an adult female was observed on the south end of Masonboro Island on 2 June 2004. Surveys for autumnal and spring migrants and winter residents have occurred less frequently on Masonboro Island, FOFI, and Bald Head Island, but migrants have been observed every time there was a survey and winter residents were observed on every survey except one. Fall migrants, winter residents, and spring migrants certainly inhabit these three islands and breeding adults appear there sporadically.

Wilson's Plover

Wilson's Plovers nest on sandy beaches with scant vegetation, choosing what little vegetation is present as cover for their widely spaced nests. They have low reproductive success since they construct nests in dynamic inlet and beach-front habitats where overwash and shifting sands are relatively common. Currently, they also suffer from the direct and permanent loss of habitat and the modification of remaining habitat after beach stabilization practices. The Wilson's Plover is considered to be Significantly Rare (LeGrand et al., 2004).

Surveys for breeding Wilson's Plovers have been conducted during the 2000-2004 period by personnel at UNCW (Figure Eight Island and the north end of Wrightsville Beach) and personnel at NCWRC (Masonboro Island, FOFI, and Bald Head Island). Surveys at Figure Eight Island and the north end of Wrightsville Beach have been conducted at least weekly since 2000, and nests discovered on Wrightsville Beach have been followed every 2-3 days throughout incubation to determine reproductive success. Surveys on Masonboro Island, FOFI, and Bald Head Island for breeding pairs have occurred each year during the five-year study period, but sometimes only once a year per island. Wilson's Plovers migrate southward out of our area in the winter, so management agencies do not conduct surveys for fall and spring migrants or winter residents.

Despite obvious gaps in the data, surveys indicate that Wilson's Plovers nest on all five islands included in this investigation (Table 3). Additional survey work is needed during the breeding season to better document the number of nests on Masonboro Island, FOFI, and Bald Head Island, where it undoubtedly occurs. However, given the bird's predilection to nest in sparsely vegetated sandy habitat, which at FOFI is associated with the outer perimeter of the roped areas, additional work is needed to determine if reproductive success at FOFI is significantly different from that on adjacent islands due to a pronounced rather than a subtle edge effect with adjacent dunes and with adjacent unvegetated, greatly disturbed areas.

American Oystercatcher

American Oystercatchers lay widely spaced nests on sandy beaches with scant vegetation. Because they breed in dynamic inlet and beach-front habitats where overwash and shifting sands easily can destroy their nests, they have low reproductive success. In addition, they suffer from loss of habitat and the increase in vegetative biomass after beach stabilization practices. American Oystercatchers also nest in salt marsh habitats when inlet and beach-front habitats become

unsuitable, but reproductive success in marshes is less than that in inlet and beach-front habitats (Lauro and Burger, 1989). The American Oystercatcher is considered to be Significantly Rare (LeGrand et al, 2004).

Personnel from UNCW monitored Figure Eight Island and the north end of Wrightsville Beach and personnel from the NCWRC monitored Masonboro Island, FOFI, and Bald Head Island during the period from 2000-2004 (Table 3). Surveys at Figure Eight Island and the north end of Wrightsville Beach have been conducted at least weekly since 2000, and nests discovered on both islands have been followed every 2-3 days throughout incubation to determine reproductive success. Surveys on Masonboro Island, FOFI, and Bald Head Island for breeding pairs have occurred annually during the five-year study period, but occasionally only once a year per island. Since American Oystercatchers migrate southward out of our area in the winter, management agencies typically do not conduct surveys for fall and spring migrants or winter residents.

Surveys indicate that American Oystercatchers nest on all five islands included in this investigation, despite gaps in the data that reflect a lack of widespread survey effort on some islands (nests are laid far apart, so it takes an entire day to survey several miles of beach). Additional survey work during the breeding season will better document the number of nests on Masonboro Island, FOFI, and Bald Head Island and determine if reproductive success at FOFI is significantly different from that on adjacent islands.

Willet

The Willet is a year-round resident of southeastern North Carolina that nests in moderate to thick barrier island vegetation, typically along dunes and in the hind-dune habitats. Relatively little is known about its reproduction because its nests are difficult to locate, and management personnel generally spend more time in open areas with the other protected shorebirds and colonial waterbirds included in this report. The Willet currently is not listed at the federal or state level, but it is of concern to management agencies and it has received increased attention in the last few years. It is included herein for the sake of completeness.

Willet nests have been found on every island in this investigation, including FOFI, although on many surveys Willets were not the focus of attention (Table 3). It is not possible to determine nesting density based on the nesting data available, but this secretive species is more abundant than the limited information indicates.

Least Tern

The Least Tern is a colonial nesting waterbird, meaning that its nests typically are concentrated in relatively small areas of suitable habitat. Colony size ranges to as many as 400 nests, depending on the amount of suitable habitat, which consists of barren sand near inlets, washover fans, and dredge material islands (Parnell and Soots, 1979). Least Tern colonies are prone to disturbance by predators and humans (Erwin, 1980, 1989; Massey and Fancher, 1989; Erwin et al., 2001), and they are prone to being completely destroyed by harsh weather (Cowgill, 1989) and

high tides (Parnell and Soots, 1979). The Least Tern was almost completely exterminated from North Carolina in the late 1800's by plume hunters, but the species recovered slowly during the early 1900's when hunting laws were passed, demand ceased, and profits crashed. The number of nests in North Carolina has declined from 2,276 in 1977 to a low of 597 in 1989; 882 nests were counted in 1997. Therefore, the Least Tern is considered to be a species of Special Concern (LeGrand et al., 2004)

UNCW personnel monitored Figure Eight Island and the north end of Wrightsville Beach and NCWRC personnel monitored Masonboro Island, FOFI, and Bald Head Island for Least Tern nests during the period from 2000-2004 (Table 4). Surveys at Figure Eight Island and the north end of Wrightsville Beach have been conducted at least weekly since 2000, and nests discovered on both islands have been examined every 2-3 days throughout incubation to determine reproductive success. Surveys on Masonboro Island, FOFI, and Bald Head Island for breeding Least Tern pairs have occurred annually during the five-year study period, but occasionally only once a year per island. Least Terns migrate southward out of our area in the winter, so management agencies typically do not conduct surveys for fall and spring migrants or winter residents.

Based on the best available data, Least Terns nesting apparently do not nest on all islands included in this study; however, survey effort varied both among years and islands. Least Terns nested on the south end of Figure Eight Island in 2000, although nest numbers were not determined, and they laid approximately 50 nests there in 2001. Least Terns laid five nests on the north end of Figure Eight Island in 2002, they did not nest on either end of Figure Eight Island in 2003, and they laid 12 nests on the north end in 2004. Least Terns did not nest on the north end of Wrightsville Beach in 2000, 2001, or 2002, but they nested there in 2003 and 2004, laying 202 and 369 nests, respectively. Changes in nest numbers between the south end of Figure Eight Island 2000 and 2001 and the north end of Wrightsville Beach in 2003 and 2004 are an artifact of the Mason Inlet Relocation Project. Least Terns did not nest on either side of Mason Inlet in 2002 when the area was heavily disturbed by construction equipment and human disturbance.

Least Terns have nested on Masonboro Island more or less continually since colonial waterbird surveys began in 1977, including each year included in this investigation. A total of 327 nests was laid on Masonboro Island in 1977, an unspecified number were laid in 2000, 99 were laid in 2001, 150 were laid in 2002, 115 were laid in 2003, and an unspecified number were laid in 2004. Due to its low relief, Masonboro Island has an extensive number of young to old washover fans that have been used by Least Terns. As these fans become overgrown with vegetation, Least Terns move to newer, unvegetated fans. Nest numbers therefore reflect the amount of barren sand available for nesting.

At FOFI, Least Terns were prevalent when colonial waterbird surveys were begun. For example, 22 nests were laid at New Inlet in 1977 (Parnell and Soots, 1979). However, ORV traffic has rendered this site inhospitable for Least Terns and they seldom nest there now. Three nests were laid in 2001, but otherwise no nests were

laid at FOFI in 2000, 2002, 2003, or 2004. Least Terns apparently did not nest at Bald Head Island any time during the study period.

Since it prefers large open sandy beaches and washover fans for nesting activities, the Least Tern would benefit greatly if ORV access at FOFI was prohibited. In fact, Least Terns apparently avoid beaches impacted by ORV traffic and then return once ORV traffic is prohibited (Gochfeld, 1983). Human and predator disturbance also has a negative effect on nesting success, so roping off large expanses of foredune and dune-break areas will be necessary to attain this goal (Erwin, 1980, 1989; Erwin et al., 2001; Rimmer and Deblinger, 1992).

Common Tern

Common Terns are much less common than Least Terns in the study area. They suffer from the same perils mentioned above, but are much more susceptible to disturbance and therefore are considered to be a species of Special Concern (LeGrand et al., 2004). The total number of Common Tern nests in North Carolina has steadily declined from 4,885 in 1977, when NCWRC surveys began, to 1,699 in 1995 (Parnell et al., 1997) and then to 952 in 1997, primarily due to the loss of nesting habitat and colony disturbance. Individual colonies can have as many as 500 nests.

UNCW personnel have conducted weekly surveys on Figure Eight Island and the north end of Wrightsville Beach (Table 4), where Common Tern nests were followed every 2-3 days throughout incubation to determine reproductive success. NCWRC personnel annually monitored Masonboro Island, FOFI, and Bald Head Island for breeding pairs during the period from 2000-2004, although sometimes only once a year per island (Table 4).

Although nest numbers were not counted, my field notes indicate that Common Terns nested on the south end of Figure Eight Island in 2000. Common Terns laid approximately 20 nests on the south end of Figure Eight Island in 2001 but they did not nest there in 2002, 2003, or 2004, as the southern end of the island by that time had been added to the north end of Wrightsville Beach as a result of the Mason Inlet Relocation Project. There were no Common Tern nests on the north end of Wrightsville Beach in 2000, 2001, or 2002, but there were two Common Tern nests on the north end of Wrightsville Beach in 2003 and four nests there in 2004. Seventeen Common Tern nests were found on the north end of Masonboro Island in 1977 (Parnell and Soots, 1979), one nest was found on Masonboro Island in 1997, and three nests were found on Masonboro Island in 2001. Common Tern nests were not found throughout the remainder of the study area during the study period.

Common Terns suffer from two primary threats during their nesting season: ORV and pedestrian traffic and predation by gulls, raccoons, foxes, and rats (Parnell and Soots, 1979; Erwin, 1989; Erwin et al., 2001; O'Connell and Beck, 2003) and gull density increases proportionately with human density, causing Common Tern reproductive success to plummet (Erwin, 1980). It is likely that Common Terns nested throughout the region, including FOFI, prior to coastal development. They require large expanses of undisturbed sparsely vegetated sandflats in which to nest

successfully, and this habitat currently does not exist at FOFI. Reclamation of areas used by ORVs would likely result in the re-establishment of Common Tern nesting colonies at FOFI.

Black Skimmer

Black Skimmers typically nest in the same type of habitat that is used by Common Terns—open to sparsely vegetated sandy areas near inlets and on dredge-spoil islands (Parnell and Soots, 1979), although hatching success is higher on natural beaches (Mallach and Leberg, 1999). Black Skimmers nest in concentrations as large as 250 nests or so. They suffer primarily on the breeding grounds due to predation (O'Connell and Beck, 2003) and high tides, which can wash out entire colonies (Parnell and Soots, 1979). In particular, gull predation is more pronounced in areas with higher human densities (Erwin, 1980) and reproductive success in Black Skimmers is inversely correlated with human disturbance (Safina and Burger, 1983; Erwin, 1989). Because of these problems, the Black Skimmer is considered to be a species of Special Concern (LeGrand et al., 2004).

Surveys for breeding Black Skimmer pairs (Table 4) have been conducted during the last five years (2000-2004) by personnel at UNCW (Figure Eight Island and the north end of Wrightsville Beach) and at NCWRC (Masonboro Island, FOFI, and Bald Head Island). Surveys at Figure Eight Island and the north end of Wrightsville Beach have been conducted at least weekly since 2000, where nests were followed every 2-3 days throughout incubation to determine reproductive success. Black Skimmer colonies at Masonboro Island, FOFI, and Bald Head Island have been surveyed each year during the five-year study period, but sometimes only once a year per island. In addition, NCWRC personnel surveyed Masonboro Island and FOFI in 1997 and 1999 for nesting colonial waterbirds, and those results are mentioned here as well. Although Black Skimmers are year-round residents in southeastern North Carolina, management agencies typically do not conduct surveys for fall and spring migrants or winter residents.

Black Skimmers laid nests on Figure Eight Island in 2000, but the number of nests was not recorded, and they laid approximately 40 nests there in 2001. Black Skimmers did not nest on Figure Eight Island in 2002, 2003, or 2004 because the southern end of the island, the site used in 2000 and 2001, had been added by that time to the north end of Wrightsville Beach as a result of the Mason Inlet Relocation Project. There were no Black Skimmer nests at the north end of Wrightsville Beach in 2000 or 2001, but there were four nests at the north end of Wrightsville Beach in 2002, 166 nests there in 2003, and 64 nests there in 2004. Black Skimmer nests have been recorded on Masonboro Island—57 nests in 1977 (Parnell and Soots, 1979), 1 nest in 1997, 12 nests in 1999, and 41 nests in 2001. At FOFI, 59 Black Skimmer nests were recorded in 1977 (Parnell and Soots, 1979), 16 were recorded in 1997, and 41 were recorded in 1999. Otherwise, Black Skimmer nests were not found throughout the remainder of the study area during the study period.

The Black Skimmer nests throughout the region in question, but nest numbers differ from year to year and from island to island based upon which island has the largest amount of open to sparely vegetated sandy areas in that year. Large colonies

nested on Masonboro Island in the 1970's, 1980's, and 1990's and it is likely that large colonies would nest at FOFI if ORV traffic was prohibited.

Seabeach Amaranth

Seabeach amaranth is a rare denizen of barrier island beaches along the East Coast of North America. It colonizes highly dynamic beachfront and inlet habitats that are characterized by shifting sands and a dearth of vascular vegetation, especially wide, exposed sandy areas such as overwash fans, accreting ends of islands, and supratidal dunefront areas, or the Upper Beach Community of Schafale and Weakley (1990). It is a low-growing annual plant that typically begins to germinate in late spring and therefore serves as an important pioneer in ecological succession by trapping windblown sand and providing temporary stability to ocean-facing beaches during the summer and autumn months (Weakley and Bucher, 1992). Seabeach amaranth is considered to be a 'fugitive species' because its spatial distribution is unpredictable and an artifact of three factors: it is an annual that dies at the end of each growing season; it lives in a highly dynamic environment that changes rapidly over time; and it depends on tides, storms, and hurricanes for long-distance dispersal (Mangels, 1991). As such, its distribution and abundance varies dramatically over time and space (Weakley et al., 1996).

Amaranthus pumilus has become extirpated throughout much of its historic range. It once occurred widely in nine states from Massachusetts southward to South Carolina, but it now occurs in relatively small, isolated pockets of remaining suitable habitat in New York, New Jersey, Delaware, Maryland, Virginia, North Carolina, and South Carolina (Belden, 2000; Lea, 1999; McAvoy, 2002; Murdock, 1993; Radis, 2002). Declines throughout its range in both the number of populations and the total number of individuals have been attributed to beachfront development, beach stabilization efforts, off-road vehicles, and herbivory by webworms. *Amaranthus pumilus* was listed as Threatened by the U.S. Fish and Wildlife Service (USFWS) on 7 April 1993 (Murdock, 1993), and its recovery plan was approved by USFWS on 12 November 1996 (Weakley et al., 1996). Delisting will be considered when seabeach amaranth populations inhabit at least 75% of sites with suitable habitat in six of nine historically occupied states for a period of 10 consecutive years (Weakley et al., 1996).

Seabeach amaranth surveys have been conducted on an irregular basis in the FOFI study area (Weakley and Bucher, 1992; Webster, 2005). An average of 698 (range 3-2949) plants was found at Figure Eight Island in 1987, 1988, 1990, 2002, 2003, and 2004. An average of 488 (range 0-2935) plants was found at Wrightsville Beach in 1979, 1985, 1986, 1987, 1988, 1990, 2002, 2003, and 2004. An average of 218 (range 118-317) plants was found at Masonboro Island in 1988 and 1990. An average of 1 plant (range 0-3) was found at FOFI in 1987, 1988, and 1990. An average of 6 plants was found on the east beach of Bald Head Island in 1987, 1988, and 1990. These population sizes were categorized as good (Figure Eight Island, Wrightsville Beach, Masonboro Island) and poor (FOFI, Bald Head Island) by Weakley and Bucher (1992).

ORV traffic has mixed effects on seabeach amaranth, depending on the season. ORV traffic during the dormant season generally has little effect on seeds, unless it causes "massive physical erosion and degradation of the site, such as can be seen at the northern end of Carolina Beach" (Weakley et al., 1996:16). However, some ORV traffic during the dormant season might be beneficial to seabeach amaranth since it prevents the widespread establishment of perennial grasses and shrubs, but only if those areas are closed to ORV traffic during the growing season. "The brittle, fleshy stems are easily broken, and growing plants do not generally survive a single pass by a truck tire" (Weakley et al., 1996:17). Although seabeach amaranth should occur in the Upper Beach Community at FOFI, it is doubtful that it has been successful in dealing with decades of ORV traffic.

RESPONSE TO COMMENTS BY THE PUBLIC

I have responded to comments submitted by the public where appropriate in the species accounts above, save for three that are discussed here. One person questioned if ORV traffic exacerbated erosion rates at Rams Gate Road. This question is beyond the scope this investigation and well beyond my field of expertise, so it is not pursued here.

The second comment that has not received attention above posed the question, and I paraphrase here, if heavy ORV traffic was beneficial to protected species by keeping predators away from FOFI. It is true that predators were largely lacking at FOFI when we conducted our broad-based studies in the late 1970's and early 1980's and that they are present throughout the region today. It is therefore likely that predation pressure is greater today than it was when those studies were conducted. However, it is important to stress that ORV traffic was not regulated in the late 1970's and early 1980's and there was little, if any, reproductive success in the few Endangered, Threatened, and Significantly Rare species that existed at FOFI at that time. The number of Endangered, Threatened, and Significantly Rare species increased after ORV traffic was prohibited from the dune community and some of the salt marsh community, so reproductive success increased perforce. This portends that reproductive success in Endangered, Threatened, and Significantly Rare species will increase even more if ORV traffic is completely prohibited at FOFI and be similar to reproductive success rates observed at other state and national parks in North Carolina (e.g., Hammock's Beach State Park, Cape Hatteras National Seashore, and Cape Lookout National Seashore).

The final comment dealt with the rationale used to close parts of FOFI to ORV traffic, especially salt marsh areas. ORV traffic compresses soils in intertidal areas, both on the ocean and sound sides of barrier islands, rendering it unsuitable for invertebrates such as bloodworms and clamworms (Weber and Haig, 1996). These invertebrates are the primary forage species for a variety of shorebirds, including those Endangered, Threatened, and Significantly Rare shorebird species mentioned above. Barrier islands consist of a variety of habitats for nesting, foraging, resting, loafing, and socializing shorebirds and colonial waterbirds. If any one habitat is degraded, by any means, then the entire system becomes unsuitable for these protected species. For example, newborn chicks that can't yet fly will starve if

foraging habitat is unavailable, irrespective of how much nesting habitat is available. Therefore, the prohibition of ORV traffic in intertidal marsh areas is critical for the survival of these species.

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CONCLUSIONS

- Dates used at Fort Fisher State Recreation Area (FOFI) do not coincide with those used by the U.S. Fish and Wildlife Service, NC Wildlife Resources Commission, or US Army Corps of Engineers in management decisions affecting endangered, threatened, and significantly rare species, although dates used by the latter three agencies do agree—this creates confusion and ambiguity.

- The loggerhead sea turtle, listed federally as Threatened under the Endangered Species Act (ESA), regularly nests at FOFI in densities proportionate the length of park's beachfront nesting habitat, and the green sea turtle, listed as Endangered under the ESA, has nested both north (Masonboro Island) and south (Bald Head Island) of FOFI and likely nests at FOFI on rare occasions.

- Off-road vehicle (ORV) lights and tire ruts negatively affect nesting and hatchling sea turtles.

- Sea turtles nest approximately every two weeks, independent of the lunar cycle; therefore, the previous management decision to close FOFI for three nights around the full moon appeals to local legend but does not reflect the nesting biology of sea turtles.

- The Piping Plover, listed as Threatened under the ESA, uses FOFI at all times of the year; it is common during fall and spring migration, uncommon in the winter, and rare during the breeding season.

- FOFI is an important site (especially during the breeding season) for three species of shorebirds (Wilson's Plovers, American Oystercatchers, and Willets) that are

considered to be Significantly Rare or of Special Concern; Wilson's Plovers and American Oystercatchers nest in undisturbed sparsely vegetated beachfront habitats, while Willets nest in undisturbed densely vegetated habitats; all three species utilize a variety of foraging and resting habitats.

- Colonial waterbirds (Least Terns, Common Terns, and Black Skimmers, all of which are considered to be species of Special Concern) seldom use FOFI, although each species uses other islands in this investigation; each species requires large tracts of undisturbed open to sparsely vegetated habitat in which to nest, which at FOFI has been designated for ORV traffic.

- ORV traffic in the beachfront and marsh intertidal areas compacts soil, thereby rendering it unsuitable for worms and other invertebrates used as forage by shorebirds and other consumers.

- Seabeach amaranth, a small fleshy annual plant that is listed federally as Threatened under the ESA, exists only in the Upper Beach Community, which at FOFI is open to ORV traffic that destroys young tender plants and prevents them from setting seed.

- The patchwork of open and closed areas in dune and marsh areas of FOFI effectively eliminates both as important foraging and resting habitat for migrating birds, which is noteworthy because FOFI serves as an important cross-over site during migration.

- FOFI is used throughout the year by at least one Endangered, Threatened, or Significantly Rare species; overall, however, more protected species are at FOFI during the spring and summer months, when the park's diverse assemblage of barrier beach habitats serve as critical breeding, foraging, and loafing habitat, and during the fall and spring months, when migrating shorebirds and colonial waterbirds utilize critical foraging, resting, and staging habitat.

- Personnel employed by federal and state agencies, including FOFI, are legislatively mandated to manage for the protection of Endangered, Threatened, and Significantly Rare species.

- ORV traffic disproportionately increases the amount of time that park personnel must devote to protected species management.

- Closing the entire beach throughout the year to ORV traffic is the only mechanism that would benefit all Endangered, Threatened, and Significantly Rare species at FOFI; allowing restricted ORV access does little to protect these species (i.e. any ORV traffic is too much traffic).

RECOMMENDATIONS

- Synchronize dates used in management decisions affecting endangered, threatened, and significantly rare species with dates used by other federal and state management agencies: 1 May-31 August for nesting sea turtles, continued

throughout 15 November as necessary (sea turtle nests take about 66 days to hatch in southeastern North Carolina) and 1 April-31 August for nesting shorebirds and colonial waterbirds.

- There is no scientific basis to close FOFI to off-road vehicle (ORV) traffic for three nights around the full moon; terminate this restriction, regardless of other actions.

- However, because sea turtles nest continuously throughout the nesting season, *and* because ORV lights and tire ruts disorient and delay nesting and hatchling sea turtles, *and* because Piping Plovers use FOFI throughout the year, *and* because other protected shorebirds and colonial waterbirds also use FOFI, especially during the breeding season, *and* because seabeach amaranth only grows in the Upper Beach Community, either:

  Option 1—Suspend <u>all</u> ORV traffic from FOFI during the period from 1 April until 15 November (ORV traffic would continue to be allowed throughout FOFI during the period from 16 November to 31 March), *or*

  Option 2—Permanently prohibit <u>all</u> ORV traffic from the southernmost two miles of FOFI; institute a sea turtle nest relocation project and move all nests to this area; institute a habitat management policy that encourages mixed use by shorebirds, colonial waterbirds, and seabeach amaranth in this area (ORV traffic would continue to be allowed along the northernmost two miles throughout the year).

- Institute weekly shorebird and colonial waterbird surveys for three years to assess importance of FOFI for migrating, wintering, and nesting shorebirds and colonial waterbirds and to assess changing use patterns by shorebirds and colonial waterbirds after ORV traffic is limited; institute surveys every 2-3 days during the breeding season to determine if reproductive success for shorebirds and colonial waterbirds nesting at Fort Fisher State Recreation Area differs from that on adjacent beaches; and institute seabeach amaranth surveys 2-3 times each growing season (June through October) to assess re-colonization in ORV restricted areas.

- Develop and implement an outcomes assessment document such that, after a period of three years, all biological data can be assessed to determine if restrictions to ORV traffic have had a positive effect on protected species; revise ORV-use restrictions as warranted.

Table 1.—Survey results for nesting loggerhead sea turtles (# nests, if known) in southeastern North Carolina during the five-year period from 2000-2004. Surveys were conducted daily unless indicated otherwise.

Island area	2000	2001	2002	2003	2004
Figure Eight Island	yes (6)	yes (5)	yes (9)	yes (31)	yes (9)
Wrightsville Beach	yes (3)	yes (7)	yes (6)	yes (1)	yes (1)
Masonboro Island	yes (14)	yes (26)	yes (9+)[1]	yes[2] (1+)	yes[2] (1+)
Fort Fisher	yes (9)	yes (18)	yes (13)	yes (6)	yes (7)
Bald Head Island	yes (44)	yes (77)	yes (72)	yes (75)	yes (41)

[1] Surveys conducted every other day

[2] Regular monitoring suspended

Table 2.—Survey results for Piping Plover breeding pairs (# nests, if known), fall migrants, winter residents, and spring migrants in southeastern North Carolina during the five-year period from 2000-2004.

Island area	Year	Breeding pairs	Fall migrants	Winter residents	Spring migrants
Figure Eight Island	2000	no	yes	yes	yes
	2001	no	yes	yes	yes
	2002	no	yes	yes	yes
	2003	no	yes	yes	yes
	2004	yes[1]	yes	yes	yes
Wrightsville Beach	2000	no	yes	yes	yes
	2001	no	yes	yes	yes
	2002	no	yes	yes	yes
	2003	no	yes	yes	yes
	2004	no	yes	yes	yes
Masonboro Island	2000	no	no surveys	yes	no surveys
	2001	no	no surveys	yes	no surveys
	2002	no	no surveys	no surveys	no surveys
	2003	no[2]	no surveys	no surveys	no surveys
	2004	yes[3]	yes[2]	no surveys	no surveys
Fort Fisher	2000	no	no surveys	no surveys	no surveys
	2001	no	no surveys	yes	yes
	2002	yes (1)[2]	no surveys	yes	no surveys
	2003	no[2]	no surveys	no surveys	no surveys
	2004	yes[3]	no surveys	no surveys	no surveys
Bald Head Island	2000	no	yes	no surveys	no surveys
	2001	yes[3]	yes	no[2]	yes
	2002	no[2]	yes	no surveys	no surveys
	2003	no[2]	no surveys	no surveys	no surveys
	2004	no	no surveys	no surveys	no surveys

[1] Breeding pair observed; likely nested on Lea Island, the next island to the north

[2] Only one survey date in period

[3] Single individuals seen during breeding season, but no evidence of nesting

Table 3.—Survey results for breeding Wilson's Plovers, American Oystercatchers, and Willets (# nests, if known) in southeastern North Carolina during the five-year period from 2000-2004.

Island area	Year	Wilson's Plover	American Oystercatcher	Willet
Figure Eight Island	2000	yes	yes	yes
	2001	yes	yes	yes
	2002	yes (3)	yes (3)	yes (1)
	2003	yes (4)	yes (3)	yes
	2004	yes (5)	yes (5)	yes (3)
Wrightsville Beach	2000	no[1]	no[1]	yes
	2001	no[1]	no[1]	yes
	2002	yes (2)	yes (2)	yes
	2003	yes (7)	yes (5)	yes (4)
	2004	yes (10)	yes (4)	yes
Masonboro Island	2000	no	no	no
	2001	yes (8)	yes (20)	yes (13)
	2002	yes (10)	yes (16)	no
	2003	yes (12)[2]	no[2]	no[2]
	2004	yes (41)	yes (41)	yes (23)
Fort Fisher	2000	no	no	no
	2001	yes (22)	yes (12)	yes (23)
	2002	no[2]	no[2]	no[2]
	2003	no[2]	no[2]	no[2]
	2004	yes (9)[2]	yes (13)[2]	no[2]
Bald Head Island	2000	no	no	no
	2001	yes (9)	yes (1)	yes (11)
	2002	no[2]	no[2]	no[2]
	2003	no[2]	no[2]	no[2]
	2004	yes (6)	yes (2)	no

[1] Suitable habitat did not exist in the study area prior to the Mason Inlet Relocation Project

[2] Only one survey during the breeding season

Table 4.—Survey results for breeding Least Terns, Common Terns, and Black Skimmers (# nests, if known) in southeastern North Carolina during the five-year period from 2000-2004.

Island area	Year	Least Tern	Common Tern	Black Skimmer
Figure Eight Island	2000	yes	yes	yes
	2001	yes (50)	yes (20)	yes (40)
	2002	yes (5)	no[1]	no[1]
	2003	no	no[1]	no[1]
	2004	yes (12)	no[1]	no[1]
Wrightsville Beach	2000	no[2]	no[2]	no[2]
	2001	no[2]	no[2]	no[2]
	2002	no	no	yes (4)
	2003	yes	yes (2)	yes (166)
	2004	(202) yes (369)	yes (4)	yes (64)
Masonboro Island	2000	yes	no	no
	2001	yes	yes (3)	yes (41)
	2002	(99)	no	no
	2003	yes	no[3]	no[3]
	2004	(150) yes (115)[3] yes	no	no
Fort Fisher	2000	no	no	no
	2001	yes (3)[3]	no[3]	no[3]
	2002	no[3]	no[3]	no[3]
	2003	no[3]	no[3]	no[3]
	2004	no[3]	no[3]	no[3]
Bald Head Island	2000	no	no	no
	2001	no	no	no
	2002	no[3]	no[3]	no[3]
	2003	no[3]	no[3]	no[3]
	2004	no[3]	no[3]	no[3]

[1] Suitable habitat does not exist in the study area following the Mason Inlet Relocation Project

[2] Suitable habitat did not exist in the study area prior to the Mason Inlet Relocation Project

[3] Only one survey during the breeding season

III. Economic Impact Analysis

Submitted by:

Dr. Chris Dumas, Ph.D.
Associate Professor
Department of Economics and Finance
University of North Carolina Wilmington
dumasc@uncw.edu
910.962-4026

Abstract

The North Carolina Legislature appropriated funds in the 2004/05 budget bill (2004 North Carolina House Bill 1414, Section 12.3(b)) to study vehicular access demand, associated biological effects, and potential economic impacts of vehicle access restriction at Fort Fisher State Recreation Area (FOFI), located in New Hanover county, North Carolina. This document presents results of an economic impact analysis of current vehicle trips to FOFI and possible vehicle access restrictions. The baseline number of annual beach vehicle trips, 28,884 trips/yr., supports an estimated $21.6 million in annual regional sales, 382 regional jobs, and $3.7 million in annual combined Federal, state and local tax revenue. Complete discontinuation of vehicular access to FOFI would result in the estimated loss of $11.0 million/yr. in regional sales, 191 regional jobs, and $1.9 million/yr. in tax revenues. A less restrictive policy allowing daytime-only vehicular access to FOFI would result in the estimated loss of $2.0 million/yr. in regional sales, 34 regional jobs, and $0.3 million/yr. in tax revenues. (These estimates include the economic impacts of those who currently make vehicular beach trips to FOFI and who would continue to make recreational beach trips to the local area even without vehicle access to FOFI.)

Introduction

Ocean beach vehicular access has been a controversy at Fort Fisher State Recreation Area (FOFI) in New Hanover County, North Carolina, for a number of years. Concerns have been voiced by local beach fishermen and residents who wish to have vehicle access to the site at all times. Other site users and park staff feel that protection of Federal/state listed species (e.g., nesting loggerhead sea turtle and water birds) from vehicular impacts on the oceanfront and staffing limitations during evening hours require a more limited access schedule typical of other state park properties. To provide additional information to help resolve the issue, the North Carolina Legislature appropriated funds in the 2004/05 budget bill (2004 North Carolina House Bill 1414, Section 12.3(b)) to study FOFI vehicular access demand, associated biological effects, and potential economic impacts of vehicle access restriction.

This document has been prepared in partial fulfillment of a contract to the University of North Carolina Wilmington (UNCW) for an Ocean Beach Vehicular Access Study at FOFI located near Kure Beach, North Carolina. The study was conducted by

UNC-Wilmington faculty between August 15, 2004 and December 31, 2004. This document presents results of an economic impact analysis of current vehicle trips to FOFI and possible vehicle access restrictions. Companion UNCW reports present results concerning FOFI vehicular access demand and associated biological effects.

Scope of Work

Economic Impact Analysis: Dr. Chris Dumas will perform an economic impact analysis of restricting 24-hour access. This will be achieved by using data from the demand analysis described in the companion report by Drs. Robert Buerger, Jim Herstine and Jeffery Hill of UNC-Wilmington and relevant literature to develop a model that will compare valuations of different use scenarios.

Deliverables

An economic impact analysis comparing 24-hour vehicular ocean beach access to: 1. daytime-only access, 2. going to another 24-hour vehicular-accessible beach, or 3. complete discontinuation of vehicular beach access. However, because only 2 of 120 survey respondents indicated that they would travel to beaches outside New Hanover county if vehicular access to FOFI beaches were restricted, item 2 was judged insignificant, and the present report focuses on items 1 and 3.

Methods

Input-output analysis is used to estimate economic impacts. Input-output analysis is an economic modeling methodology used to estimate the full economic impacts of a given, initial change in spending in a regional economy. Input-output analysis tracks the flow of dollars between and among businesses, consumers, workers, and government agencies in a study region. See Miller and Blair (1985) for additional information on input-output analysis.

IMPLAN Professional® Input-Output Analysis computer software (Minnesota IMPLAN Group, Inc. 1999) is used in this study to conduct input-output analysis. IMPLAN Pro is a leading input-output modeling software package used by university researchers, government agencies, and consultants nationwide. The IMPLAN software tracks 525 commercial and industry sectors, and local, state and Federal government sectors, on a county-by-county basis.

Input-output analysis requires a defined study region. The study region for this project is defined as New Hanover County, North Carolina. Although the direct economic impacts considered in this study will occur largely in the Ft. Fisher/Kure Beach/Carolina Beach portion of the county, this portion of the county is tied economically to New Hanover county as a whole, especially the city of Wilmington. A full assessment of economic impacts requires that the county as a whole be considered in the analysis.

Input-output analysis requires two types of data: baseline industry structure data, and data describing the initial, "direct" economic impacts. Industry structure data describe the input purchases (materials, energy, employee labor, etc.) that must be made by each industry in order to produce its product. Industry structure data for 1999 were obtained from Minnesota IMPLAN Group, Inc. as part of the database accompanying the IMPLAN analysis software (i.e., the 1999 IMPLAN structural matrix was used in the analysis). Minnesota IMPLAN Group, Inc., constructs the industry structure database from government surveys of businesses and consumers. Data on the initial, "direct" economic impacts are derived from the survey data collected as part of the present study (see Table 2 below).

Economic impact results are presented in terms of: (1) changes in New Hanover county employment, (2) changes in annual business sales by industry sector, and (3) changes in the primary components of annual tax receipts at the Federal, state and local level. The reported impacts on employment and sales have three components: (1) initial, "direct" impacts, (2) indirect, "ripple" effects on supplying businesses, and (3) induced, household-spending "feedback" effects. Components (2) and (3) together are sometimes called "economic multiplier effects." Employment impacts include both full-time and part-time jobs (the data are not sufficient to distinguish full-time from part-time jobs). The reported tax impacts include all multiplier effects.

The economic impact analysis compares three management scenarios. The first scenario is the "baseline" scenario. Under the baseline scenario, the existing beach access fee at FOFI is assumed to be in place, but there are no additional restrictions on vehicle access. The second scenario, "complete discontinuation of vehicle access," prohibits all vehicle access to FOFI. The third scenario, "daytime-only vehicle access," prohibits vehicle access to FOFI at night but allows daytime access. Under all scenarios, pedestrian access to FOFI is allowed. The scenarios differ from one another in terms of the number of vehicle beach trips to FOFI. Survey data (described below) are used to determine the regional economic impact per vehicle trip, and economic impacts across scenarios differ according to differences in the number of vehicle beach trips across scenarios. Allowance is made for the economic impact of those who would continue to make recreational beach trips to the local area even without vehicle access to FOFI.

Survey Data

The companion report "Ocean Beach Vehicular Access Study at Fort Fisher State Recreation Area," authored by Drs. Robert Buerger, Jim Herstine and Jeffery Hill of UNC-Wilmington, describes the research methodology used to collect the survey data analyzed in this report. Two types of data were collected: (1) electronic counts of vehicles entering FOFI and (2) spot surveys administered to individuals in vehicles entering FOFI. During the July 2nd through December 15th time period, the electronic counter recorded 15,883 vehicles passing through the FOFI ocean beach vehicular access entrance. A total of 181 spot surveys were administered to vehicles entering FOFI between September 15th and December 15th to collect information on park use, visitor demographics, and economics. Of the 181 spot surveys, 127 were valid surveys, for a survey response rate of over 71%. Of the 127 valid surveys, 120 provided full monetary expenditure data, and 117 provided data on substitute

recreational activities (i.e., alternative recreational activities that would be pursued if vehicle access were restricted).

Estimated Number of Beach Vehicle Trips

We have actual vehicle trip count data for both day and night for the fall/winter 2004 season. We have survey respondent *estimates* of their day and night vehicle trips for both the fall/winter 2004 season and the spring/summer 2004 season.

The vehicle count data indicate that approximately 25% of beach vehicle trips were night trips during the fall/winter 2004 season (September 15 through December 15). Survey respondents *estimated* that approximately 33% of beach vehicle trips were night trips during the fall/winter 2004 season. Several possibilities may account for the differences between the vehicle count night trip percentage estimate and the survey data night trip percentage estimate: (1) the survey may not be a perfectly random (representative) sample of the vehicle trip population, and/or (2) survey respondents may be either under-estimating day trips, over-estimating night trips, or some combination of both.

For the purposes of this study, we use an estimate of 8,500 vehicle trips made during the 92 fall/winter days from September 15 through December 15, 2004. This figure is based on the actual vehicle count data. We define the fall/winter season as September 15 through March 15 (approximately 183 days). To estimate the number of vehicle trips occurring from December 16 through March 15, the colder portion of the season, we use the average number of vehicle trips per day in the colder sampled months, November and December, or 32 trips per day, multiplied by 91 days, or 2,912 trips. Adding 8,500 trips and 2,912 trips yields an estimate of **11,412 vehicle trips per fall/winter season** (September 15 through March 15). Assuming that 25% of these trips are night trips (based on the actual vehicle count data) produces an estimate of **2,853 *night* trips per fall/winter season**.

We define the spring/summer season as March 16 through September 14 (approximately 182 days). The 120 survey respondents who provided expenditure data estimate that they take 2,184 vehicle trips in the spring/summer season vs. 2,264 vehicle trips in the fall/winter season, or 0.96 spring/summer trip per fall/winter trip. Multiplying the estimate of the number of fall/winter trips (11,412) by 0.96 spring/summer trip per fall/winter trip produces an estimate of 10,956 vehicle trips per spring/summer season. This estimate is equivalent to an average number of trips per day of 10,956 trips / 182 days = 60 trips/day during the spring/summer season. However, this estimate may underestimate the number of trips if the population of spring/summer beach trippers is different from the population of fall/winter beach trippers, and the spring/summer population takes a larger number of spring/summer beach trips per day relative to the fall/winter population (e.g., there may be sample selection bias that biases downward the estimate of spring/summer trips per day). In support of this possibility, partial vehicle count data for a portion of the spring/summer season (from July 2 through August 31, 2004) indicate an average of 131 vehicles/day during this portion of the spring/summer season. On the other hand, the colder March-May months of the spring/summer season may have vehicle counts much lower than the 131 vehicles/day value. In the absence of better data, we take

the average of the 60 trips/day and 131 trips/day values to produce an average estimate of 96 trips/day in the spring/summer season. Multiplying 96 trips/day by 182 days in the spring/summer season produces a final estimate of **17,472 vehicle trips per spring/summer season**.

Survey respondents estimated that 12.9% of their spring/summer trips were night trips. Unfortunately, the partial vehicle count data available for July 2 through August 31, 2004 do not distinguish between day trips and night trips, so there is no estimate of the percentage of night trips based on vehicle count data with which to compare the 12.9% survey estimate. In the absence of additional data, we multiply the estimated 17,472 vehicle trips per spring/summer season by the survey estimate of the percentage of night trips, or 12.9%, to produce an estimate of **2,253 *night* vehicle trips per spring/summer season**.

Estimated Monetary Expenditures per Beach Vehicle Trip

The final sample of survey respondents provided full monetary expenditure data for 120 vehicle trips (total day and night trips combined) from September 15 to December 15. The number of people per vehicle ranged from 1 to 5, with a median of 2 and a mean of 2.12. Expenditures per expenditure category on a per person basis and total expenditures for all 120 vehicle trips providing full expenditure data are presented in Table 1.

Baseline Economic Activity Supported by Beach Vehicle Trip Expenditures

The "baseline" scenario is defined as the estimated total number of vehicle trips occurring per year in the absence of beach access closure but with existing beach access fees in place. The baseline number of beach vehicle trips per year is the sum of estimated fall/winter season trips (11,412 vehicle trips) and spring/summer season trips (17,472 vehicle trips), for a total of 28,884 trips. Each baseline scenario beach vehicle trip is assumed to result in direct monetary expenditures as presented in the right-most column of Table 1. Multiplying each of these per vehicle trip expenditure values by 28,884 trips per year produces estimates of total annual direct expenditures under the baseline scenario as presented in Table 2.

The regional economic activity supported by the annual, baseline, direct expenditures presented in Table 2 is estimated using a regional economic input-output model (as described above). Model estimates are presented (Tables 3, 4, and 5) in the Results section below.

Estimated Economic Impact of Complete Discontinuation of Vehicular Access

To examine the economic impact of complete discontinuation of vehicular access to the Ft. Fisher State Recreation Area, we eliminate all vehicle access trips. However, when these trips are eliminated, some beachgoers will continue to make beach trips that do not require vehicular beach access, whereas others will choose to stay at home and forego beach trips altogether. Those who continue to make beach trips to/within the local area continue to make expenditures that support the local area

economy, whereas those who stay home withdraw their expenditures from the local area economy.

Of the 120 survey respondents who provided monetary expenditure data, 117 provided data on substitute recreational activities. That is, 117 respondents provided an answer to the survey question, "If this beach had been closed today/tonight, what would you have done instead?" Of the 117 answers to this question, 42 (or 36%) indicated that the survey respondent would have stayed home and taken no beach trip of any kind, 61 (or 52%) indicated that the respondent would have gone to the north end of Carolina Beach or would have engaged in a non-vehicular beach activity in either the Ft. Fisher area or elsewhere in the Carolina/Kure Beach area, and 14 (or 12%) indicated that the respondent would have gone to another beach outside the Carolina/Kure Beach area. Based on these survey results, we estimate that complete discontinuation of vehicular access at Ft. Fisher State Recreation Area would result in a 48% (36% plus 12%) reduction in beach trips to the Carolina/Kure Beach area that formerly made use of vehicle access, while 52% of the former vehicle access beach trips would continue to be made in the Carolina/Kure beach area, but these trips would be made without driving vehicles on the beach. Such trips would include, for example, beach trips where vehicles are parked in public lots or parking spaces, trips to fishing piers, and trips to the Ft. Fisher aquarium (note: these activities were mentioned by survey respondents). In cases where beach trips continue to occur (but without driving vehicles on the beach), we assume that trip expenditures remain the same, except that gasoline expenditures are reduced by 25%.

The annual, regional economic impacts of complete discontinuation of vehicular access to Ft. Fisher State Recreation Area are estimated using a regional economic input-output model (as described above). Model estimates are presented (Tables 6, 7, and 8) in the Results section below.

Estimated Economic Impact of Daytime-Only Vehicular Access

To examine the economic impact of allowing daytime-only vehicular access to Ft. Fisher State Recreation Area, we eliminate night vehicle trips only. When these night trips are eliminated, some nighttime beachgoers will continue to make night beach trips that do not require vehicular beach access, whereas others will choose to stay home and forego beach trips altogether. Using the data on substitute trip activities described in the section above, we estimate that 48% of the individuals formerly making night vehicle trips would choose to stay home and make no trip, whereas 52% of the individuals formerly making night vehicle trips would continue to make beach trips to the Carolina/Kure beach area that would not involve driving vehicles on the beach (for example, night pier fishing trips, night walks on the beach, night kayak/canoe trips, etc.).

The annual, regional economic impacts of allowing daytime-only vehicular access to Ft. Fisher State Recreation Area are estimated using a regional economic input-output model (as described above). Model estimates are presented (Tables 9, 10, and 11) in the Results section below.

Results

Baseline Economic Activity Supported by Beach Vehicle Trip Expenditures

Table 3 presents the regional sales activity supported by the baseline annual direct expenditures presented in Table 2. The first column of Table 3 presents the direct economic impacts, which are simply the baseline expenditures from Table 2. The second column of Table 3 gives the indirect economic impacts, or economic "ripple effects," of the direct economic impacts on supplying industries in the region. The third column of Table 3 gives the induced economic impacts, the "feedback effects" of the direct and indirect impacts on subsequent spending by the employees and owners of the businesses affected by the direct and indirect impacts. Together, the indirect and induced impacts measure the economic "multiplier effect." Finally, the fourth column of Table 3 gives the total economic impact of baseline expenditures, the combined direct, indirect and induced impacts. The totals at the bottom of Table 3 indicate that $11,223,168/yr. of estimated baseline direct expenditures produce an estimated $1,903,489/yr. in indirect impacts and $8,543,064/yr. in induced impacts, for an estimated total economic impact of $21,669,721/yr. This value is an estimate of the regional sales activity supported by the baseline annual direct expenditures presented in Table 2, before any restrictions occur on beach vehicle trips.

Table 4 presents estimates of the regional employment supported by the baseline annual direct expenditures presented in Table 2. The first column of Table 4 presents the direct employment impacts, the jobs supported directly by the baseline expenditures from Table 2. The second column of Table 4 gives the indirect employment impacts, the "ripple effect" of baseline expenditures on employment in supplying industries. The third column of Table 4 gives the induced employment impacts, the "feedback effects" of baseline expenditures on employment due to the spending of employees and owners of the businesses affected by the direct and indirect impacts. Together, the indirect and induced employment impacts measure the economic "multiplier effect" on employment. Finally, the fourth column of Table 4 gives the total employment impact, the total of the direct, indirect and induced employment impacts. The totals at the bottom of Table 4 indicate that an estimated 245 jobs are supported by baseline direct expenditures, with an additional 137 jobs supported by the indirect and induced multiplier effects, for an estimated total of 382 jobs supported in the study region of New Hanover County, NC.

Table 5 presents estimates of the tax revenues received by Federal, state, and local governments as a result of the total economic impacts presented in Table 3. Estimated Federal personal income tax revenues are $772,395/yr., Federal corporate profit taxes are $277,104/yr., and Federal payroll taxes are $1,036,237/yr. Estimated North Carolina state personal income tax revenues are $242,166/yr., state corporate profit taxes are $51,765/yr., and state payroll taxes are $11,795/yr. Local business property taxes are $487,122/yr., and combined state and local sales taxes are $866,101/yr. Total tax revenues accruing to all levels of government are an estimated $3,744,686/yr.

Estimated Economic Impact of Complete Discontinuation of Vehicular Access

Table 6 presents estimates of the impact of a complete discontinuation of vehicular access at Ft. Fisher on regional sales activity. The first column of Table 6 indicates that direct sales fall by an estimated $5,699,944/yr. with complete discontinuation of vehicular access. Direct sales do not fall by the full $11,223,168/yr. of baseline direct sales because, as described above, a significant number of recreational beach trips to Ft. Fisher/Kure Beach/Carolina Beach continue to occur under discontinuation of vehicular beach access, although these trips do not include driving on the beach as part of the experience. The second and third columns of Table 6 give the indirect and induced economic multiplier effects on regional sales activity resulting from the initial drop in direct sales. These multiplier effects total -$5,320,184. Finally, the fourth column of Table 6 gives the estimated total economic impact of a complete discontinuation of vehicular access on regional sales activity: -$11,020,127/yr.

Table 7 presents estimates of the impact of a complete discontinuation of vehicular access at Ft. Fisher on regional employment. The first column of Table 7 indicates that direct employment falls by an estimated 121 jobs under complete discontinuation of vehicular access. The second and third columns of Table 7 give the indirect and induced economic multiplier effects on regional employment. These multiplier effects result in an additional 70 jobs lost. Finally, the fourth column of Table 7 gives the estimated total economic impact of a complete discontinuation of vehicular access on regional employment: 191 jobs lost in the study region of New Hanover County, NC.

Table 8 presents estimates of the tax revenues lost by Federal, state, and local governments as a result of a complete discontinuation of vehicular access at Ft. Fisher. Federal personal income tax revenues fall by an estimated $393,405/yr., Federal corporate profit taxes fall $141,298/yr., and Federal payroll taxes fall $526,719/yr. North Carolina state personal income tax revenues fall $123,336/yr., state corporate profit taxes fall $26,369/yr., and state payroll taxes fall $5,996/yr. Local government property taxes fall $251,025/yr., and local sales taxes fall $446,322/yr. Total tax revenues accruing to all levels of government fall by an estimated $1,914,497/yr.

Estimated Economic Impact of Daytime-Only Vehicular Access

Table 9 presents estimates of the impacts of allowing daytime-only vehicular access at Ft. Fisher on regional sales activity. The first column of Table 9 indicates that direct sales fall by an estimated $1,009,314/yr. under daytime-only vehicular access. Direct sales do not fall by the full $11,223,168/yr. of baseline direct sales because daytime vehicular trips continue to be made, and a significant proportion of night recreational beach trips (pier fishing, etc.) continue to occur, although these night trips do not include driving on the beach. The second and third columns of Table 9 give the indirect and induced economic multiplier effects on regional sales activity. Together, these multiplier effects total -$942,067/yr. Finally, the fourth column of Table 9 gives the estimated total impact on regional sales activity of allowing daytime-only vehicular access: -$1,951,381/yr.

Table 10 presents estimates of the impacts of allowing daytime-only vehicular access at Ft. Fisher on regional employment. The first column of Table 10 indicates that direct employment falls by an estimated 22 jobs under daytime-only vehicular access. The second and third columns of Table 10 give the indirect and induced economic multiplier effects on regional employment. These multiplier effects result in an additional 12 jobs lost. Finally, the fourth column of Table 10 gives the estimated total economic impact of daytime-only vehicular access on regional employment: 34 jobs lost in the study region of New Hanover County, NC.

Table 11 presents estimates of the tax revenues lost by Federal, state, and local governments as a result of daytime-only vehicular access at Ft. Fisher. Federal personal income tax revenues fall by an estimated $69,662/yr., Federal corporate profit taxes fall $25,020/yr., and Federal payroll taxes fall $93,268/yr. North Carolina state personal income tax revenues fall $21,839/yr., state corporate profit taxes fall $4,674/yr., and state payroll taxes fall $1,062/yr. Local government property taxes fall $44,449/yr., and local sales taxes fall $79,032/yr. Total tax revenues accruing to all levels of government fall by an estimated $339,007/yr.

Conclusions and Discussion

This document presents the results of an economic impact analysis of recreational vehicle trips to the beach located in Fort Fisher State Recreation Area (FOFI), New Hanover county, North Carolina, and possible restrictions to vehicular beach access. The estimated baseline number of annual beach vehicle trips, 28,884 trips/yr. in 2004, supports an estimated $21.6 million (2004 $'s) in annual regional sales, 382 regional jobs, and $3.7 million in annual combined Federal, state and local tax revenue. Complete discontinuation of vehicular access to FOFI would result in the estimated loss of $11.0 million/yr. in regional sales, 191 regional jobs, and $1.9 million/yr. in tax revenues. A less restrictive policy allowing daytime-only vehicular access to FOFI would result in the estimated loss of $2.0 million/yr. in regional sales, 34 regional jobs, and $0.3 million/yr. in tax revenues. (Note: These estimates include the economic impacts of individuals who currently make vehicular beach trips to FOFI and who would continue to make recreational beach trips to the local area even without vehicle access to FOFI.)

The economic impact results reported here should be interpreted as tentative results based on limited data. A limited project budget and accelerated timeline restricted the data collection effort to September 15--December 15, 2004. Given that the survey responses were only generated from users who came to the ocean beach at FOFI during the early fall through winter months, the question arises of whether the sample truly represents the population of FOFI users throughout the year. Individuals who use the ocean beach at FOFI exclusively during the spring and summer months were not included in the sample pool. However, fall and winter survey respondents were asked questions about their spring and summer beach trip behavior, and estimates of spring and summer beach trip activity and associated economic impacts were made based on their responses. Still, the number of spring and summer vehicular beach trips, the magnitude of associated total expenditures, and the

distribution of expenditures across types of goods and services may differ for the spring and summer season.

Other aspects of the survey data may impart some bias to the economic impact results (although some biases working in opposite directions likely counter-act one another to some extent). First, although survey respondents were asked for expenditure values on a per person basis, some respondents may have provided expenditure values for the entire group of persons in the vehicle rather than the requested per person values. To the extent that this occurred, the true economic impacts of vehicular restrictions would be somewhat smaller than those reported here, because the reported values were multiplied by the number of persons in each vehicle.

Second, survey respondents were asked to report monetary expenditure data on a "per vehicle beach trip" basis. However, some survey respondents may not have listened carefully to survey questions and may have provided expenditure values on a "per spending occasion" basis, instead. For example, respondents may have answered that they typically spend $25 per person per visit to a restaurant in Carolina Beach, whether or not they actually visit a restaurant on *every* vehicle beach trip. To the extent that expenditures were mistakenly reported by survey respondents on a "per spending occasion basis," the true economic impacts of vehicular restrictions would be somewhat smaller than those reported here.

Third, if vehicular beach access were restricted, some survey respondents indicated that they would stay at home and make no trips to the beach, while others indicated that they would make non-vehicular trips to the beach or engage in some other type of recreational activity. Although the results presented in this report reflect best estimates of the regional economic impacts of changes in the number and types of beach trips, the results do not capture the full change in economic value accruing to the recreationists themselves. For example, suppose an individual who formerly took a vehicular beach trip decides to take a non-vehicular trip to the beach after vehicle access is discontinued, and suppose further that the individual spends exactly the same amount of money on exactly the same items. While there would be no recorded economic impact on the region (because the individual's expenditures remain the same), the individual herself might very well suffer a reduction in *personal satisfaction* from the trip if she *enjoyed* a vehicle beach trip more than a non-vehicle beach trip. Economists term the economic value of such lost satisfaction "consumer surplus." Due to budget and timeline limitations, the present study makes no attempt to measure consumer surplus. To the extent that consumer surplus is significant the true economic impacts of vehicular restrictions would be somewhat larger than those reported here. (Note: Methods exist to estimate consumer surplus values based on the analysis of appropriate survey data.)

Fourth, those survey respondents who indicated that they would "stay home" if vehicular beach access were discontinued may still spend some money on substitute activities, such as ordering pizza for home delivery, renting VCR movies, etc. However, the impact estimates presented in this report assume that the individuals who choose to "stay home" would fully withdraw the money they would have spent on a vehicular beach trip from the regional economy. To the extent that those who

choose to remain "home alone" make unreported expenditures, the true economic impacts of vehicular restrictions would be somewhat smaller than those reported here.

Fifth, the economic impact estimates presented here assume no other changes in regional beach access policy. This caveat is especially important when trying to estimate the economic impacts of substitute activities under a vehicular access closure at FOFI. For example, consider the 61 survey respondents (out of the 120 who provided full monetary expenditure data) who said that they would continue to make a beach trip to the study region even if vehicular access to FOFI were restricted. Of these 61 respondents, 38 indicated that they would go to the "North End" area of Carolina Beach, an area where vehicular beach access is currently allowed. If vehicle access to the North End of Carolina Beach were to be restricted, then the economic impacts of vehicular restrictions at FOFI would likely be somewhat larger than those reported here. The point here is that the economic impacts of a change in vehicle access policy at FOFI depend on the beach access policies in place at nearby, substitute beaches.

References

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Table 1. Beach Vehicle Trip Expenditure Data Summary

Expenditure Category	Mean[1] Expenditures Per person Per vehicle trip	Median[2] Expenditures Per person Per vehicle trip	Total Expenditures[3] By All Persons In All 120 Surveyed Vehicle Trips	Mean Expenditures Per Surveyed Vehicle Trip[4]
Hotel/Motel	$38.14	$00.00	$10,283.00	$85.69
Restaurants/Bars	$45.76	$17.50	$11,685.00	$97.38
Other Food and Beverage (Groceries)	$26.41	$10.00	$6,634.00	$55.28
Fishing and Beach Supplies	$32.82	$15.00	$8,028.00	$66.90
Gasoline	$41.20	$30.00	$9,997.20	$83.31

Table 1. notes:
[1] For each expenditure category, mean expenditure is the mathematical average expenditure per person in the sample.
[2] Median expenditures reflect *typical* expenditures per person in the sample. That is, for each expenditure category, fifty percent of the sampled individuals reported values higher than the median, and fifty percent reported values lower than the median. Compared with mean values, median values are less influenced by unusually large or small values in the sample.
[3] Total expenditures are derived by multiplying the expenditure values per person in each vehicle by the number of people in the vehicle and then adding the resulting values across all vehicles in the sample.
[4] For each expenditure category, mean expenditures per surveyed vehicle trip are calculated by dividing the total expenditures of all persons in all 120 surveyed vehicles by 120 vehicle trips.

Table 2. Baseline Scenario Annual Direct Expenditures

Expenditure Category	Annual Direct Expenditures Under Baseline Scenario (28,884 vehicle trips/yr)
Hotel/Motel	$2,475,118
Restaurants/Bars	$2,812,580
Other Food and Beverage (Groceries)	$1,596,804
Fishing and Beach Supplies	$1,932,340
Gasoline	$2,406,326
Totals	$11,223,168

Table 3. Baseline Scenario–Sales (Output) Supported by Baseline FOFI Beach Vehicle Trips

Industry	Direct Sales Supported (2004 Dollars)	Indirect Sales Supported (2004 Dollars)	Induced Sales Supported (2004 Dollars)	Total Sales Supported (2004 Dollars)
Advertising	$0	$12,268	$3,888	$16,156
Agri, Forestry, Lumber, Pulp & Paper	$0	$20,066	$23,388	$43,453
Banking, Financial, Accounting Services	$0	$239,935	$381,953	$621,888
Child Day Care	$0	$0	$33,929	$33,929
Commercial Fishing	$0	$2,708	$412	$3,120
Construction	$0	$144,761	$1,516,878	$1,661,639
Education: Schools, Colleges, Universities	$0	$480	$812,613	$813,093
Govt: Federal, incl Military	$0	$27,401	$226,076	$253,478
Govt: State & local, non-educ	$0	$1,784	$517,480	$519,264
Hospitals, Doctors, Dentists	$0	$9	$493,722	$493,731
Hotels and Lodging Places	$2,475,118	$29,495	$73,704	$2,578,318
Household Cleaning Services	$0	$0	$15,530	$15,530
Insurance	$0	$3,352	$68,400	$71,752
Landscaping, Horticulture, Greenhouses	$0	$14,283	$26,287	$40,570
Legal Services	$0	$23,720	$77,094	$100,814
Manf: Boat Building & Repair	$0	$1	$78	$79
Manf: Clothing, Shoes, Leather Goods Manf	$0	$1,350	$30,739	$32,089
Manf: Concrete, Cement, Brick	$0	$5	$70	$75
Manf: Food processing	$0	$6,384	$9,494	$15,878
Manf: Furniture & Wood Products	$0	$1,346	$15,454	$16,800
Manf: Newspapers	$0	$23,387	$9,563	$32,950
Manf: Other	$0	$20,474	$123,505	$143,979
Manf: Petroleum, Chemicals, & Mining	$0	$25,946	$206,842	$232,788
Manf: Printing and publishing	$0	$18,515	$11,744	$30,259
Non-profit organizations	$0	$3,240	$76,130	$79,369
Other Business Services	$0	$294,972	$293,323	$588,295
Real estate	$0	$300,086	$894,493	$1,194,579
Recreation: Bowling Alleys & Pool Halls	$0	$4	$1,773	$1,777
Recreation: Golf and Amateur Team Sports	$0	$1,460	$16,344	$17,804
Recreation: Movie Theaters	$0	$28,922	$43,639	$72,561
Recreation: Other Amusement Facilities	$0	$9,171	$64,307	$73,478
Retail: Auto Parking & Car Wash	$0	$1,722	$11,429	$13,150
Retail: Auto Rental	$0	$12,775	$26,155	$38,930
Retail: Auto Repair & Service	$0	$17,558	$72,450	$90,008
Retail: Automobile Sales & Service	$2,406,326	$8,911	$212,649	$2,627,887
Retail: Beauty and Barber Shops	$0	$0	$19,387	$19,387
Retail: Clothing & Shoes	$0	$868	$55,254	$56,122
Retail: Department Stores	$1,932,340	$1,208	$118,314	$2,051,863
Retail: Equipment Rental	$0	$7,434	$15,734	$23,168
Retail: Furniture	$0	$1,371	$73,379	$74,750
Retail: Grocery Stores	$1,596,804	$1,331	$137,407	$1,735,542
Retail: Home Improvement Stores	$0	$2,358	$62,823	$65,181

Retail: Laundry Services	$0	$16,369	$23,314	$39,683
Retail: Miscellaneous	$0	$17,553	$279,793	$297,347
Retail: Photographic Studios	$0	$10,657	$12,413	$23,070
Retail: Restaurants	$2,812,580	$33,619	$298,964	$3,145,163
Retail: Travel Agencies	$0	$12,927	$2,485	$15,412
Retirement Homes & Elder-Care	$0	$0	$28,925	$28,925
Transport: Air Transportation	$0	$7,046	$22,629	$29,675
Transport: Bus Services	$0	$1,095	$8,393	$9,488
Transport: Seaport & Water Transp.	$0	$2,605	$18,359	$20,965
Transport: Trucking	$0	$62,255	$115,510	$177,766
TV, Radio, Other Comm Services	$0	$158,158	$174,178	$332,336
Utilities: Electricity & Nat. Gas	$0	$82,174	$152,470	$234,644
Utilities: Water, Sewer, Trash Services	$0	$49,565	$97,005	$146,570
Wholesale, Warehousing & Distribution	$0	$138,404	$434,792	$573,196
Total	$11,223,168	$1,903,489	$8,543,064	$21,669,721

Table 4. Baseline Scenario–Employment Supported by Baseline FOFI Beach Vehicle Trips

Industry	Direct Employment Supported (Jobs)	Indirect Employment Supported (Jobs)	Induced Employment Supported (Jobs)	Total Employment Supported (Jobs)
Advertising	0.0	0.2	0.1	0.2
Agri, Forestry, Lumber, Pulp & Paper	0.0	0.1	0.1	0.2
Banking, Financial, Accounting Services	0.0	2.5	2.9	5.4
Child Day Care	0.0	0.0	0.7	0.7
Commercial Fishing	0.0	0.2	0.0	0.2
Construction	0.0	2.0	11.9	13.9
Education: Schools, Colleges, Universities	0.0	0.0	20.6	20.6
Govt: Federal, incl Military	0.0	0.3	3.6	4.0
Govt: State & local, non-educ	0.0	0.0	8.6	8.6
Hospitals, Doctors, Dentists	0.0	0.0	6.6	6.6
Hotels and Lodging Places	48.4	0.6	1.4	50.4
Household Cleaning Services	0.0	0.0	1.5	1.5
Insurance	0.0	0.0	0.6	0.6
Landscaping, Horticulture, Greenhouses	0.0	0.4	0.6	1.0
Legal Services	0.0	0.3	1.0	1.3
Manf: Boat Building & Repair	0.0	0.0	0.0	0.0
Manf: Clothing, Shoes, Leather Goods Manf	0.0	0.0	0.3	0.3
Manf: Concrete, Cement, Brick	0.0	0.0	0.0	0.0
Manf: Food processing	0.0	0.0	0.0	0.1
Manf: Furniture & Wood Products	0.0	0.0	0.2	0.2
Manf: Newspapers	0.0	0.3	0.1	0.4
Manf: Other	0.0	0.1	0.6	0.7
Manf: Petroleum, Chemicals, & Mining	0.0	0.1	0.6	0.6
Manf: Printing and publishing	0.0	0.2	0.1	0.2
Non-profit organizations	0.0	0.1	2.2	2.3
Other Business Services	0.0	6.0	4.9	10.9
Real estate	0.0	1.9	2.4	4.3
Recreation: Bowling Alleys & Pool Halls	0.0	0.0	0.1	0.1
Recreation: Golf and Amateur Team Sports	0.0	0.0	0.5	0.5
Recreation: Movie Theaters	0.0	0.3	0.5	0.8
Recreation: Other Amusement Facilities	0.0	0.1	2.3	2.3
Retail: Auto Parking & Car Wash	0.0	0.1	0.5	0.5
Retail: Auto Rental	0.0	0.1	0.3	0.4
Retail: Auto Repair & Service	0.0	0.2	0.8	1.0
Retail: Automobile Sales & Service	27.9	0.1	2.5	30.5
Retail: Beauty and Barber Shops	0.0	0.0	0.8	0.8
Retail: Clothing & Shoes	0.0	0.0	1.6	1.6
Retail: Department Stores	46.2	0.0	2.8	49.1
Retail: Equipment Rental	0.0	0.1	0.1	0.2
Retail: Furniture	0.0	0.0	0.9	0.9
Retail: Grocery Stores	47.2	0.0	4.1	51.3
Retail: Home Improvement Stores	0.0	0.0	1.1	1.1
Retail: Laundry Services	0.0	0.7	1.0	1.6
Retail: Miscellaneous	0.0	0.3	7.2	7.5
Retail: Photographic Studios	0.0	0.1	0.2	0.3
Retail: Restaurants	75.1	0.9	8.0	84.0
Retail: Travel Agencies	0.0	0.3	0.1	0.4
Retirement Homes & Elder-Care	0.0	0.0	0.9	0.9
Transport: Air Transportation	0.0	0.1	0.2	0.3
Transport: Bus Services	0.0	0.0	0.2	0.2
Transport: Seaport & Water Transp.	0.0	0.0	0.1	0.1
Transport: Trucking	0.0	0.5	1.0	1.5
TV, Radio, Other Comm Services	0.0	0.9	0.8	1.7
Utilities: Electricity & Nat. Gas	0.0	0.2	0.3	0.5
Utilities: Water, Sewer, Trash Services	0.0	0.3	0.5	0.7
Wholesale, Warehousing & Distribution	0.0	1.3	4.1	5.4
Total	244.8	21.9	115.0	381.7

Table 5. Baseline Scenario–Tax Revenue Supported by Baseline FOFI Beach Vehicle Trips

Tax Type	Baseline Taxes Supported (2004 Dollars)
Federal Personal Income Taxes	$772,395
Federal Corporate Profits Taxes	$277,104
Federal Payroll Taxes	$1,036,237
State Personal Income Taxes	$242,166
State Corporate Profits Taxes	$51,765
State Payroll Taxes	$11,795
Local Business Property Taxes	$487,122
State & Local Sales Taxes	$866,101
Total	$3,744,686

Table 6. Complete Discontinuation of Vehicle Access Scenario–Impacts on Regional Sales (Output)

Industry	Direct Sales Impacts (2004 Dollars)	Indirect Sales Impacts (2004 Dollars)	Induced Sales Impacts (2004 Dollars)	Total Sales Impacts (2004 Dollars)
Advertising	$0	-$6,372	-$1,982	-$8,354
Agri, Forestry, Lumber, Pulp & Paper	$0	-$9,989	-$11,930	-$21,919
Banking, Financial, Accounting Services	$0	-$120,225	-$194,687	-$314,912
Child Day Care	$0	$0	-$17,286	-$17,286
Commercial Fishing	$0	-$1,300	-$210	-$1,510
Construction	$0	-$72,675	-$774,638	-$847,312
Education: Schools, Colleges, Universities	$0	-$240	-$417,024	-$417,264
Govt: Federal, incl Military	$0	-$14,112	-$115,292	-$129,404
Govt: State & local, non-educ	$0	-$869	-$265,647	-$266,516
Hospitals, Doctors, Dentists	$0	-$4	-$251,486	-$251,491
Hotels and Lodging Places	-$1,188,057	-$14,899	-$37,575	-$1,240,532
Household Cleaning Services	$0	$0	-$7,910	-$7,910
Insurance	$0	-$1,723	-$34,846	-$36,569
Landscaping, Horticulture, Greenhouses	$0	-$7,112	-$13,417	-$20,530
Legal Services	$0	-$12,098	-$39,296	-$51,395
Manf: Boat Building & Repair	$0	-$1	-$40	-$40
Manf: Clothing, Shoes, Leather Goods Manf	$0	-$656	-$15,661	-$16,316
Manf: Concrete, Cement, Brick	$0	-$3	-$36	-$38
Manf: Food processing	$0	-$3,065	-$4,836	-$7,901
Manf: Furniture & Wood Products	$0	-$680	-$7,879	-$8,559
Manf: Newspapers	$0	-$12,146	-$4,874	-$17,020
Manf: Other	$0	-$10,551	-$62,987	-$73,538
Manf: Petroleum, Chemicals, & Mining	$0	-$12,884	-$105,506	-$118,389
Manf: Printing and publishing	$0	-$9,563	-$5,990	-$15,553
Non-profit organizations	$0	-$1,637	-$38,787	-$40,423
Other Business Services	$0	-$149,116	-$149,729	-$298,845
Real estate	$0	-$152,751	-$455,753	-$608,504
Recreation: Bowling Alleys & Pool Halls	$0	-$2	-$903	-$905
Recreation: Golf and Amateur Team Sports	$0	-$740	-$8,326	-$9,066
Recreation: Movie Theaters	$0	-$15,005	-$22,235	-$37,240
Recreation: Other Amusement Facilities	$0	-$4,740	-$32,759	-$37,500
Retail: Auto Parking & Car Wash	$0	-$835	-$5,826	-$6,661
Retail: Auto Rental	$0	-$6,251	-$13,338	-$19,589
Retail: Auto Repair & Service	$0	-$8,857	-$36,932	-$45,789
Retail: Automobile Sales & Service	-$1,467,858	-$4,577	-$108,349	-$1,580,784
Retail: Beauty and Barber Shops	$0	$0	-$9,875	-$9,875
Retail: Clothing & Shoes	$0	-$446	-$28,148	-$28,594
Retail: Department Stores	-$927,524	-$621	-$60,273	-$988,417
Retail: Equipment Rental	$0	-$3,779	-$8,031	-$11,809
Retail: Furniture	$0	-$704	-$37,387	-$38,091
Retail: Grocery Stores	-$766,466	-$684	-$69,996	-$837,146
Retail: Home Improvement Stores	$0	-$1,211	-$32,010	-$33,221
Retail: Laundry Services	$0	-$8,207	-$11,884	-$20,091
Retail: Miscellaneous	$0	-$8,866	-$142,566	-$151,432
Retail: Photographic Studios	$0	-$5,456	-$6,325	-$11,781
Retail: Restaurants	-$1,350,039	-$16,593	-$152,310	-$1,518,942
Retail: Travel Agencies	$0	-$6,218	-$1,267	-$7,485
Retirement Homes & Elder-Care	$0	$0	-$14,742	-$14,742
Transport: Air Transportation	$0	-$3,550	-$11,538	-$15,088
Transport: Bus Services	$0	-$553	-$4,284	-$4,838
Transport: Seaport & Water Transp.	$0	-$1,301	-$9,361	-$10,662
Transport: Trucking	$0	-$30,840	-$58,914	-$89,753
TV, Radio, Other Comm Services	$0	-$81,405	-$88,803	-$170,208
Utilities: Electricity & Nat. Gas	$0	-$41,297	-$77,781	-$119,078
Utilities: Water, Sewer, Trash Services	$0	-$24,623	-$49,447	-$74,070
Wholesale, Warehousing & Distribution	$0	-$67,569	-$221,667	-$289,236
Total	-$5,699,944	-$959,599	-$4,360,585	-$11,020,127

Table 7. Complete Discontinuation of Vehicle Access Scenario–Employment Impacts

Industry	Direct Employment Impacts (Jobs)	Indirect Employment Impacts (Jobs)	Induced Employment Impacts (Jobs)	Total Employment Impacts (Jobs)
Advertising	0.0	-0.1	0.0	-0.1
Agri, Forestry, Lumber, Pulp & Paper	0.0	0.0	-0.1	-0.1
Banking, Financial, Accounting Services	0.0	-1.2	-1.5	-2.7
Child Day Care	0.0	0.0	-0.4	-0.4
Commercial Fishing	0.0	-0.1	0.0	-0.1
Construction	0.0	-1.0	-6.1	-7.1
Education: Schools, Colleges, Universities	0.0	0.0	-10.6	-10.6
Govt: Federal, incl Military	0.0	-0.2	-1.9	-2.0
Govt: State & local, non-educ	0.0	0.0	-4.4	-4.4
Hospitals, Doctors, Dentists	0.0	0.0	-3.4	-3.4
Hotels and Lodging Places	-23.2	-0.3	-0.7	-24.3
Household Cleaning Services	0.0	0.0	-0.8	-0.8
Insurance	0.0	0.0	-0.3	-0.3
Landscaping, Horticulture, Greenhouses	0.0	-0.2	-0.3	-0.5
Legal Services	0.0	-0.2	-0.5	-0.7
Manf: Boat Building & Repair	0.0	0.0	0.0	0.0
Manf: Clothing, Shoes, Leather Goods Manf	0.0	0.0	-0.2	-0.2
Manf: Concrete, Cement, Brick	0.0	0.0	0.0	0.0
Manf: Food processing	0.0	0.0	0.0	0.0
Manf: Furniture & Wood Products	0.0	0.0	-0.1	-0.1
Manf: Newspapers	0.0	-0.1	-0.1	-0.2
Manf: Other	0.0	-0.1	-0.3	-0.4
Manf: Petroleum, Chemicals, & Mining	0.0	0.0	-0.3	-0.3
Manf: Printing and publishing	0.0	-0.1	0.0	-0.1
Non-profit organizations	0.0	0.0	-1.1	-1.1
Other Business Services	0.0	-3.0	-2.5	-5.5
Real estate	0.0	-1.0	-1.2	-2.2
Recreation: Bowling Alleys & Pool Halls	0.0	0.0	0.0	0.0
Recreation: Golf and Amateur Team Sports	0.0	0.0	-0.2	-0.3
Recreation: Movie Theaters	0.0	-0.2	-0.3	-0.4
Recreation: Other Amusement Facilities	0.0	0.0	-1.2	-1.2
Retail: Auto Parking & Car Wash	0.0	0.0	-0.2	-0.3
Retail: Auto Rental	0.0	-0.1	-0.1	-0.2
Retail: Auto Repair & Service	0.0	-0.1	-0.4	-0.5
Retail: Automobile Sales & Service	-17.0	-0.1	-1.3	-18.3
Retail: Beauty and Barber Shops	0.0	0.0	-0.4	-0.4
Retail: Clothing & Shoes	0.0	0.0	-0.8	-0.8
Retail: Department Stores	-22.2	0.0	-1.4	-23.6
Retail: Equipment Rental	0.0	0.0	-0.1	-0.1
Retail: Furniture	0.0	0.0	-0.5	-0.5
Retail: Grocery Stores	-22.6	0.0	-2.1	-24.7
Retail: Home Improvement Stores	0.0	0.0	-0.6	-0.6
Retail: Laundry Services	0.0	-0.3	-0.5	-0.8
Retail: Miscellaneous	0.0	-0.2	-3.6	-3.8
Retail: Photographic Studios	0.0	-0.1	-0.1	-0.1
Retail: Restaurants	-36.1	-0.4	-4.1	-40.6
Retail: Travel Agencies	0.0	-0.2	0.0	-0.2
Retirement Homes & Elder-Care	0.0	0.0	-0.5	-0.5
Transport: Air Transportation	0.0	0.0	-0.1	-0.2
Transport: Bus Services	0.0	0.0	-0.1	-0.1
Transport: Seaport & Water Transp.	0.0	0.0	0.0	-0.1
Transport: Trucking	0.0	-0.3	-0.5	-0.8
TV, Radio, Other Comm Services	0.0	-0.5	-0.4	-0.9
Utilities: Electricity & Nat. Gas	0.0	-0.1	-0.2	-0.3
Utilities: Water, Sewer, Trash Services	0.0	-0.1	-0.2	-0.4
Wholesale, Warehousing & Distribution	0.0	-0.6	-2.1	-2.7
Total	-121.2	-11.0	-58.7	-190.9

Table 8. Complete Discontinuation of Vehicle Access Scenario--Tax Revenue Impacts

Tax Type	Tax Revenue Impacts (2004 Dollars)
Federal Personal Income Taxes	-$393,405
Federal Corporate Profits Taxes	-$141,298
Federal Payroll Taxes	-$526,719
State Personal Income Taxes	-$123,336
State Corporate Profits Taxes	-$26,396
State Payroll Taxes	-$5,996
Local Business Property Taxes	-$251,025
State & Local Sales Taxes	-$446,322
Total	-$1,914,497

Table 9. Daytime-Only Vehicle Access Scenario–Impacts on Regional Sales (Output)*

Industry	Direct Sales Impacts (2004 Dollars)	Indirect Sales Impacts (2004 Dollars)	Induced Sales Impacts (2004 Dollars)	Total Sales Impacts (2004 Dollars)
Advertising	$0	-$1,128	-$351	-$1,479
Agri, Forestry, Lumber, Pulp & Paper	$0	-$1,769	-$2,113	-$3,881
Banking, Financial, Accounting Services	$0	-$21,289	-$34,474	-$55,763
Child Day Care	$0	$0	-$3,061	-$3,061
Commercial Fishing	$0	-$230	-$37	-$267
Construction	$0	-$12,869	-$137,168	-$150,037
Education: Schools, Colleges, Universities	$0	-$43	-$73,844	-$73,886
Govt: Federal, incl Military	$0	-$2,499	-$20,415	-$22,914
Govt: State & local, non-educ	$0	-$154	-$47,039	-$47,193
Hospitals, Doctors, Dentists	$0	-$1	-$44,532	-$44,532
Hotels and Lodging Places	-$210,386	-$2,638	-$6,654	-$219,678
Household Cleaning Services	$0	$0	-$1,401	-$1,401
Insurance	$0	-$305	-$6,170	-$6,475
Landscaping, Horticulture, Greenhouses	$0	-$1,259	-$2,376	-$3,635
Legal Services	$0	-$2,142	-$6,958	-$9,101
Manf: Boat Building & Repair	$0	$0	-$7	-$7
Manf: Clothing, Shoes, Leather Goods Manf	$0	-$116	-$2,773	-$2,889
Manf: Concrete, Cement, Brick	$0	$0	-$6	-$7
Manf: Food processing	$0	-$543	-$856	-$1,399
Manf: Furniture & Wood Products	$0	-$120	-$1,395	-$1,516
Manf: Newspapers	$0	-$2,151	-$863	-$3,014
Manf: Other	$0	-$1,868	-$11,153	-$13,022
Manf: Petroleum, Chemicals, & Mining	$0	-$2,281	-$18,682	-$20,964
Manf: Printing and publishing	$0	-$1,693	-$1,061	-$2,754
Non-profit organizations	$0	-$290	-$6,868	-$7,158
Other Business Services	$0	-$26,405	-$26,513	-$52,918
Real estate	$0	-$27,048	-$80,702	-$107,750
Recreation: Bowling Alleys & Pool Halls	$0	$0	-$160	-$160
Recreation: Golf and Amateur Team Sports	$0	-$131	-$1,474	-$1,605
Recreation: Movie Theaters	$0	-$2,657	-$3,937	-$6,594
Recreation: Other Amusement Facilities	$0	-$839	-$5,801	-$6,640
Retail: Auto Parking & Car Wash	$0	-$148	-$1,032	-$1,180
Retail: Auto Rental	$0	-$1,107	-$2,362	-$3,469
Retail: Auto Repair & Service	$0	-$1,568	-$6,540	-$8,108
Retail: Automobile Sales & Service	-$259,883	-$810	-$19,186	-$279,879
Retail: Beauty and Barber Shops	$0	$0	-$1,749	-$1,749
Retail: Clothing & Shoes	$0	-$79	-$4,984	-$5,063
Retail: Department Stores	-$164,248	-$110	-$10,673	-$175,031
Retail: Equipment Rental	$0	-$669	-$1,422	-$2,091
Retail: Furniture	$0	-$125	-$6,620	-$6,745
Retail: Grocery Stores	-$135,728	-$121	-$12,394	-$148,244
Retail: Home Improvement Stores	$0	-$214	-$5,668	-$5,883
Retail: Laundry Services	$0	-$1,453	-$2,104	-$3,558
Retail: Miscellaneous	$0	-$1,570	-$25,245	-$26,815
Retail: Photographic Studios	$0	-$966	-$1,120	-$2,086
Retail: Restaurants	-$239,069	-$2,938	-$26,970	-$268,978
Retail: Travel Agencies	$0	-$1,101	-$224	-$1,325
Retirement Homes & Elder-Care	$0	$0	-$2,610	-$2,610
Transport: Air Transportation	$0	-$629	-$2,043	-$2,672
Transport: Bus Services	$0	-$98	-$759	-$857
Transport: Seaport & Water Transp.	$0	-$230	-$1,658	-$1,888
Transport: Trucking	$0	-$5,461	-$10,432	-$15,893
TV, Radio, Other Comm Services	$0	-$14,415	-$15,725	-$30,139
Utilities: Electricity & Nat. Gas	$0	-$7,313	-$13,773	-$21,086
Utilities: Water, Sewer, Trash Services	$0	-$4,360	-$8,756	-$13,116
Wholesale, Warehousing & Distribution	$0	-$11,965	-$39,251	-$51,217
Total	-$1,009,314	-$169,922	-$772,145	-$1,951,381

*** note: this assumes year-round limitation, current plans are for six-month closure**

Table 10. Daytime-Only Vehicle Access Scenario–Employment Impacts*

Industry	Direct Employment Impacts (Jobs)	Indirect Employment Impacts (Jobs)	Induced Employment Impacts (Jobs)	Total Employment Impacts (Jobs)
Advertising	0.0	0.0	0.0	0.0
Agri, Forestry, Lumber, Pulp & Paper	0.0	0.0	0.0	0.0
Banking, Financial, Accounting Services	0.0	-0.2	-0.3	-0.5
Child Day Care	0.0	0.0	-0.1	-0.1
Commercial Fishing	0.0	0.0	0.0	0.0
Construction	0.0	-0.2	-1.1	-1.3
Education: Schools, Colleges, Universities	0.0	0.0	-1.9	-1.9
Govt: Federal, incl Military	0.0	0.0	-0.3	-0.4
Govt: State & local, non-educ	0.0	0.0	-0.8	-0.8
Hospitals, Doctors, Dentists	0.0	0.0	-0.6	-0.6
Hotels and Lodging Places	-4.1	-0.1	-0.1	-4.3
Household Cleaning Services	0.0	0.0	-0.1	-0.1
Insurance	0.0	0.0	-0.1	-0.1
Landscaping, Horticulture, Greenhouses	0.0	0.0	-0.1	-0.1
Legal Services	0.0	0.0	-0.1	-0.1
Manf: Boat Building & Repair	0.0	0.0	0.0	0.0
Manf: Clothing, Shoes, Leather Goods Manf	0.0	0.0	0.0	0.0
Manf: Concrete, Cement, Brick	0.0	0.0	0.0	0.0
Manf: Food processing	0.0	0.0	0.0	0.0
Manf: Furniture & Wood Products	0.0	0.0	0.0	0.0
Manf: Newspapers	0.0	0.0	0.0	0.0
Manf: Other	0.0	0.0	-0.1	-0.1
Manf: Petroleum, Chemicals, & Mining	0.0	0.0	-0.1	-0.1
Manf: Printing and publishing	0.0	0.0	0.0	0.0
Non-profit organizations	0.0	0.0	-0.2	-0.2
Other Business Services	0.0	-0.5	-0.4	-1.0
Real estate	0.0	-0.2	-0.2	-0.4
Recreation: Bowling Alleys & Pool Halls	0.0	0.0	0.0	0.0
Recreation: Golf and Amateur Team Sports	0.0	0.0	0.0	0.0
Recreation: Movie Theaters	0.0	0.0	0.0	-0.1
Recreation: Other Amusement Facilities	0.0	0.0	-0.2	-0.2
Retail: Auto Parking & Car Wash	0.0	0.0	0.0	0.0
Retail: Auto Rental	0.0	0.0	0.0	0.0
Retail: Auto Repair & Service	0.0	0.0	-0.1	-0.1
Retail: Automobile Sales & Service	-3.0	0.0	-0.2	-3.2
Retail: Beauty and Barber Shops	0.0	0.0	-0.1	-0.1
Retail: Clothing & Shoes	0.0	0.0	-0.1	-0.1
Retail: Department Stores	-3.9	0.0	-0.3	-4.2
Retail: Equipment Rental	0.0	0.0	0.0	0.0
Retail: Furniture	0.0	0.0	-0.1	-0.1
Retail: Grocery Stores	-4.0	0.0	-0.4	-4.4
Retail: Home Improvement Stores	0.0	0.0	-0.1	-0.1
Retail: Laundry Services	0.0	-0.1	-0.1	-0.1
Retail: Miscellaneous	0.0	0.0	-0.6	-0.7
Retail: Photographic Studios	0.0	0.0	0.0	0.0
Retail: Restaurants	-6.4	-0.1	-0.7	-7.2
Retail: Travel Agencies	0.0	0.0	0.0	0.0
Retirement Homes & Elder-Care	0.0	0.0	-0.1	-0.1
Transport: Air Transportation	0.0	0.0	0.0	0.0
Transport: Bus Services	0.0	0.0	0.0	0.0
Transport: Seaport & Water Transp.	0.0	0.0	0.0	0.0
Transport: Trucking	0.0	0.0	-0.1	-0.1
TV, Radio, Other Comm Services	0.0	-0.1	-0.1	-0.2
Utilities: Electricity & Nat. Gas	0.0	0.0	0.0	0.0
Utilities: Water, Sewer, Trash Services	0.0	0.0	0.0	-0.1
Wholesale, Warehousing & Distribution	0.0	-0.1	-0.4	-0.5
Total	-21.5	-1.9	-10.4	-33.8

*** note: this assumes year-round limitation, current plans are for six-month closure**

Table 11. Daytime-Only Vehicle Access Scenario--Tax Revenue Impacts*

Tax Type	Tax Revenue Impacts (2004 Dollars)
Federal Personal Income Taxes	-$69,662
Federal Corporate Profits Taxes	-$25,020
Federal Payroll Taxes	-$93,268
State Personal Income Taxes	-$21,839
State Corporate Profits Taxes	-$4,674
State Payroll Taxes	-$1,062
Local Business Property Taxes	-$44,449
State & Local Sales Taxes	-$79,032
Total	-$339,007

*** note: this assumes year-round limitation, current plans are for six-month closure**

EXHIBIT D-7

Public Schools of North Carolina
State Board of Education
Department of Public Instruction

2005 Report to the Joint Legislative Education Oversight Committee

Strengthen Littering Laws
SL2001-512

Senate Bill 1014, Section 11

Due Date: December 15, 2005
Report # 14
DPI Chronological Schedule, 2005-2006

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2005 RECYCLING SURVEY

In September and October, 2005, the School Planning Section in the Department of Public Instruction conducted a survey to assess the recycling efforts of each school system in North Carolina. This survey is in response to Senate Bill 1014[1], which directs the State Board of Education to report on the recycling efforts on a yearly basis. Out of the 115 individual school systems in NC (LEAs), all 115 systems[2] responded to the survey, for a response rate of 100%.

Survey results will be sent to, and used by the Joint Legislative Oversight Committee and The Environmental Review Commission to determine recycling status and trends from year to year. Results will be tabulated annually through the year 2007, for an accurate longitudinal assessment of the recycling program in North Carolina Public Schools.

Results

Does your LEA have a recycling program?

	# Recycle (2005)	% 2005	% 2004
Yes	107	93.0	85.2
No	8[3]	7.0	14.8
Total	115	100.0	100.0

Is the recycling program organized at the school or LEA level?

	# Recycle (2005)	% 2005	% 2004
LEA	40	34.8	27.8
School	37	32.2	25.2
Both	30	26.1	32.2
None	8	7.0	14.8
Total	115	100.0	100.0

When asked if a recycling program is in place within the 115 school systems the response was overwhelmingly positive, with almost all (93%) of LEAs having a program in all or at least some of the schools in their system. This resulted in a percent increase of 9.2% from 2004/2005. Additionally, the vast majority of *individual schools* in the North Carolina School System (81% or 1,832 schools)[4] report they recycle at least one item.

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[1] **SECTION 11**: The State Board of Education shall report to the Joint Legislative Education Oversight Committee and the Environmental Review Commission by December 15 of the years 2003 through 2007, on the recycling efforts of the public schools in the State. These reports shall include information provided by local school administrative units on the number of public schools that have recycling programs and the types of recyclable materials that are collected. If the Joint Legislative Education Oversight Committee or the Environmental Review Commission determines that sufficient progress in establishing recycling programs in the public schools of the State has not been made by January 1, 2008, the Committee or Commission shall recommend legislation to the 2008 Regular Session of the 2007 General Assembly to continue the reporting requirement established by this section.

[2] North Carolina Charter Schools are not included in this assessment.

[3] This figure represents counties with no recycling efforts, and refer to Anson, Bladen, Hyde, Jackson, Madison, Montgomery, Sampson, and Warren Counties.

[4] Please note: This percentage may be greater because not all school systems reported the exact number of participating schools.

Summary of Recycled Items

What items does your school system recycle?

	# Recycle (2005)	% 2005	% 2004
Cardboard	85	73.9	73.9
Cans	83	72.2	74.8
Motor oil	82	71.3	68.7
Paper	78	67.8	61.7
Newspapers	77	67.0	61.7
Tires	75	65.2	60.9
Cooking oil	62	53.9	53.9
Computer hard drives	57	49.6	56.5
Computer keyboards	54	47.0	47.8
Printers	51	44.4	36.5
Plastic bottles	51	44.4	43.5
CRT monitors	47	40.9	40.0
Fax/printer ink cartridges	44	38.3	36.0
Glass bottles	27	23.5	25.2
Plastic cafeteria plates and cups	13	11.3	10.4
Plastic cafeteria utensils	11	9.6	4.3
Other glass containers	17	14.8	17.4
Other[5]	48	41.7	47.8

Approximately three-fourths (74%) of LEAs recycle cardboard, making it the most recycled item. Cans and motor oil also rank high, with seven out of ten (72% and 71%) school systems recycling these items. The least recycled items reported are plastic cafeteria utensils (10%) and plastic plates and cups (11%).

Although plastic cafeteria utensils ranked lowest, the recycling of these items more than doubled—from 4% in 2004 to 10% in 2005. Other items with a significant increase include recycled printers, ink cartridges, and paper, with percent increases of 21%, 10%, and 10% from 2004 to 2005.

Only eight school systems have no recycling program intact. These are Anson, Bladen, Hyde, Jackson, Madison, Montgomery, Sampson, and Warren Counties. These school systems are all smaller than average and list cost, reliance on other counties, and manpower as huge factors and for the lack of a recycling system in their county. However most of these systems are currently in the process of trying to implement a recycling program.[6]

[5] Examples include: Cell phones, antifreeze, oil filters, and batteries. For a complete listing, see Appendix.
[6] For complete listing, see Appendix

Appendix – Written Comments

PLEASE LIST ANY OTHER ITEMS RECYCLED BY THE LEA

- Computers are reused for parts; Central office recycles paper (not included in school count above) - Ashe County Schools (050)
- Batteries, Cell phones - Brunswick County Schools (100)
- Batteries from Buses – Cabarrus County Schools (130)
- #10 cans from cafeteria – Catawba County Schools (180)
- Batteries (1), catalogs/magazines (5) - Hickory Public Schools (181)
- Old phones - Cherokee County (200)
- Light bulbs and ballast - Columbus County Schools (240)
- Antifreeze, Styrofoam, misc. metals, used kitchen equipment, used lawn/power equipment, used audio visual equipment, used furniture/student desks, used plumbing/electrical fixtures – Dare County Schools (280)
- Antifreeze, Paint - Durham Public Schools (320)
- Batteries - Edgecombe County Public Schools (330)
- Scrap metal - Gaston County Schools (360)
- Cell Phones, batteries, brake shoes - Granville County Schools (390)
- Magazines, computer print outs - Halifax County Schools (420)
- Scrap metal – Roanoke Rapids City Schools (421)
- Batteries, tires, wire, all metal, etc. - Harnett County Public Schools (430)
- Cell phones, digital cameras, PDA's – Haywood County Schools (440)
- Antifreeze, oil filters, grease, beverage tabs, cell phones, pagers - Henderson County Public Schools (450)
- None that we are given of - Hoke County Schools (470)
- Eyeglasses, used computers, other hardware to be refurbished by a group of students, to be given to needy students. – Iredell – Statesville Schools (490)
- Wooden pallets, cell phones (1) - Mooresville Graded Schools (491)
- Cell phones (3), Magazines (2) - Johnston County Schools (510)
- Batteries and core's on bus parts where applicable - Jones County Schools (520)
- Some computer components (plastic) - Lenoir County Public Schools (540)
- Some construction debris - Macon County Public Schools (560)
- Ink cartridges in all 11 schools, Refrigerants - McDowell County Schools (590)
- Phone books, Magazines, Catalogs, Brochures, post-it notes, file folders, colored paper, stapled paper, junk mail, blueprints, and legal pads. - Charlotte-Mecklenburg School System (600)
- Antifreeze, paint thinner, oil filters - Moore County Schools (630)
- All Computer parts - Nash-Rocky Mount Schools (640)
- Aluminum Foil, Cell phones, kitchen equipment, iron - Nash-Rocky Mount Schools (640)
- Batteries (4), aluminum(1), phone directories (1), scrap metal (2), cell phones (3), and printer cartridges (22). – New Hanover County Schools (650)
- Rechargeable batteries, phone books - Onslow County Schools (670)
- Antifreeze, batteries, plastic containers - Orange County Schools (680)
- Magazines, phone directories - Elizabeth City - Pasquotank County Schools (700)
- Oil Filters - Perquimans County Schools (720)
- Desks, lockers, water coolers. Our Facilities Services Department recycles old, used equipment (holds auctions several times a year). – Pitt County Schools (740)
- Antifreeze, used oil filters, magazines, catalogs, phonebooks – Randolph County Schools (760)
- Magazines (1), Plastic bags (1), Catalogs (1) - Asheboro City Schools (761)

- Richmond County has a contract with Montgomery County to receive all waste and to separate it for recyclables. – Richmond County Schools (770)
- Scrap metal, scrap iron, nuts and bolts - Robeson County Public Schools (780)
- 1 Magazines, 1 school publications, 1 cell phones - Rockingham County Schools (790)
- Computer equipment - Stanly County Schools (840)
- Cell phones, textbooks - Stokes County (850)
- CPUs are recycled but the hard drive is removed first. We also recycle toner and printer cartridges, as well as phone directories. - Surry County Schools (860)
- Batteries - Elkin City Schools (861)
- Some aluminum - Transylvania County Schools (880)
- Cell phones (7) Metal/steel (1) - Union County Public Schools (900)
- Antifreeze, ballasts, batteries, bricks, carpet, compressors, contaminated refrigerant, curb and paving materials, fluorescent tubes, gypsum, light bulbs, metal, polystyrene, printer cartridges, sheet rock, stone – Wake County Schools (920)
- Antifreeze - Wilkes County Schools (970)
- Magazines, catalogs - Yancey County Schools (995)

EXPLAIN PROBLEMS WITH RECYCLING PROGRAM

- We do not have a program the schools collect and recycle some items. - Anson County Schools (040)
- No one was ever given this project by the Supt. - Bertie County (080)
- Program has not been implemented. - Bladen County Schools (090)
- Other plans are in the works at individual schools. High Fuel costs may hamper short term recycling. - Brunswick County Schools (100)
- Local government has no way to handle recycled materials. Neither does waste management. - Columbus County Schools (240)
- We had an extensive program but the county government did away with the county recycling program. It has cost us over $23,000 in additional dumping fees for the past 6 months. - Davie County Schools (300)
- It would cost the system approximately $300/mo extra to rent additional receptacles for separate pickup. This cost is for each school. - Edgecombe County Public Schools (330)
- The recycling program begins with the actions of the LEA. The LEA provides every school 3 different solid waste large containers properly labeled. The containers are for general trash, cardboard and mixed paper. Each school has the responsibility to organize and ensure the proper waste is placed in the appropriate containers. The system has the responsibility to contract with a company to have the different waste types removed appropriately. Some individual schools are recycling other items other than paper and cardboard. - Henderson County Public Schools (450)
- I am looking into other items that we can recycle. I called Mr. Ben Matthews and he has emailed me some information. - Hertford County (460)
- We need additional funds and guidelines to implement based on state requests. We also need plastic containers and each school needs a list of vendors who want recycled products after use. - Hoke County Schools (470)
- Currently, there is no district-wide recycling program. Over the past several years, several programs have been tried by none have been successful. - Hyde County Schools (480)
- New schools have not had time to plan for recycling. No space, not enough room. Not essential and no one to pick-up. Cost the school to have recycling program. – Iredell-Statesville Schools (490)

- We are working with our waste management company to provide recycling containers closer to our schools. Currently, we don't have storage or personnel to do recycling. - Jackson County Schools (500)
- Due to our county being small and rural, we contract with a surrounding County for garbage pick up. At this time, they do not offer a recycling program. – Madison County Schools (570)
- Several schools have not organized recycling programs. Others have new administrators who plan to start recycling efforts in their schools. Collection space is an issue at several schools and cost of an additional dumpster is an issue at another school. – New Hanover County Schools (650)
- I am unsure if the LEA has a recycling program at the LEA level. - Onslow County Schools (670)
- Bell Forks custodians collect cans to recycle. - Onslow County Schools (670)
- Although our recycling program is organized at the school level, schools cite a lack of space as the primary hindrance to recycling. - Onslow County Schools (670)
- 1)space 2)health regulations, cleanliness 3) manpower to supervise - Onslow County Schools (670)
- All tires are delivered to the county recycling center - Pender County Schools (710)
- Computers and cartridges are recycled but there is no organized recycling program. - Polk County Public Schools (750)
- This LEA has a total of 25 schools. We do not have a system-wide recycle program due to the expanse of our County. One Municipality within the County offers recycle pickup of which six schools are eligible to participate in. Sixteen schools participate in a recycling program within their school. Only 3 schools do not recycle due to location from recycle center. Our technology dept participates in the Dell Asset Recovery Program; our Transportation Dept. participates in a program that will pick up motor oil and tires; our School Food Service recycles cooking oil. The District office recycles cans and contracts with a business by the name of "Shred It" that picks up paper. The district office also recycles toner cartridges and printer cartridges as do three of our schools. - Rockingham County Schools (790)
- While we do not have a recycling program, Sampson County Schools does purchase several items thru out our school system that has been recycled. We feel this compares favorably to having the recycling program itself. - Sampson County Schools (820)
- We stopped our recycling of the other items because we could not find anyone to take the items. It was too expensive to transport them. - Vance County Schools (910)
- Manpower - Warren County Schools (930)
- Our county does not offer a recycling program so we would have to transport recycled items and that doesn't seem reasonable to do. – Washington County Schools (940)
- Has never really been discussed as an LEA. Schools use this as an educational piece. - Yancey County Schools (995)

EXHIBIT D-8

COASTAL HABITAT PROTECTION PLAN PROGRAM

2004 - 2005

ANNUAL REPORT

TO THE

JOINT LEGISLATIVE COMMISSION ON SEAFOOD AND AQUACULTURE

AND

ENVIRONMENTAL REVIEW COMMISSION

OF THE

NORTH CAROLINA GENERAL ASSEMBLY

FROM

NORTH CAROLINA MARINE FISHERIES COMMISSION,
NORTH CAROLINA COASTAL RESOURCES COMMISSION, AND
NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

September 2005

Summary

September 2004 – August 2005 Accomplishments

- The North Carolina Environmental Management, Coastal Resources, and Marine Fisheries Commissions adopted the North Carolina Coastal Habitat Protection Plan (CHPP) in December 2004 by unanimous vote of each Commission
- The Chairmen of the Environmental Management, Coastal Resources, and Marine Fisheries Commissions and the Secretary of the Department of Environment and Natural Resources (DENR) formally signed the North Carolina Coastal Habitat Protection Plan in a ceremony in Morehead City on February 11, 2005.
- The three Commissions adopted their implementation plans in June and July, 2005
- Public outreach efforts continued with talks on the CHPP at various local government, State and federal government agency, and interest group meetings, as well as an enhanced web site at (http://www.ncdmf.net/habitat/index.html) that includes the following:
    - Complete North Carolina Coastal Habitat Protection Plan
    - CHPP Implementation Plan for all three regulatory Commissions, their administrative agencies (Divisions of Water Quality, Coastal Management, and Marine Fisheries), and DENR
    - Report on research needs identified in the CHPP
- All three Commissions, their divisions, and DENR have begun implementing the CHPP
- Elizabeth City State University continued its federally funded work to support the CHPP Program. Mapping of sea grass in the Albemarle-Pamlico system is underway.

September 2005 – August 2006 Planned Actions

- The Marine Fisheries Commission and Division of Marine Fisheries will
    - Enhance several existing oyster reef sanctuaries in Pamlico Sound, as well as establish several new sanctuaries
    - Develop guidelines for identification and management of Strategic Habitat Areas
    - Further protect fish habitat by closing additional areas to trawling through implementation of the Shrimp Fishery Management Plan.
- The Coastal Resources Commission and Division of Coastal Management will
    - Enhance habitat education through the "Estuary Live" web-based learning program and new displays at public meetings
    - Consider new rules to define beach nourishment sediment compatibility as developed by the Commission's Science Panel on Coastal Hazards
    - Obtain a new set of coastal aerial photographs to aid in permit management and mapping of coastal fish habitats
    - The DCM coastal engineer will work with other agencies in development of improved management of effects of marinas and docks on fish habitats
- The Environmental Management Commission and Division of Water Quality will
    - Conduct on-site inspections for all stormwater permit renewals managed by its Wilmington Regional Office staff
    - Revise stormwater management procedures based on comments received through circulation of its draft Universal Stormwater Management proposal in 2005
    - Use CHPP recommendations as criteria for its Section 319 grants

Introduction

Fisheries Reform Act

The North Carolina General Assembly established the Coastal Habitat Protection Plan program within the North Carolina Department of Environment and Natural Resources (DENR) with passage of the Fisheries Reform Act of 1997. The Act (General Statute or G.S. 143B-279.8) requires preparation of Coastal Habitat Protection Plans (CHPPs) for critical fisheries habitats in the coastal area. The Act states "[t]he goal of the Plans shall be the long-term enhancement of coastal fisheries associated with each coastal habitat." The Divisions of the Marine Fisheries, Water Quality, and Coastal Management are designated as the lead agencies for the CHPP program. The plans will:

1. Describe fisheries habitats and their biological systems;
2. Evaluate the functions, fisheries' values, status, and trends in the habitats;
3. Identify existing and potential threats, to the habitats and impacts on coastal fishing; and
4. Recommend actions to protect and restore the habitats.

Role of the Commissions

The Coastal Resources, Environmental Management, and Marine Fisheries commissions must each adopt the plans for them to become effective. Once the plans are adopted, rule making and policy actions taken by all three commissions are to comply "to the maximum extent practicable" with the plans.

The three commissions are to report by 1 September each year to the Joint Legislative Commission on Seafood and Aquaculture and the Environmental Review Commission on progress in developing and implementing the plans. This document reports on progress made on Coastal Habitat Protection Plans during September 2004 – August 2005

Recent Progress

North Carolina Coastal Habitat Protection Plan (CHPP)

The CHPP is complete, and the Coastal Resources, Environmental Management, and Marine Fisheries Commissions adopted it by unanimous votes at meetings in December 2004.

The CHPP focuses on six basic fish habitat: water column, shell bottom, submerged aquatic vegetation (SAV), wetlands, soft bottoms, and ocean hard bottom. A chapter is devoted to each type. Each of the habitat chapters is organized to provide the information specified in the Act:

- Description and distribution of the habitat,
- Ecological role and function,
- Status and trends,
- Threats, and
- Recommended management actions to deal with the threats.

The CHPP describes the functions of habitats necessary for production of economically important fish stocks and the links between those habitats and various life history stages of the fish. The CHPP also discusses the various types of threats to the habitats upon which productive coastal fisheries depend. Moreover, the plan summarizes the institutional structures for management of fisheries habitat, water quality, and fisheries in eastern North Carolina. Finally, the plan includes 19 management recommendations for the Coastal Resources, Environmental Management, and Marine Fisheries Commissions, DENR (primarily the divisions of Water Quality, Coastal Management, and Marine Fisheries), and others to implement in order to address the identified threats.

The Intercommission Review Committee (IRC), two members each from the Environmental Management, Coastal Resources, and Marine Fisheries commissions, took a very active role in the CHPP development process. Members of the IRC met frequently with senior DENR officials and technical staff from DENR divisions and the Wildlife Resources Commission (CHPP Development Team) to review each chapter in detail and develop the final management recommendations.

Attachment 1 lists the members of the IRC during 2004 – 05.

Meetings, Products, and Public Outreach

The most important meeting took place in September 2004, when the draft CHPP was formally conveyed by the Department to the Coastal Resources, Environmental Management, and Marine Fisheries Commissions for their consideration. The Department and Commissions received public comments and discussed the draft until December, made several changes in the recommendations, and adopted the CHPP by unanimous votes in December 2004. The DENR report "Caring For Our Fisheries" included with this annual report, contains the 19 CHPP recommendations as adopted.

The CHPP Development Team, including staff from the divisions of Marine Fisheries (DMF), Coastal Management, Water Quality, Environmental Health (Shellfish Sanitation and Recreational Water Quality Section), and the Wildlife Resources Commission, assisted DMF staff with writing and editing the CHPP. The Team reviewed all plan chapters to ensure technical accuracy. Progress reports were provided throughout the process to all three Commissions, the Intercommission Review Committee, and senior DENR staff. The September 2004 draft CHPP and final approved CHPP were placed on the CHPP web site to facilitate public access.

Once the Commissions adopted the CHPP, they and their administrative divisions began preparation of Implementation Plans detailing the specific steps they would take during the 2005/06 – 2006/07 fiscal years to implement the CHPP recommendations. The Department and Commissions received public comments and approved Implementation Plans during June and July 2005. The draft and approved Implementation Plans were placed on the CHPP web site to facilitate public review. (See http://www.ncdmf.net/habitat/index.html). Attachment 2 is the combined CHPP Implementation Plan for the three Commissions, their administrative divisions, and DENR.

The CHPP also identified more than 90 research needs. The CHPP Team summarized those needs in a report placed on the CHPP web site and distributed to the academic, and state and federal agency research community.

Team members gave numerous CHPP presentations at various meetings concerning coastal issues: DENR, the Commissions, Coastal Resources Advisory Council, North Carolina Sea Grant Program, Albemarle-Pamlico National Estuary Program, Outer Banks Association of Realtors, local governments, and several local civic clubs.

Implementation during July – August 2005

- The Marine Fisheries Commission established a Strategic Habitat Area Advisory Committee to assist in developing guidelines for identification and management of Strategic Habitat Areas, and the committee held its initial meeting.
- The Department initiated quarterly meetings among the state and federal permitting and review agencies that manage development in the coastal area.
- The Division of Marine Fisheries enhanced several oyster reef sanctuaries and collected oyster shells from the public to serve as cultch material for additional oyster reefs.
- The Division of Water Quality used CHPP recommendations as criteria in awarding Clean Water Act Section 319 grants.
- The Sea Grant College Program, under a grant from the Division of Coastal Management, initiated a multi-agency project to address management issues associated with siting and operation of marinas and docks in coastal waters.
- A CHPP presentation was given to the Sedimentation Control Commission.
- The divisions of Coastal Management and Marine Fisheries established an agreement under which Marine Fisheries aircraft regularly take Coastal Management personnel aloft to survey the status of coastal development projects.

Future Actions

CHPP Implementation

Work during 2005 – 06 will focus on implementing the CHPP recommendations, as provided in the Implementation Plan (Attachment 3).

Other Accomplishments

With assistance from the divisions of Coastal Management and Marine Fisheries, Elizabeth City State University (ECSU) continued to operate a remote sensing program and laboratory. Much of the justification for the grant was based on the need to obtain and analyze remotely sensed data (including satellite imagery and aerial photography) to aid in preparation of the CHPP. Under this program, ECSU staff is mapping seagrass beds in eastern North Carolina.

ATTACHMENT 1.

INTERCOMMISSION REVIEW COMMITTEE MEMBERS, 2004 – 2005

MARINE FISHERIES COMMISSION

Dr. Barbara Garrity-Blake	Gloucester	252-729-8021
Dr. B. J. Copeland	Pittsboro	919-837-5024

ENVIRONMENTAL MANAGEMENT COMMISSION

Will Fowler	Newport	252-393-2699
Dr. Charles H. Peterson	Morehead City	252-726-6841

COASTAL RESOURCES COMMISSION

Lee Wynns	Colerain	252-356-4684
Pricey Taylor Harrison	Beaufort	252-728-1287

In addition to the Commissioners specifically listed above, Bob Emory (CRC) and Tom Ellis (EMC) made important contributions to development of the final CHPP recommendations.

ATTACHMENT 2.

NORTH CAROLINA COASTAL HABITAT PROTECTION PLAN

IMPLEMENTATION PLAN

North Carolina has a number of programs in place to manage coastal fisheries and the natural resources that support them. The Coastal Habitat Protection Plan (CHPP) has identified gaps in the protection provided for important fish habitats under these programs, and also notes that these habitats would benefit from stronger enforcement of existing rules and better coordination among agencies. The focus of the CHPP, per the Fisheries Reform Act of 1997, is on activities regulated by the Marine Fisheries, Coastal Resources and Environmental Management Commissions. In 2005, each commission and the Department of Environment and Natural Resources (DENR) adopted plans to implement the recommendations found in the CHPP, with a focus on actions that could be taken based on existing resources and within the 2005-2007 budget cycle. Some actions are already underway, and most will be completed before the update of this plan in 2010. This document merges the four Implementation Plans together in a single, comprehensive statement. There is also an understanding among agencies that all recommendations and their associated actions will be supported regardless of lead agency.

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

DENR is the lead stewardship agency for the preservation and protection of North Carolina' outstanding natural resources. The organization, which has offices from the mountains to the coast, administers regulatory programs designed to protect air quality, water quality, and the public's health. Through its natural resource divisions, DENR works to protect fish, wildlife and wilderness areas. The DENR implementation plan focuses on coordination among the Commissions and the Department, as well as ensuring that all DENR Divisions are taking actions consistent with the goals and recommendations of the CHPP.

MARINE FISHERIES COMMISSION and DIVISION OF MARINE FISHERIES

The Marine Fisheries Commission (MFC) and Division of Marine Fisheries (DMF) manage the commercial and recreational fisheries in North Carolina's estuarine and ocean waters. These waters, including their specific physical habitats (water column, wetlands, sea grasses, soft and hard bottoms, and shell bottoms), produce the finfish, shrimp, crabs, oysters, and other economically important species sought by fishermen, as well as the forage base that supports them. The Division implements the Commission's rules and Department initiatives. The

Division's mission is to ensure sustainable marine and estuarine fisheries for the benefit of the people of North Carolina. Division staff drafted the CHPP, and they will staff many of the groups working on implementation actions. Staff in DMF district offices will also utilize CHPP information to review potential impacts of coastal development projects.

ENVIRONMENTAL MANAGEMENT COMMISSION and DIVISION OF WATER QUALITY

The Environmental Management Commission (EMC) is responsible for adopting rules for the protection, preservation and enhancement of the State's air and water resources. The Commission oversees and adopts rules for several divisions of DENR, including the Divisions of Air Quality, Water Resources, and Water Quality. The goal of the Division of Water Quality (DWQ) is to maintain or restore and improve the aquatic environment and to ensure compliance with state and federal water quality standards. In coordination with the CRC and MFC, and their respective staffs, the EMC and DWQ have developed the actions shown below in blue to begin implementation of the CHPP recommendations.

COASTAL RESOURCES COMMISSION and DIVISION OF COASTAL MANAGEMENT

The Coastal Resources Commission (CRC) establishes policies for North Carolina's Coastal Management Program and adopts implementing rules for both the N.C. Coastal Area Management Act (CAMA) and the N.C. Dredge and Fill Law. The commission designates areas of environmental concern, adopts rules and policies for coastal development within those areas, and certifies local land-use plans. The Division of Coastal Management (DCM) serves as staff to the CRC and works to protect, conserve, and manage North Carolina's coastal resources through an integrated program of planning, permitting, education and research. With jurisdictional authority at the interface of many of the habitats identified in the CHPP, the CRC and DCM take actions to compliment those of the MFC/DMF and EMC/DWQ.

Commission actions are shown below in *italics*. Commissions and agencies responsible for the actions below are indicated in parentheses following the action.

GOAL 1

IMPROVE EFFECTIVENESS OF EXISTING RULES AND PROGRAMS PROTECTING COASTAL FISH HABITATS

Recommendation 1.1 Enhance enforcement of, and compliance with, Coastal Resources Commission (CRC), Environmental Management Commission (EMC), and Marine Fisheries Commission (MFC) rules and permit conditions.

- Strengthen enforcement programs by seeking legislation that will raise maximum Coastal Area Management Act penalties to $1,000 for a minor development violation and $10,000 for a major development violation. Time frame: Legislation introduced in 2005 General Assembly session. (DENR)

- The Department will evaluate the need to seek funding for additional compliance positions in appropriate programs. Time frame: Ongoing (DENR)

- Cross train Marine Patrol officers to take note of and report violations of CRC and EMC rules in Coastal Waters to appropriate agencies and educate the public on what this involves and why it is needed. Time frame: Plan in FY 2005-06; train in 2006-07; implement following training. (MFC/DMF)

- Enhance DMF habitat alteration permit review capability by establishing dedicated staff positions. Time frame: Seek grant funding in 2005-06; continue long-term.

- Design an effective Inspection Program to focus more resources on areas that are critical to coastal habitat protection. Time frame: July 2005 – December 2007 (EMC/DWQ)
  - Organize a DENR interagency inspection task force to examine the issue and develop a system to accomplish the objective;
  - Produce a report with proposed new inspection regime and list of additional resources necessary to execute the plan;
  - Begin implementing the plan

- Conduct on-site evaluation of Wilmington Regional Office Coastal Stormwater Permits prior to renewal. Time frame: 2005 (EMC/DWQ)

- Provide funds to local governments for educating citizen in their jurisdictions about DWQ's Neuse and Tar-Pamlico riparian buffer rules. Time frame: January 2005-December 2006 (EMC/DWQ)

- Coordinate with DENR's SEPA/CSI guidance project to prevent piece meal development. Time frame: Ongoing (CRC/DCM)

Recommendation 1.2 Coordinate and enhance water quality, physical habitat and fisheries resource monitoring (including data management) from headwaters to the nearshore ocean.

- Enhance dependable water quality monitoring by investing in Neuse Estuary MODMON and FerryMon. Time frame: Budget request made in 2005 General Assembly session. (DENR)

- The Department, through the Division of Environmental Health, will develop a data system for monitoring data and mapping of the closure of shellfishing waters to enhance the sharing of information among Departmental Divisions. Time frame: End of 2005 (DENR)

- The Department, through the Division of Environmental Health, will continue to refine and expand the data gathered in shoreline surveys to more effectively assess pollution impacts to shellfish growing areas. The new surveys will be tested and implemented in four pilot growing areas and will be evaluated for expansion. Time frame: complete pilot area surveys by end of 2006. (DENR)

- The Department, through the Albemarle-Pamlico National Estuary Program (APNEP), will develop a comprehensive monitoring plan for the estuarine system. Time frame: End of 2007 (DENR)

- Develop a suite of indicators of estuarine and nearshore coastal health. Begin monitoring coastwide for these indicators. Time frame: Start in 2006-07; complete development by Dec 2008. (MFC/DMF)

- Host Forum for Coordinating Water Related Monitoring among Government Agencies, Universities, and Local Governments. Time frame: 2007 (EMC/DWQ)

- Integrate as appropriate, N.C. National Estuarine Research Reserve System-wide Monitoring Program (SWMP) with DWQ, APNEP and DMF monitoring efforts. Time frame: Complete July 2007 (CRC/DCM)

Recommendation 1.3 Enhance and expand educational outreach on the value of fish habitat, threats from human activities, effects of non-native species, and reasons for management measures.

- The Department, through the Office of Environmental Education, will conduct an inventory of Departmental education programs that address fish habitat and the ocean ecosystem. Time frame: Complete by end of 2005. (DENR)

- The Department, through the Public Information Office, will coordinate the publication and release of Commissions' activities related to the CHPP through newsletters, news releases, the Web site and other publications where appropriate. Time frame: Ongoing (DENR)

- The Department, through the Public Information Office and the Office of Environmental Education, will coordinate with the Zoo, Aquariums, Museum of Natural Sciences, State Parks, Educational State Forests and Environmental Education Centers to integrate the

relevant components of the CHPP into exhibits and programs. Time frame: Ongoing (DENR)

- The Department, through the Museum of Natural Sciences, will work in partnerships with local universities to obtain grant funding for the purpose of studying how students most effectively learn science. Time frame: Ongoing (DENR)

- Complete expanded DMF Habitat Information web pages. Time frame: Ongoing; complete by Dec 2005. (DMF)

- Incorporate CHPP materials into current DMF outreach activities. Time frame: Start July 2005. (DMF)

- Develop education specialist position to carry out CHPP educational activities. Use existing educational staff until that position is established. Time frame: Ongoing. (MFC/DMF)

- N. C. NERR will include a segment of E-Live to focus on fish habitat. Time frame: Complete September 2005 (CRC/DCM)

- North Carolina's Clean Marina Program and Clean Vessel Act activities will emphasize the threats to fish habitat and benefits of BMPs. Time frame: Complete September 2005 (CRC/DCM)

- The DCM display will be enhanced to specifically address CHPP. Time frame: Complete December 2005 (DCM)

- DCM will approach N.C. Sea Grant about incorporating CHPP into their research and education efforts. Time frame: Complete July 2006 (DCM)

Recommendation 1.4 Coordinate rulemaking and enforcement among regulatory commissions and agencies.

- The Department will hold quarterly meetings on proposed projects and enforcement cases that are or may be subject to the permitting or enforcement jurisdiction of the programs of more than one division and invite other state and federal agencies to participate as appropriate. Divisions and agencies that will participate in meetings include Division of Coastal Management, Division of Water Quality, Division of Marine Fisheries, Division of Land Resources, Division of Environmental Health, Wildlife Resources Commission and U.S. Army Corps of Engineers. Time frame: Initial meetings held in March 2005; ongoing. (DENR)

- The Department will establish an Intercommission Advisory Committee to meet on a regular basis to strengthen coordination among the Commissions and review progress of the implementation plans. Time frame: Summer of 2005 (DENR)

- Provide updates to the EMC on the activities of other commissions, including presentations and reports. Time frame: Beginning April 2005 (DWQ)

- CRC meetings will include updates on the activities of other commissions, presentations, Executive Secretary Report, standing agenda item. Time frame: Begin by April 2005 (DCM)

- *CRC will continue to participate in intercommission coordination. Time frame: Ongoing (CRC)*

- Participate in DENR meetings regarding proposed projects and enforcement cases that are or may be subject to the permitting or enforcement jurisdiction of more than one agency. Include SEPA/NEPA coordination. Time frame: Ongoing (CRC/DCM)

GOAL 2

IDENTIFY, DESIGNATE AND PROTECT STRATEGIC HABITAT AREAS

Recommendation 2.1 Evaluate potential Strategic Habitat Areas by a) coordinating, completing, and maintaining baseline habitat mapping (including seagrass, shellbottom, and other bottom types) using the most appropriate technology; b) selective monitoring of the status of those habitats; and c) assessing effects of land use and human activities on those habitats.

- Continue mapping of Submerged Aquatic Vegetation (SAV) in coastal North Carolina. The mapping will be coordinated through the Albemarle-Pamlico National Estuary Program (APNEP), in partnership with the Division of Marine Fisheries, Division of Coastal Management, Division of Water Quality, Elizabeth City State University, U.S. Fish and Wildlife Service and National Oceanographic and Atmospheric Administration. Time frame: Ongoing (DENR)

- Seek funding from the General Assembly to expedite the completion of SAV mapping for the entire coast. Time frame: Budget request made in 2005 General Assembly session. (DENR)

- Seek funding from the General Assembly for shellfish bottom mapping in Brunswick County. Time frame: Budget request made in 2005 General Assembly session. (DENR)

- The Department will coordinate the implementation of the Recreational Saltwater Fishing License program with the identification and protection of Strategic Habitat Areas. Time frame: Begin in fall of 2005. (DENR)

- *The MFC will establish a scientific advisory committee to assist DMF staff in: 1) developing a standard process and criteria to identify and designate SHAs, and 2) developing research priorities to identify SHAs, including chronological order of needed tasks. This action should start the SHA process. Time frame: Start summer 2005; 1 yr to complete (MFC)*

- Continue mapping of all shallow shell bottom and begin mapping deep shell bottom. Acceleration of mapping will require assessing and modifying, as necessary: methodology for shallow, deep and turbid areas, staff, materials, and equipment needs, and associated funding. Time frame: Ongoing; complete in approx. 10 yr with current resources or 5 yr with additional funding for staff and equipment. (MFC/DMF)

- Continue mapping of all SAV in coastal North Carolina by supporting and participating with DENR, universities, and the Cooperative SAV Program to map SAV in rotational phases using remote sensing, field ground truthing, and digitization of imagery. Priority in mapping should be given to low salinity SAV beds and areas previously unmapped. Time frame: Ongoing; complete in approximately 5-7 yr, but dedicated state appropriated funds needed to match federal funds. (MFC/DMF)

- Conduct research on the effects of current dock siting practices on SAV and determine design modifications that would minimize impacts (possible federal aid research project). Time frame: Start in 2006; complete by 2008. (MFC/DMF)

- DCM will provide staff support to the APNEP SAV Mapping Work Group. Time frame: Ongoing. (DCM)

- N.C. NERR will map SAV within reserve boundaries. Time frame: Complete December 2006. (CRC/EMC)

- Data acquisition will be coordinated with DMF. Time frame: Complete 2006 (CRC/EMC)

- DCM aerial photography will be made available to DMF. Time frame: Complete December 2005 (DCM)

- DCM and N.C.NERR will work with Sea Grant water quality specialist and DWQ to further develop a conference intended to provide better water quality data to planners and consultants and begin to make some linkages between land use and water quality in CAMA land use plans. Time frame: Scheduled by June 2007 (DCM)

Recommendation 2.2. Identify and designate Strategic Habitat Areas using ecologically based criteria, analyze existing rules and enact measures needed to protect Strategic Habitat Areas, and improve programs for conservation (including voluntary actions) and acquisition of areas supporting Strategic Habitat Areas.

- Using criteria developed by SHA workgroup, develop list of candidate sites for designation using existing data and information (habitat committee of BRT, other interested DMF biologists, CHPP staff, WRC, Natural Heritage, NOAA, and possibly

NGOs). Time frame: Start by July 2006; continue through SHA designations. (MFC/DMF)

- MFC should begin designation of SHAs where criteria are adequate. Time frame: Start by fall 2005. (DMF)

- Integrate resulting criteria and information from SHA committee into DENR Divisions' guidelines, policies, and rulemaking. Time Frame: Start by July 2006; continue through SHA designations. (MFC/DMF)

- Study the feasibility and benefits of developing an SAV Mitigation Program. Time frame: July 2005 – December 2006 (DWQ)

GOAL 3

ENHANCE HABITAT AND PROTECT IT FROM PHYSICAL IMPACTS

Recommendation 3.1 Greatly expand habitat restoration, including:

a) creation of subtidal oyster reef no-take sanctuaries,

- Implement an ongoing subtidal oyster sanctuary program with dedicated funding, including construction of oyster sanctuaries as well as research and monitoring to determine habitat and water quality enhancement. Time frame: Starting 2005; long-term (MFC/DMF)

- Expand Oyster Shell Recycling Program with dedicated funding to increase oyster cultch supply, support subtidal oyster sanctuary program, and increase public awareness of habitat value. Time frame: Starting 2005; long-term (MFC/DMF)

- Monitor all oyster sanctuaries for 1) survival, growth, and oyster recruitment, 2) fish/invertebrate use, and 3) effect on water quality. University research is necessary. Time frame: Starting 2005; long-term DMF monitoring for oyster survival, growth, and recruitment; additional funding or university assistance needed to monitor fish use and water quality (DMF)

- Ensure that CRC rules are consistent with the MFC effort to establish oyster reefs. Time frame: Complete April 2006 (DCM)

- Continue staff support for the Oyster Restoration Task Force. Time frame: Ongoing (CRC/DCM)

b) and reestablishment of riparian wetlands and stream hydrology.

- Work with the Corps of Engineers and the Department of Transportation on innovative mitigation projects and an appropriate crediting system for them under the Ecosystem Enhancement Program (EEP). Such projects may include the protection and restoration of SAV and the removal of certain dams. EEP has established a process through the Program Assessment and Consistency Group to work with coastal partners on the delivery of compensatory mitigation in the coastal environment. Time frame: Ongoing (DENR)

- DENR review of state agency requests to the Natural Heritage Trust Fund will place a priority on those proposals that would further the protection and restoration of critical fisheries habitats. Time frame: Ongoing (DENR)

- Make protection and restoration of critical fisheries habitats a priority part of the One North Carolina Naturally initiative, such as the development of conservation plans for the twenty coastal counties that will identify potential conservation focus areas. Time frame: Seek funding for the potential acquisition of these areas in 2006. (DENR)

- The Department, through the Division of Water Resources, will participate in a study of the Neuse Basin with federal partners to identify opportunities for environmental restoration. Time frame: complete study by 2007 (DENR)

- The Department will assist coastal local governments in identifying navigation and stream restoration projects of particular importance to the fishing industry for grants from the State-Local projects program of the Division of Water Resources. Time frame: Ongoing (DENR)

- Evaluate wetland and stream mitigation requirements to determine if restoration includes fisheries benefits. Time frame: March 2006 (EMC/DWQ)

- Continue to make DCM wetland data/expertise available to EEP. Time frame: Ongoing (CRC/DCM)

Recommendation 3.2 Prepare and implement a comprehensive beach and inlet management plan that addresses ecologically based guidelines, socio-economic concerns and fish habitat.

- Seek funding from the General Assembly for a beach nourishment database, which will allow State and local governments to better plan beach nourishment projects. Time frame: Budget request was made in the 2005 session. (DENR)

- Completion of Sediment Criteria. Time frame: Complete July 2006 (CRC/DCM)

- Develop minimum criteria for monitoring beach nourishment projects. Time frame: Complete July 2007 (CRC/DCM)

- Convene stakeholder group to identify data gaps, funding needs, and framework, and develop a timeline. Time frame: Complete January 2006 (CRC/DCM)

- CRC will be provided with the results of beach nourishment monitoring project (Presentations). Time frame: Complete July 2006 (DCM)

- DCM will serve as a clearinghouse for beach nourishment monitoring data. This will be addressed in the new CZMA Sec 309 Enhancement Grant. Time frame: Complete June 2007 (DCM)

- DCM will hire a coastal engineer. Time frame: Complete July 2005 (DCM)

Recommendation 3.3: Protect Submerged Aquatic Vegetation (SAV), shell bottom, and hard bottom areas from fishing gear effects through improved enforcement, establishment of protective buffers around habitats, and further restriction of mechanical shellfish harvesting.

- Identify areas on maps where allowed use of bottom disturbing fishing gear does or could overlap areas with sensitive benthic habitats. Determine current size of buffers between bottom disturbing fishing gear and benthic habitats, based on proclamation lines and habitat occurrence. Time frame: Ongoing; complete by Fall 2005. (MFC/DMF)

- Modify clam kicking and hydraulic dredging areas by proclamation to clearly avoid all SAV and oyster beds and allow a buffer of 50-100 ft between mechanical shellfish gear and SAV and shell bottom. The size of the buffer may be modified if supported by scientific studies. Time frame: Begin implementation in Dec 2005. (MFC/DMF)

- *The MFC will consider modifying shrimp trawling areas through the current Shrimp FMP process to restrict trawling over or immediately adjacent to shell bottom, SAV, or nursery areas and maintain an adequate buffer. Time frame: Start once shrimp FMP approved, expected by Dec 2005; complete by Dec 2006. (MFC/DMF)*

Recommendation 3.4: Protect fish habitat by revising estuarine and public trust shoreline stabilization rules using best available information, considering estuarine erosion rates, and the development and promotion of incentives for use of alternatives to vertical shoreline stabilization measures.

- Continue providing staff support for the Oyster Restoration and Protection Plan Steering Committee. Time frame: Ongoing (EMC/DWQ)

- Refine rule 15A NCAC 07H .2700 GP for Marsh Sills. Time frame: Complete July 2007 (CRC/DCM)

- Establish a CRC/CRAC Estuarine Shoreline Stabilization Subcommittee. Time frame: Complete January 2006 (CRC/DCM)

- Encourage alternatives to vertical shoreline stabilization methods through permit requirements and fees. Time frame: Complete July 2007 (CRC/DCM)

- Continue participation as a Technical Advisory Committee member in NOAA's new research-sponsored program "Ecological Effects of Sea Level Rise" to develop information/tools to better forecast and manage landscape responses of critical natural resources relative to sea level rise. Time frame: Ongoing (CRC/DCM)

- Support/promote efforts to develop shoreline stabilization demonstration projects along non-ocean shorelines. Time frame: Complete July 2006 (CRC/DCM)

- Pursue and provide financial support for shoreline stabilization demonstration projects and studies. Time frame: Complete June 2007 (CRC/DCM)

Recommendation 3.5 Protect and enhance habitat for anadromous fishes by: a) incorporating the water quality and quantity needs of fish in surface water use planning and rule making and b) eliminating obstructions to fish movements, such as dams, locks and road fills.

- The Department, through the Division of Water Resources, will participate in a 216 study of Kerr Lake with federal partners. The study will include the evaluation of modifying releases from the dam to benefit anadromous fish in the Roanoke River. Time frame: Complete study by 2007 (DENR)

- The Department, through the Division of Water Resources and the Ecosystem Enhancement Program, will pursue dam removal projects where appropriate. Time frame: Ongoing (DENR)

- Continue working closely with the Army Corps (ACE) and other entities to ensure protection of anadromous and catadromous fisheries resources in dam operations. Time frame: Ongoing (EMC/DWQ)

- Modify Dam Removal Policy with ACE. Time frame: March 2005 – October 2005 (EMC/DWQ)

GOAL 4

ENHANCE AND PROTECT WATER QUALITY

Recommendation 4.1 Reduce point source pollution from wastewater by:

a) increasing inspections of wastewater treatment facilities, collection infrastructure, and land disposal sites, and

b) providing incentives for upgrading all types of wastewater treatment systems.

- Pursue legislative authority for the wastewater loan program to allow a reduced interest rate for applicants. Time frame: Legislation introduced in 2005 session. (DENR)

- Evaluate 15A NCAC 2H .0400 and 2B .0500 regulations for opportunities to provide incentives for upgrading all types of wastewater treatment systems and make recommendation to EMC. Time frame: Start 2007 (EMC/DWQ)

Recommendation 4.2. Adopt or modify rules or statutes to prohibit ocean wastewater discharges.

- Evaluate 15A NCAC 2H .0400 rules as they apply to ocean wastewater treatment systems and make recommendation to the EMC regarding modifications. Time frame: Start 2007 (EMC/DWQ)

Recommendation 4.3 Prohibit new or expanded stormwater outfalls to coastal beaches and to coastal shellfishing waters (EMC surface water classifications SA and SB) except during times of emergency when public safety and health are threatened, and continue to phase-out existing outfalls by implementing alternative stormwater management strategies.

- Work with DOT to prioritize stormwater outfall mapping efforts on areas near critical fisheries habitats through the implementation of DOT's Stormwater Pilot Project on new and innovative technologies to clean up discharges from NC DOT outfalls and associated outlets. Time frame: Ongoing (DENR)

- Develop a plan to phase out municipal stormwater outfalls to sounds. (EMC/DWQ)
    - Locate existing municipal stormwater discharges to sounds;
    - Review available technologies to treat or remove the discharges;
    - Prioritize existing outfalls for removal/treatment and develop long term implementation plan

- Support planning efforts in Manteo to remove stormwater discharges to Shallowbag Bay. Time frame: Complete by July 2005. (EMC/DWQ)

- Actively seek research of innovative technology to treat stormwater outfalls with 319 grant funding. Time frame: 2005-2006 (EMC/DWQ)

Recommendation 4.4 Enhance coordination with, and financial/technical support for, local government actions to better manage stormwater and wastewater.

- Pursue legislative authority to allow local governments to use revolving loan fund at a reduced rate of interest for stormwater pollution control projects. Time frame: Legislation introduced in 2005 session. (DENR)

- Provide stormwater educational & technical assistance to local governments through the DENR Runoff Pollution Campaign and through partnerships with the Division of

Community Assistance and Institute of Government. Time frame: Ongoing (EMC/DWQ)

- Fund position at NC Sea Grant to provide stormwater educational & technical assistance to local governments focused on land use planning and policies. Time frame: Ongoing through December 2006. (EMC/DWQ)

- Develop an optional plan that local governments could undertake to meet multiple stormwater regulatory requirements. Time frame: July 2005 through July 2007 (EMC/DWQ)

- Consider & develop as appropriate a blanket contract for research needs to improve assessment and development of the most efficient and effective alternatives for NPS management. Time frame: 2006 (EMC/DWQ)

Recommendation 4.5 Improve land-based strategies throughout the river basins to reduce non-point pollution and minimize cumulative losses to wetlands and streams through voluntary actions, assistance, and incentives, including:

a) improved methods to reduce sediment pollution from construction sites, agriculture, and forestry;

- The Department, through the Division of Forest Resources, will purchase steel bridge mats for use across the coastal plain by loggers to make temporary stream crossings during harvesting activities. Bridge mats for stream or ditch crossings have been shown to provide better protection of water quality than traditional culvert crossings. These steel mats will be available in the Chowan, Roanoke, lower Neuse, Lumber, and Cape Fear river basins. Time frame: End of 2005 (DENR)

- Seek legislation that will reduce non-point source pollution by requiring that ground cover be established within a shorter time period, creating incentives for local governments to establish sedimentation programs and raising the maximum civil penalties for first day violations of the Sedimentation and Pollution Control Act. Time frame: Legislation introduced in 2005 session. (DENR)

- Update DWQ Stormwater BMP Manual, Division of Land Resources' Sedimentation and Erosion Control Design Manual, and the N.C. DOT's BMPs for Construction and Maintenance Activities Manual. Time frame: 2005-2006 (EMC/DWQ)

- Enhance DCM education efforts such as the N.C. NERR Septic Systems Workshops. Time frame: Complete April 2005 through June 2007. (CRC/DCM)

b) increased on-site filtration of stormwater;

- Seek legislation that will allow increased flexibility for the use of the buffer restoration fund. Time frame: Legislation introduced in 2005 session. (DENR)

c) documentation and monitoring of small but cumulative impacts to wetlands and streams from approved, un-mitigated activities;

- Coordinate with Wetland Functional Assessment Team to determine wetland status and trends. Time frame: January 2007. (EMC/DWQ)
- DCM will incorporate small but cumulative impacts to wetlands into Coastal Development Activity and Impact Tracking System (CDAITS). Time frame: Complete July 2006. (DCM)

d) incentives for low-impact development;

- Implement five on-the-ground projects to increase understanding of the effectiveness of low impact development in coastal and piedmont North Carolina in meeting water quality goals, develop guidance for design considerations, and provide educational opportunities. Time frame: Ongoing through December 2010. (EMC/DWQ)

e) increased inspections of onsite wastewater treatment facilities; and

f) increased water re-use and recycling.

g) Other

- Establish three new water quality forester positions in the Division of Forest Resources. The positions will be responsible for preventing and controlling water quality degradation by forestry operations through the implementation of forestry best management practices. Time frame: Budget request made in 2005 session. (DENR)
- To enhance field training and education opportunities, the Division of Forest Resources will produce two training and educational videos for loggers and foresters on proper stream crossings for forestry activities. Time frame: Fall 2005 (DENR)
- Through the Division of Land Resources (DLR), work with the Sedimentation Control Commission (SCC) to include CHPP presentations on the Commission agenda and to include information on CHPP actions in SCC and DLR publications. Time frame: Begin in 2005 (DENR)

Recommendation 4.6. Improve land-based strategies throughout the river basins to reduce non-point pollution and minimize cumulative losses to wetlands and streams through rule making, including

a) increased use of effective vegetated buffers,

- Implement rule NCAC 7H .2600 General Permit for Construction of Wetland, Stream and/or Buffer Mitigation Sites by the North Carolina Ecosystem Enhancement Program. Time frame: Ongoing (CRC/DCM)

b) reduction of impervious surfaces where feasible and reduction of the level of impervious surface allowable in the absence of engineered stormwater controls,

- *CRC will request the General Assembly to establish a coastal stormwater utility to facilitate the inspection and monitoring of engineered stormwater treatment systems. Time frame: Complete June 2007 (CRC)*

c) expansion of CAMA Areas of Environmental Concern (AECs) upstream and landward, and

- Time frame: Proposed for 2007-2009 (CRC/DCM)

d) consideration of erosion rates as an additional factor in the siting of structures along estuarine and public trust shorelines.

- Time frame: Proposed for 2007-2009 (CRC/DCM)

e) Other

- Evaluate stormwater pollution control mechanisms and cumulative wetland and stream losses in the Cape Fear and White Oak River basins to determine if additional regulatory controls are needed and present findings to the EMC. Time frame: Begin May 2007 (EMC/DWQ)

- Develop a mitigation policy for intermittent streams. Time frame: April 2005-June 2006 (EMC/DWQ)

Recommendation 4.7 Develop and implement a comprehensive coastal marina and dock management plan and policy for the protection of shellfish harvest waters and fish habitat.

- Seek funding for completion of a pier and dock inventory, which will be used to create a baseline of information on pier and dock construction. Time frame: Budget request made in 2005 legislative session. (DENR)

- Incorporate EMC's prohibition of marinas in ORWs into CRC rules. Time frame: Complete January 2007. (CRC/DCM)

- Evaluate marina development standards (rule NCAC 7H .0208(b)(5)). Time frame: Complete January 2007. (CRC/DCM)

- Inventory docks and piers in the 20 coastal counties. Time frame: Complete January 2007 (CRC/DCM)

- Participate in Sea Grant Marina Siting Workgroup. Time frame: Ongoing (CRC/DCM)

Recommendation 4.8 Reduce non-point source pollution from large-scale animal operations by the following actions: a) support early implementation of environmentally superior alternatives to the current lagoon and sprayfield systems as identified under the Smithfield Agreement and continue the moratorium on new/expanded swine operations until alternative waste treatment technology is implemented; b) seek additional funding to phase-out large-scale animal operations in sensitive areas and relocate operations from sensitive areas; and c) use improved siting criteria to protect fish habitat.

- The Department, through the Division of Pollution Prevention and Environmental Assistance, will provide contract and independent swine farms with the technical assistance and training needed to implement effective Environmental Management Systems. Time frame: Ongoing (DENR)

- Provide staff support and participate in the Smithfield Technology Advisory Panel to identify environmentally superior technologies for swine operations. Time frame: Ongoing (DENR)

- Provide support needed for the continuation of the voluntary Swine Buy-Out to remove high-risk swine operations from the 100-year floodplain. The program is conducted through the Division of Soil and Water Conservation with funding from the Clean Water Management Trust Fund. DSWC and CWMTF have agreed to a third phase with approximate funding of $3 million. Time frame: Fall 2005 (DENR)

EXHIBIT D-9

Interim Report to the
Environmental Review Commission

A Regional Approach to the Phaseout of MTBE in the Southeast

March 1, 2006

North Carolina Department of Agriculture and Consumer Services

North Carolina Department of Environment and Natural Resources

Background

MTBE (methyl tertiary-butyl ether) is used as a fuel additive in gasoline and is designed to raise the content of oxygen is gasoline. MTBE has been used in U.S. gasoline at low levels since 1979 to replace lead as an octane enhancer or anti-knocking agent. Oxygen helps gasoline burn more completely, reducing tailpipe emissions from cars and trucks.

Air Quality Benefits

In 1990 Congress passed the Clean Air Act Amendments which set oxygenate requirements for areas with high levels of pollution. Although, the Clean Air Act doesn't require MTBE, many refiners have chosen to use MTBE over other oxygenates because of its blending characteristics and for financial reasons. The oil industry relied heavily on MTBE to meet the oxygenate requirements, rather than invest in the other primary alternative at the time, ethanol. Unlike ethanol, MTBE can be shipped through existing pipelines. Ethanol is not shipped in pipelines, in part, because ethanol absorbs water and impurities found in pipelines.

MTBE and ethanol are used in certain areas of the country as an oxygenate in either a winter oxyfuel program or a year-round Federal reformulated gasoline (RFG) program. North Carolina does not require either of these programs.

Counties in North Carolina designated as non-attainment for the 8-hour ozone standard are required to use lower Reid vapor pressure (RVP) gasoline in the summer months. This program is intended to reduce emissions of volatile organic compounds during the ozone season. However, this program does not specifically require MTBE.

Groundwater Concerns

In recent years MTBE has been detected in groundwater throughout the country. Some of these incidents of MTBE contamination have impacted drinking water supplies. These incidents of contamination have caused concerns because MTBE can make water undrinkable due to its offensive taste and odor. While health-related research on MTBE has been conducted results have not been definitive. According to EPA, independent expert review groups have not made a determination as to whether MTBE poses an imminent threat to public health. EPA's Office of Water has concluded that available data are not adequate to estimate the potential health risks of MTBE at low level exposure levels in drinking water. However, EPA does conclude that the data does demonstrate that MTBE is a potential human carcinogen at high doses.

Growing health concerns, in addition to a large number of lawsuits related to MTBE contamination have focused attention on MTBE. A number of states have had water systems contaminated by MTBE. In some instances, these incidents have resulted in lawsuits. For example, in 2003 eighteen petroleum companies settled a suit brought by Santa Monica, California, agreeing to spend at least $200 million on a filtration system to remove MTBE from the city's water supply.

In North Carolina, MTBE contamination of groundwater is a growing concern. According to the Underground Storage Tank (UST) Section there are approximately 8955 active Underground Storage Tank incidents. The UST Section reports that over 2000 of the releases have had MTBE impacts to groundwater. It should be noted that the UST Section only recently started specifically documenting MTBE contamination from UST releases. Consequently, it is safe to assume that the actual number of UST releases with MTBE impacts to groundwater is higher than 2000.

The Aquifer Protection Section in the Division of Water Quality has overseen approximately 721 gasoline contamination incidents, most of which were either caused by surface spills or above ground storage tanks. Of these incidents, over 400 involved groundwater contamination and seventy-nine private drinking water wells and eight public wells have been impacted from this contamination. Many of these gasoline contamination incidents from surface spills and above ground storage tanks include MTBE contamination.

In many instances, it is difficult to identify whether a petroleum spill contains MTBE. MTBE will move farthest and fastest and it requires significant monitoring to find out how it actually gets dispersed. The current groundwater standard in North Carolina for MTBE is 200 parts per billion.

Much like the incident mentioned above in which the city of Santa Monica's water supply was impacted, North Carolina citizens have also had to deal with the serious consequences of MTBE contamination. In Wrightsboro, a small town outside of Wilmington in New Hanover County, an apparent gas leak from a gas station located near a couple of trailer parks contaminated the drinking water for approximately 180 people. The gas station had leaked gasoline containing MTBE. In court, a toxicologist testified that the persons exposed to the contaminated drinking water had compromised immune systems due to the contamination. A settlement between the parties was reached for a reported $36 million.

North Carolina Petroleum Information

In 2003, there were 4,385,162,000 gallons of gasoline sold at retail in North Carolina according the North Carolina Petroleum Marketers Association (NCPMA). Data from the U.S. Energy Information Administration (EIA) shows a decline in the use of premium and midgrade over the last 5-10 years while there has been an increase in the use of regular unleaded over the same period.

In 2005, sales by grade were approximately 85% Regular Unleaded, 10% Premium and 5% midgrade based on EIA data.

Gasoline samples were tested by the N.C. Motor Fuels Lab for MTBE in April, May and September of 2005:

MTBE Content in N.C. Gasoline

Grade	Range	Average
Premium Unleaded	2--10%	5%
Regular Unleaded	0--2%	0.5%
Midgrade Unleaded	0.7%--4.6%	2%

It should be noted that many locations use blend pumps for selling midgrade unleaded gasoline. These types of locations have storage tanks for premium and regular unleaded gasolines. Midgrade gasoline is being blended on demand from these two products (usually 35% premium and 65% regular) in the dispenser as it is delivered to the customer. Therefore, the MTBE results from these types of locations is dependent on the MTBE content of the base fuels and the blend ratio used. The N.C. Motor Fuels Lab estimates over half of midgrade gasoline sold is through a blend pump.

MTBE bans

As a result of concerns raised about its public health impact, twenty-six states have banned MTBE, including seven states that passed MTBE bans in 2005 (see the attached map). Some of these bans are characterized by EPA as partial bans, such as North Carolina's law which allows up to .5% by volume, while other states have passed complete bans.

Most recently at the federal level, Congress has discussed and debated banning MTBE. In early versions of H.R. 6, the Energy Policy Act of 2005, the legislation would have banned MTBE beginning in 2014. The final version of H.R. 6 that was approved by Congress and signed by the President did not ban MTBE.

Activity in other Southeastern States

As required by Session Law 2005-93, staff from the Department of Environment and Natural Resources and the Department of Agriculture consulted with our colleagues in other southeastern states. The session law identified the following states to be contacted: Alabama, Georgia, Kentucky, Mississippi, South Carolina, Tennessee, and Virginia. Of these states identified in the legislation, all but Kentucky rely largely on the pipelines for the transport and supply of gasoline (see the attached map).

Alabama

State officials with the Alabama Department of Environmental Management indicate that there has been no legislative discussion about banning MTBE.

Georgia

In the current legislative session, a bill has been introduced in the Georgia House of Representatives that would ban MTBE. House Bill 983 is similar to North Carolina's ban in that it makes it unlawful to distribute or sell any gasoline containing more than one-half of one percent MTBE by volume. The bill does not prohibit the transport of gasoline containing MTBE through Georgia. The bill does not contain a date that the ban would begin, but rather the ban would be effective upon ratification.

On February 14, 2006 the House Committee on Agriculture and Consumer Affairs approved a substitute version of this bill. The substitute bill would ban MTBE and other gasoline additives by January 1, 2008. On February 21, 2006 the full Georgia House unanimously approved this legislation. The bill has been referred to the Senate.

Kentucky

In 2002 Kentucky passed legislation that banned MTBE beginning on January 1, 2006. The bill did allow for trace amounts of MTBE, not to exceed one-half of one percent by volume. The bill cited the state's reliance on groundwater for drinking water and for industrial and agricultural purposes, to conclude that "the continued use of MTBE poses an unacceptable threat to public health." As noted above, Kentucky does not rely on the pipelines for its gasoline supply as other Southeastern states do. Consequently, the experiences of Kentucky's transition to an MTBE ban would not be the best indicator of the potential impacts of transition in North Carolina.

Mississippi

Staff with the Underground Storage Tank Section of the Mississippi Department of Environmental Quality does report seeing MTBE in some releases from USTs. The Mississippi Department of Health has been conducting some testing in public water supply wells for MTBE and at this point has not found any contamination. There has been no legislation introduced related to an MTBE ban.

South Carolina

Staff with the South Carolina Department of Health and Environmental Control indicated that there have been discussions about banning MTBE. On February 23, 2006 a bill to ban MTBE was introduced in the South Carolina House. This bill, H 4713, would ban MTBE and certain other oxygenates. The bill has been referred to Committee on Agriculture, Natural Resources and Environmental Affairs. H 4713 is very similar to the legislation in Georgia and would ban MTBE beginning in 2008. The state's Underground Storage Tank Section continues to see incidents of MTBE contamination from UST spills and they continue to monitor the issue.

Tennessee

Tennessee does not currently have a ban on MTBE. State officials with the Tennessee Department of Environment and Conservation cite the recent testing of gasoline content as one factor in the state's decision not to ban MTBE. Testing demonstrates very low concentrations of MTBE in the gasoline, often below two or three percent. Another factor cited by state officials is that Tennessee has not had any municipal drinking water systems impacted by MTBE contamination.

Although there are no current plans to ban MTBE, this issue has been considered by the Tennessee legislature in recent years. In the 2001 session several legislative proposals were introduced related to MTBE. These bills ranged from developing a timetable to phase out MTBE, studying a ban of MTBE and using funds from the underground storage tank fund to help offset the costs of implementing an MTBE ban. None of these bills were approved by the legislature. However, the Tennessee legislature in 2001 did approve House Joint Resolution 228, a resolution urging Congress to ban MTBE as a fuel additive. The resolution noted that MTBE had been detected in 47 water supplies within the state. The resolution cited the impact of MTBE on drinking water supplies in other parts of the country and its threat to the groundwater and drinking water supply of Tennessee. The resolution also addressed the gasoline supply issue by stating that MTBE would not significantly effect the supply of gasoline. Copies of the resolution were sent to the Tennessee congressional delegation.

Virginia

According to officials with the Virginia Department of Environmental Quality the state legislature has not taken action to ban MTBE and action is not likely in the next couple of years.

While no ban has been enacted in Virginia, the state did pass legislation in 2000 which requires every public water supply operator to test public water supplies at least quarterly for the presence of MTBE. The locality must maintain a record of the testing and, if the results of any test, indicate the presence of MTBE in excess of 15 parts per billion (ppb), the locality must immediately notify the Departments of Environmental Quality and Health. During 2004 there were two notifications of where public water supplies detected MTBE at levels greater than 15 ppb.

Other Considerations

The session law required consultation with representatives of the petroleum industry, such as refiners, suppliers, distributors, transporters, retailers of motor fuel and liquid pipeline operators. In addition, the law required consultation with consumer, environmental and other public interest groups. On January 18, 2006 DENR and the Department of Agriculture held a stakeholder meeting to discuss the legislation and gather information. Representatives from state agencies, manufacturers of MTBE, petroleum marketers, and environmental organizations attended the meeting. In some cases, interested parties provided information and data that has been incorporated into this Interim Report.

The Department of Agriculture and DENR continue to review the information we have received from stakeholders and other Southeastern states on a regional approach to an MTBE ban. There are many issues where further examination is needed in preparation for the Final Report on this matter, which is due in 2007. These issues include:

- continued collaboration and discussion with other states in the Southeast on progress in moving toward a regional ban on MTBE;
- information on potential price increases to consumers as a result of the MTBE ban in North Carolina;
- information from the pipelines and refiners on potential supply disruptions and the logistics of providing North Carolina with gasoline that does not contain MTBE;
- an examination of potential alternatives to MTBE, such as ethanol or other ethers, and the availability and cost of these alternatives in North Carolina;

- a review of whether alternatives to MTBE have environmental impacts that need to be considered; and

- information related to the impact on independent marketers and their ability to purchase gasoline.

Conclusion

To date, other states in the Southeast have not followed the lead of North Carolina in banning MTBE. However, in a couple of states legislation has been introduced similar to the bill approved by the North Carolina General Assembly. Groundwater contamination from MTBE and its impact on public health and the environment continues to be a concern. Despite these concerns, there are many significant issues related to an MTBE ban that must be addressed to ensure that North Carolina's consumers are not affected by price surges and supply disruptions. These issues will be addressed as the Department of Agriculture and DENR prepare the Final Report, with findings and recommendations, as required by Session Law 2005-93.

State MTBE Bans



Bans in Place or Enacted as of 12/31/04:
19 states + Washoe County, Nevada

States Enacting Bans in 2005:
7 states: Montana, New Hampshire, New Jersey, North Carolina, North Dakota, Rhode Island and Vermont.

Source: American Petroleum Institute

Bans in Effect

Arizona
California
Colorado
Connecticut
Illinois
Indiana
Iowa
Kansas
Michigan
Minnesota
Missouri
Nebraska
New York
North Dakota
Ohio
South Dakota
Washington
Wisconsin

Ban in 2006
Kentucky
Montana

Ban in 2007
Maine
New Hampshire
Rhode Island
Vermont

Ban in 2008
North Carolina

Ban in 2009
New Jersey

U.S. Refined Products Distribution Network

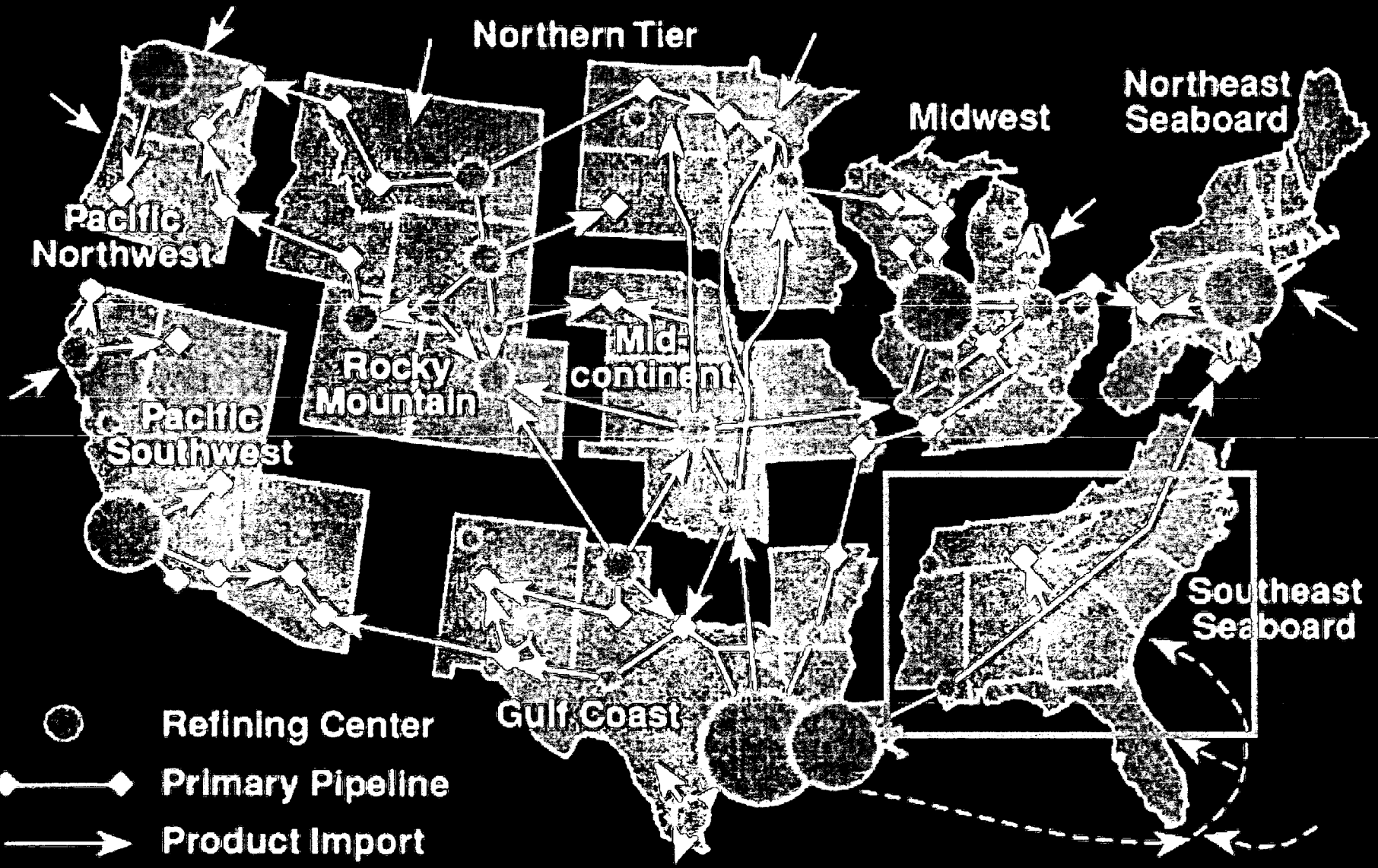


EXHIBIT D-10

NCDENR

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

Oct. 15, 2005

To: Sen. Dan Clodfelter
Sen. Charlie Albertson
Rep. Pryor Gibson

From: Secretary Bill Ross

Subject: Pilot Animal Waste Inspection Program Report

S.L. 2005-276 requires the Department of Environment and Natural Resources semiannually to submit to the Environmental Review Commission a report on the pilot program for inspection of animal waste management systems. The session law also required DENR to make recommendations to the ERC on the continuation of this program. The attached report meets both requirements. If you have any questions, please contact Manly Wilder at 919-733-2302.

1601 Mail Service Center, Raleigh, North Carolina 27699-1601
Phone: 919-733-4984 \ FAX: 919-715-3060 \ Internet: www.enr.state.nc.us/ENR

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Pilot Program for Inspections of Animal Waste Management Systems

2005 Annual Report
For Calendar Year 2004



N.C. Division of Soil and Water Conservation

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Appendix I: Glossary
Appendix II: Top Ten Technical Assistance Needs
Appendix III: DSWC Technical Assistance Site Visit Reporting Form

EXECUTIVE SUMMARY

The six years of data from the animal waste management pilot program provides better insight and feedback of DENR's efforts to improve overall compliance at swine farms. Wide fluctuations in rainfall from 1999 – 2004, combined with weather's natural influence on compliance, compounded the difficulties in interpreting results.

The Division of Soil and Water Conservation (DSWC) can confidently assert a number of observations and conclusions about the pilot.

- The program generated a significant shift of farms from high to low potential environmental impact classifications. (Fig. B, p.8)
- It offers "smart" delivery of DENR resources that make the impact shift possible. (p.9)
- The pilot shows measurable compliance improvements in selected potential threat operational indicators compared to non-pilot farms. (Figs. D and G, pp.10 and 12)
- DENR staff is more likely to identify immediate threat problems on pilot farms. (Fig. E, p.11)
- It reduced staff availability for non-pilot assistance. (p.13)
- DSWC per-*visit* costs for pilot farms are less than non-pilot. (Tab. 3, p.14)
- DSWC per-*farm* costs are more for pilot farms than non-pilot. (Tab. 3, p.14)
- The DSWC cost of pilot-related site visits declines over time through efficiency gains. (Tab. 3, p.14)

DSWC supports the pilot's inspection model, provided support remains strong among farmers and other stakeholders, and that DSWC's ability to provide technical assistance to non-pilot farmers isn't sacrificed to make expansion possible.

BACKGROUND

The objective of the Animal Waste Management Inspection Pilot (hereinafter the pilot), as inferred from Section 12.7(b) of S.L. 2005-276, is to determine if operation reviews and inspections conducted by the DSWC staff can improve compliance performance in waste management when used to replace Division of Water Quality (DWQ) routine inspection processes. Even more importantly, the program serves as a test bed to try inspection approaches that may be more effective; improve response times to discharges, complaints and reported problems; identify violations and take corrective actions earlier; and improve communications between farmers and DENR employees. This report comprises six years of data collected at 108 pilot farms in Brunswick, Columbus and Jones counties.

Several factors are relevant in assessing the pilot's effectiveness at this or any point in time. They represent variables outside human control as well as changes reflecting the refinement of pilot administration. They include:

- annual variations in precipitation;
- changes in data collection;
- introduction of environmental "impact" categories.

Precipitation

Precipitation has an unavoidable effect on livestock waste management. Most notably, it contributes to the volume of a lagoon's contents. But it also influences the timing and frequency at which waste can be applied to receiving crops. If significant rainfall occurs at critical stages during a receiving crop's growth cycle, interrupting or delaying the application of the waste to the crop, then the window of opportunity to fully utilize the waste's nutrient value (principally, nitrogen and phosphorous) may be lost. And poor synchronization between receiving crop growth cycles and waste application may ultimately result in the discharge of nutrients to surface and ground waters.

Conversely, less precipitation usually allows more days for waste application. These facts lead to an inverse relationship between precipitation and compliance with waste management rules. As precipitation increases, compliance declines; the reverse being that compliance improves as rainfall drops off. The relationship influences numerous factors in the performance standards, but most especially in those that pose the greatest threat to the environment.

Figure A shows available precipitation data at weather stations in or adjacent to pilot program counties for the years 1999 through 2004. Precipitation measured at each station fell below the annual average during 2001, 2002 and 2004, providing generally favorable weather conditions for animal waste management.

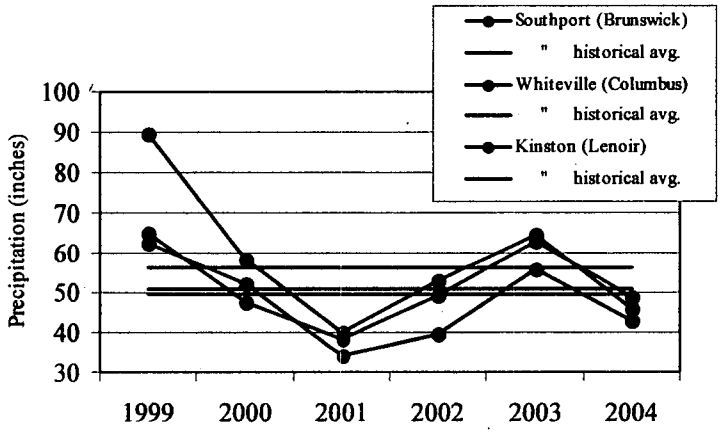


Figure A. Annual precipitation measured at weather stations in or adjacent to the three pilot counties. *Source: State Climate Office, annual figures; Southeast Regional Climate Center, Columbia, S.C., historical averages.*

Data handling

Based on lessons learned during earlier years of the pilot program, DSWC has refined the sorts of data it gathers during reviews and inspections. These process improvements enable DSWC and DWQ to more effectively target technical assistance and regulatory resources to swine producers.

"Impact" categories

Formulating inspection protocols during the early years of the pilot program, DSWC and DWQ developed a list of operational indicators to objectively score waste management compliance. Then, starting in 2001, DSWC further refined the process by introducing additional distinctions between farms falling within different ranges of compliance scores. This latter step allowed for even more systematic, prioritized delivery of regulatory and technical assistance where it was most needed.

Table 1 lists the operational indicators used to assess animal waste management system on the pilot farms, with points assigned to each commensurate with the degree of threat any compliance deficiencies would pose to the environment. The 17 indicators identified are ranked here in descending order according to relative point values. For reporting and assessment purposes, twelve of the items have been further grouped into "immediate threat" and "potential threat" rankings. This table is the basis for distinguishing the three potential impact categories within which farms might fall.

Operational Indicators	Point Value
Offsite discharge	20
Structural integrity compromised	18
Structural freeboard levels	16
Hydraulic overloading	15
Nitrogen over-applied ≥ 10%	12
Waste spill contained on site	12
Storm storage levels	11
Irrigation system maintenance deficiency	11
Structural maintenance deficiency	10
Receiving crop inconsistent with waste plan	10
Irrigation records deficient	10
Sprayfield conditions	9
Lagoon level records deficient	9
Nitrogen over-applied <10%	8
Receiving crop inadequate	8
Waste analysis deficient	8
Soil analysis deficient	7

Table 1. Operational indicators observed and recorded by DSWC and DWQ during inspection of animal operations. Items in italics represent "immediate threat" indicators.

Table 2 presents the point ranges that define the three impact categories. Each range represents points totaled for deficiencies in any operational indicator for a farm over the course of its annual inspection history.

Potential Impact Group	Noncompliance points
Low impact farms	0 – 12 points per year
Medium impact farms	13 – 30 points per year
High impact farms	31 or more points per year

Table 2. Low, medium, and high farm potential impact categories listed with their corresponding noncompliance point ranges.

As previously mentioned, these groupings guided the development and implementation of inspection protocols. Farms demonstrating scores consistently in the low and medium potential impact groups are subject to routine site visits by DSWC. When a farm receives high scores, the protocol directs DSWC to notify DWQ, and joint compliance audits by both divisions commence. If that same facility continues to score in the high range, DWQ assumes full responsibility for routine inspections, while DSWC's role falls back solely to technical assistance when requested. The consequence of these protocols is that both divisions apply their respective technical and regulatory resources more appropriately, as indicated by the particular compliance and environmental considerations of the waste handling operation. It should be noted that DWQ continues to retain its enforcement authority in the pilot counties and may conduct additional compliance inspections of any farm at any time, regardless of its potential impact rating.

PILOT ASSESSMENT

Evaluation of pilot outcomes is organized here under three overlapping topics:

- effectiveness of the operation review and inspection processes;
- waste management compliance;
- other consequences of pilot administration.

Inspection efficacy

Because weather is the single greatest independent influence upon waste handling in swine operations, DSWC staff has proven themselves especially qualified to quickly provide farmers onsite technical assistance for managing its challenges. Whereas compliance data, considered in isolation, might suggest weaker performance in pilot farms during 2003, the trends in distribution of farms across the relative impact categories described above may be a better indicator of this technical assistance advantage.

Figure B combines compliance performance data based on operational indicators for 108 pilot farms over a six-year period, in order to illustrate trends in the distribution of farms among the three impact categories. The chart indicates a noticeable shift away from the number of farms categorized as high impact to those with a low impact rating.

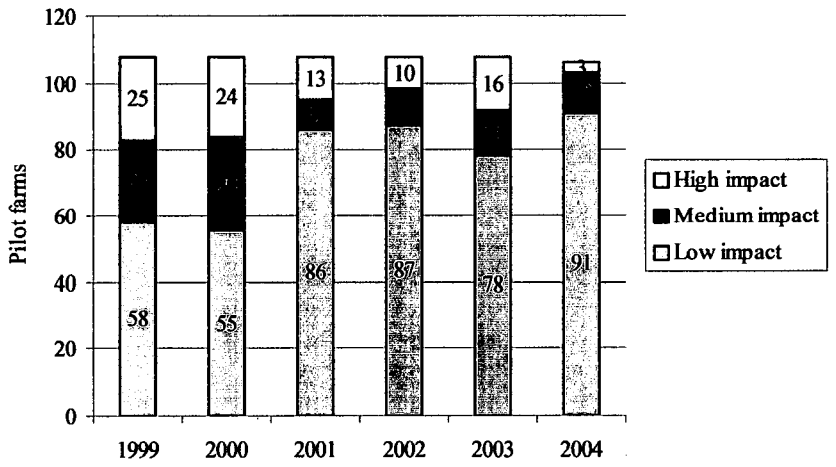


Figure B. Distribution of all 108 pilot farms within low, medium, and high impact category rankings based upon individual waste management performance. *Note: three farms were combined into one resulting in a total of 106 pilot farms in 2004*

During 2004, DSWC and DWQ targeted high potential impact farms for joint compliance auditing while transferring routine inspection responsibility from DSWC to DWQ for farms with chronic noncompliance. The low potential impact group reached its greatest size in 2004, and of that number, 67 received perfect compliance scores of zero. This significant shift is due, in part, to the favorable weather conditions that year. But the trend's origins are also surely rooted in prioritized delivery of department resources that, while unable to alter the vagaries of weather, appear to provide long-term mitigation of impact where it is most effective.

The data presented in ***Figure B*** offer an illustration of this strategic "return on investment." DSWC staff attribute the similar rate of compliance during the relatively wet year 2003, as compared to an average rainfall year like 2000, to farm improvements and greater waste management knowledge arising from the technical assistance provided to farmers through the pilot.

Another by-product of DSWC's technical assistance process, collected through its *Technical Assistance Site Visit Reporting Form* ***(Appendix III)***, is a more precise understanding of the waste compliance issues confronting swine producers. The details of ***Appendix I*** (*Top 10 Technical Assistance Needs*) may be useful in guiding future improvements in waste management performance.

In assessing effectiveness, it is fair to conclude that the context of the pilot study has created an organizational environment conducive to this "smart" delivery of departmental resources for improved management of livestock waste. Indeed, this validates one of the underlying premises that gave rise to the pilot program at its conception.

Compliance

The pilot's performance in waste management compliance is assessed here in several ways:

- trends in compliance across key indicators;
- pilot farm compliance versus non-pilot compliance;
- trends in farm movement from high to low impact categories.

Figure C *(see next page)* displays compliance deficiencies for "immediate" threat indicators from 1999 through 2004. Compared to the previous year, 2004 showed considerable improvements in four of five immediate environmental threats. However, most of this improvement is directly attributable to precipitation. In that context, generalizations about trends within the most serious environmental threats become increasingly elusive.

Figure D *(see next page)* displays compliance deficiencies for five "potential" threat indicators from 1999 through 2004. In this case, the data does reflect a noticeable trend toward improvement in these indicators.

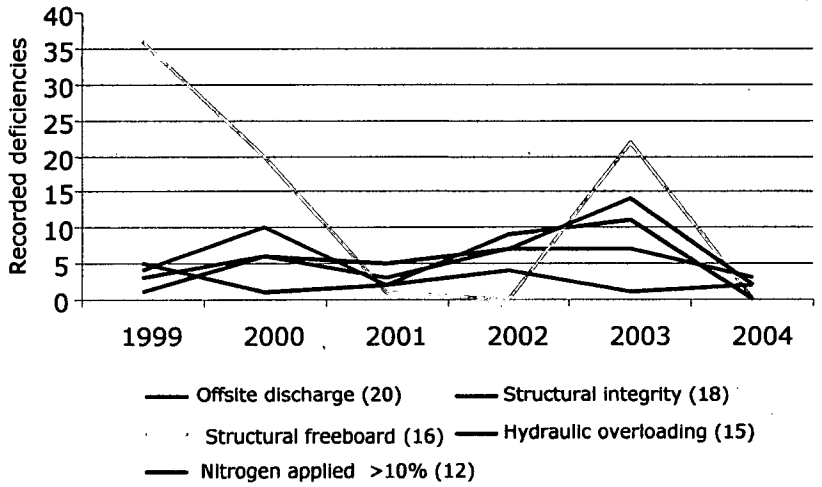


Figure C. Waste management performance of all pilot farms for "immediate" environmental threats. Numbers in parentheses are the operational indicator values. *Note: data may include duplication because of joint DSWC / DWQ reporting requirements.*

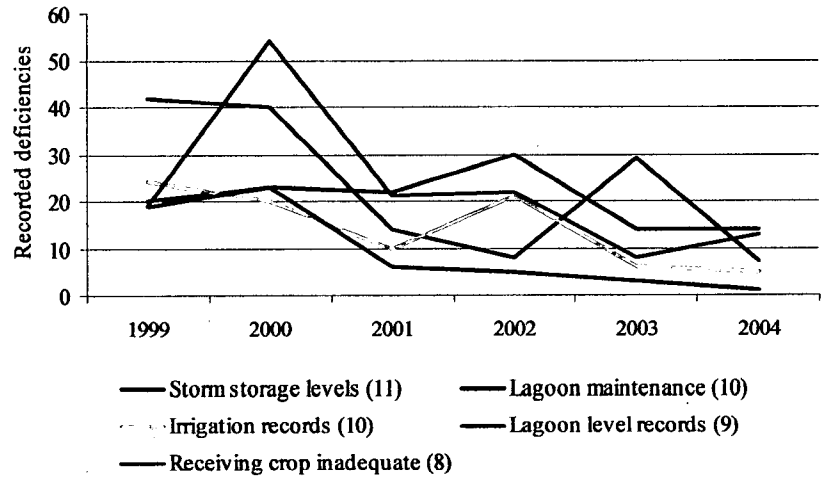


Figure D. Waste management performance of all pilot farms for "potential" environmental threats. Numbers in parentheses are the operational indicator values. *Note: data may include duplication because of joint DSWC / DWQ reporting requirements.*

Further assessment was made by comparing waste management performance on pilot farms with those across the state. The *DSWC Technical Assistance Site Visit Reporting Form* was implemented in 2003/04 to allow for better comparisons between pilot and non-pilot farms. ***Figure E*** compiles data for the frequency of occurrence of immediate threats during 2003/04. Frequencies were calculated for three different groups: combined DSWC/DWQ inspection of pilot farms, DSWC inspections statewide including pilot farms, and DWQ inspections statewide including pilot farms.

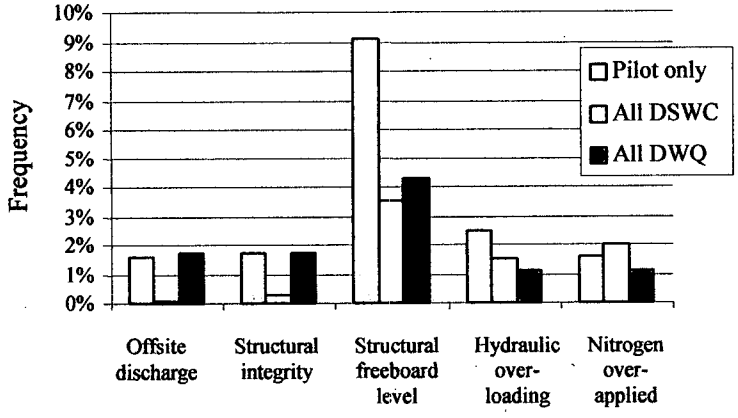


Figure E. Comparison of pilot and non-pilot noncompliance rates for five "immediate" threat indicators during 2003/04.

With respect to the three most serious threat indicators, DSWC is consistently more likely to identify noncompliance on pilot farms than elsewhere because of DSWC's increased familiarity with the farms and its ability to identify problems that lead to noncompliance. For DWQ, the likelihood of differences between inspection findings on pilot versus non-pilot farms is more remote, with waste levels being the main exception due to self-reporting requirements of the farms' permits.

Figures F and ***G*** *(see next page)* are based on data generated from the *Technical Assistance Site Visit Reporting Form*, allowing for more detailed segregation of information. ***Figure F*** *(see next page)* compiles data for the frequency of occurrence of four selected operational indicators during 2003/04. Frequencies were calculated for only two different groups here: pilot farms receiving DSWC operation reviews and compliance inspections and all farms receiving DSWC site visits. Pilot participants tend to perform slightly better than non-pilot ones on these indicators.

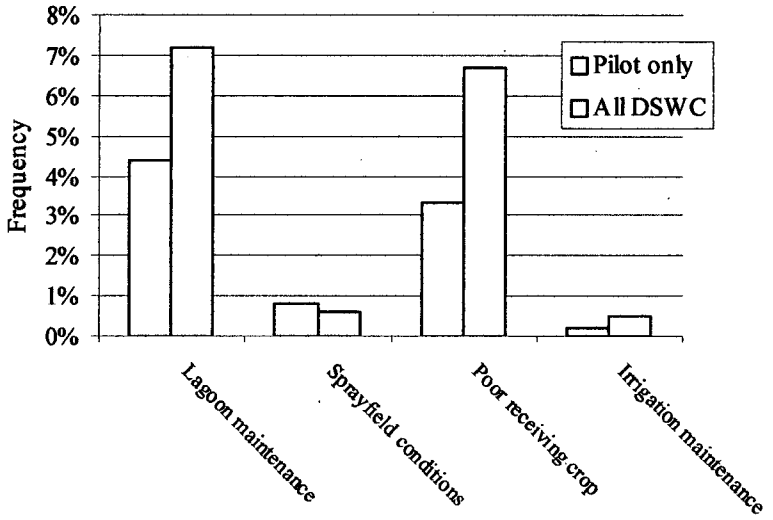


Figure F. Comparison of pilot and non-pilot noncompliance rates for four potential threat indicators during 2003/04.

Figure G compiles data for the frequency of occurrence of four records-related deficiencies during 2003/04. Again, frequencies were calculated for two intersecting data sets: pilot farms receiving DSWC operation reviews and compliance inspections and *all* farms (including pilot farms) receiving DSWC site visits. This data shows that pilot participants do a better job of maintaining records than other farms.

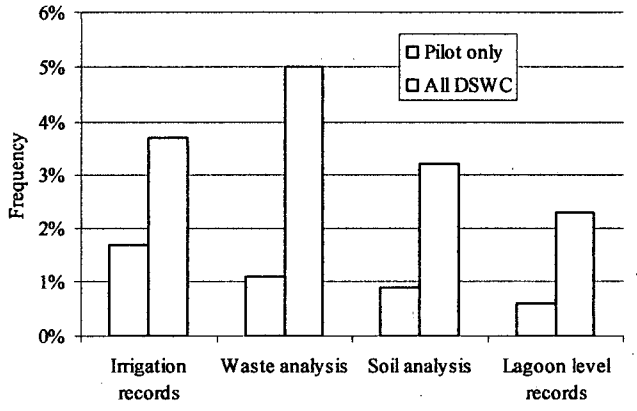


Figure G. Comparison of pilot and non-pilot noncompliance rates for four records-related indicators during 2003/04.

Other consequences

Chief among the pilot's impacts is that swine producers in the region are generally more experienced and knowledgeable about waste management and compliance expectations. In similar fashion, DSWC personnel have gained valuable insights concerning the management of existing waste handling systems, which can enhance their effectiveness as technical specialists.

The pilot has afforded DSWC the opportunity to test and improve reporting methods that facilitate more robust performance assessment of livestock operations across the state. In turn, DSWC staff is sharing these advancements with other local and federal technical specialists through special training sessions.

One negative effect of the pilot program arises from the fact that, prior to 2005, no additional resources were allocated to DSWC for the pilot's administration. The increased attention given to waste operations in pilot counties necessarily diverts time that field staff would otherwise devote to providing similar services in non-pilot counties.

COST & LABOR COMPARISONS

DSWC's hourly operating cost for site visits ($26 per hour unit cost and rising) is the same for pilot and non-pilot farms alike. Instead, differences between pilot versus non-pilot costs arise as a result of the frequency and duration of visits.

Table 3 shows key cost and labor comparisons. The division's *per-visit costs are less* for pilot farms than non-pilot, a fact offset by the *greater per-farm cost* due to a higher frequency of visits to pilot farms.

Key Comparisons (2004)	
Pilot Farms	Non-pilot Farms
$132 per DSWC visit	$200 per DSWC visit
2.4 visits per farm	1 visit per farm
12 hours total per farm	7.9 hours total per farm
$316 per farm	$208 per farm

Interestingly, DSWC's average per-visit costs for pilot farms have declined since 2001. The same holds true of its annual costs per pilot farm, which have declined by 19 percent. This is a direct result of efficiency gains as review staff become more familiar with each operation's waste system and compliance challenges, and spend less time per visit on orientation and evaluation of compliance history. In fact, DSWC has *reduced by 25 percent the average time it spends visiting pilot farms* now as compared with 2001.

RECOMMENDATIONS

While the data presented here is inconclusive on the question of whether the pilot program can increase the overall animal waste management compliance of swine producers, it does show increasing compliance with animal waste management plans and permit conditions. Anecdotal testimony from some participating farmers suggests a favorable reception. The pilot has also forged more effective coordination among producers and DENR personnel, and fostered dialogue towards constructive cooperation in a number of compliance areas—outcomes all supported by the available data.

Without a doubt, the pilot has demonstrated the success of a framework that enhances the delivery of DENR's resources: the means to achieve compliance primarily through DSWC's technical assistance, with the use of DWQ's enforcement tools as needed. Although it can't offer a guarantee against the vagaries of nature, the data offer convincing evidence that the pilot model can improve compliance and reduce environmental risks, and do it in an increasingly cost-effective manner based on DSWC's operating costs.

In accordance with Section 12.7(c) of S.L. 2005-276, DENR recommends the pilot program be continued in Brunswick, Columbus, Jones and Pender counties. Further expansion of the pilot program should only occur in conjunction with additional personnel and resources to expand the program.

Appendix I

Glossary

CAWMP, Certified Animal Waste Management Plan, the farm's plan, as approved by a designated technical specialist, for the proper collection, storage, treatment and land application of animal waste.

freeboard, the top zone in the waste structure that must be maintained clear of waste to ensure structural integrity and adequate storm storage.

hydraulic overloading, the application of animal waste to a sprayfield in excess of the limits prescribed in the CAWMP, or results in excessive ponding or surface runoff of waste.

nitrogen over-application, , application of animal waste in excess of the agronomic rates prescribed in the CAWMP.

receiving crop, a crop or forage designated to receive and utilize waste nutrients.

sprayfield, a field or pasture designated to receive animal waste

storm storage, the required storage within the waste structure to contain one 25-year, 24-hour rainfall event as defined by the National Weather Service. Structures, designed after September 1996, must have the storage capacity to contain two 25-year, 24-hour rainfall events.

structural freeboard, measured from the top of the dike elevation to the top of the storm storage elevation that must be maintained clear of waste to ensure structural integrity.

Appendix II

Top Ten Technical Assistance Needs

What follows is a list of the most important technical assistance needs as determined by DSWC staff through 2003–2004 site visits for pilot and non-pilot farms.

1) Waste operator education
2) Assistance with waste plan revisions or amendments
3) Irrigation recordkeeping assistance
4) Evaluation and/or recheck of wettable acre determination
5) Identification and gathering of missing components in farm records
6) Crop evaluation and/or improvement recommendations
7) General recordkeeping education
8) Review and evaluation of waste plan with producer
9) Irrigation system calibration
10) Soil and/or waste sampling education

Appendix III

Technical Assistance Site Visit Report

- O Division of Soil and Water Conservation
- O Natural Resources Conservation Service
- O Soil and Water Conservation District
- O Other...

Facility Number [ ] - [ ] **Date:** [ ] **Time:** [ ] **Time On Farm:** [ ] [ ]

Farm Name _____ **County** _____ **Phone:** _____

Mailing Address _____ _____ _____

Onsite Representative _____ **Integrator** [ ]

Type Of Visit

- ☐ Operation Review
- ☐ Compliance Inspection (pilot only)
- ☐ Technical Assistance
- ☐ Confirmation for Removal

- ☐ No Animals-Date Last Operated:
- ☐ Operating below threshold

☐ Swine ☐ Poultry ☐ Cattle ☐ Horse

Purpose Of Visit

- O Routine
- O Response to DWQ/DENR referral
- O Response to DSWC/SWCD referral
- O Response to complaint/local referral
- O Requested by producer/integrator
- O Follow-up
- O Emergency
- O Other...

	Design Capacity	Current Population
☐ Wean to Feeder		
☐ Feeder to Finish		
☐ Farrow to Wean		
☐ Farrow to Feeder		
☐ Farrow to Finish		
☐ Gilts		
☐ Boars		

	Design Capacity	Current Population
☐ Layer		
☐ Non-Layer		
☐ Dairy		
☐ Non-Dairy		
☐ Other		

GENERAL QUESTIONS:

1. Is waste discharging from any part of the operation and reaching surface waters or wetlands? ☐ yes ☐ no
2. Is there evidence of a past waste discharge from any part of the operation that waste reached surface waters or wetlands? ☐ yes ☐ no
3. Does any problem pose an immediate threat to the integrity of the waste structure (large trees, seepage, severe erosion, etc.)? ☐ yes ☐ no
4. Is there evidence of nitrogen over application, hydraulic overloading or excessive ponding requiring DWQ notification? ☐ yes ☐ no
5. Is there evidence of improper dead animal disposal that poses a threat to the environment and/or public health? ☐ yes ☐ no
6. Is the waste level within the structural freeboard elevation range for any waste structure? ☐ yes ☐ no

	Structure1	Structure 2	Structure 3	Structure 4	Structure 5
Identifier					
Level (Inches)					
CROP TYPES					
SPRAYFIELD SOIL TYPES					

What type of technical assistance does the onsite representative feel is needed? (list in comment section)

Facility Number _____ - _____ Date: _____

PARAMETER

- ☐ 8. Waste spill leaving site
- ☐ 9. Waste spill contained on site
- ☐ 10. Level in structural freeboard
- ☐ 11. Level in storm storage
- ☐ 12. Waste structure integrity compromised
- ☐ 13. Waste structure needs maintenance
- ☐ 14. Over application >= 10% & 10 lbs.
- ☐ 15. Over application < 10% or < 10 lbs.
- ☐ 16. Hydraulic overloading
- ☐ 17. Deficient irrigation records
- ☐ 18. Late/missing waste analysis
- ☐ 19. Late/missing lagoon level records
- ☐ 20. Late/missing soils analysis
- ☐ 21. Crop needs improvement
- ☐ 22. Crop inconsistent with waste plan
- ☐ 23. Irrigation maintenance deficiency
- ☐ 24. Deficient sprayfield conditions

Regulatory Referrals

- ☐ Referred to DWQ Date:
- ☐ Referred to NCDA Date:
- ☐ Other... Date:

LIST IMPROVEMENTS MADE BY OPERATION

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

○ No assistance provided/requested

TECHNICAL ASSISTANCE	Needed	Provided
25. Waste Plan Revision or Amendment	☐	☐
26. Waste Plan Conditional Amendment	☐	☐
27. Review or Evaluate Waste Plan w/producer	☐	☐
28. Forms Need (list in comment section)	☐	☐
29. Missing Components (list in comments)	☐	☐
30. 2H.0200 re-certification	☐	☐
31. Five & Thirty day Plans of Action (PoA)	☐	☐
32. Irrigation record keeping assistance	☐	☐
33. Organize/computerization of records	☐	☐
34. Sludge Evaluation	☐	☐
35. Sludge or Closure Plan	☐	☐
36. Sludge removal/closure procedures	☐	☐
37. Waste Structure Evaluation	☐	☐
38. Structure Needs Improvement	☐	☐
39. Operation & Maintenance Improvements	☐	☐
40. Marker check/calibration	☐	☐
41. Site evaluation	☐	☐
42. Irrigation Calibration	☐	☐
43. Irrigation system design/installation	☐	☐
44. Secure irrigation information (maps, etc.)	☐	☐
45. Operating improvements (pull signs, etc.)	☐	☐
46. Wettable Acre Determination	☐	☐
47. Evaluate WAD certification/rechecks	☐	☐
48. Crop evaluation/recommendations	☐	☐
49. Drainage work/evaluation	☐	☐
50. Land shaping, subsoiling, aeration, etc.	☐	☐
51. Runoff control, stormwater diversion, etc.	☐	☐
52. Buffer improvements	☐	☐
53. Field measurements(GPS, surveying, etc.)	☐	☐
54. Mortality BMPs	☐	☐
55. Waste operator education (NPDES)	☐	☐
56. Operation & maintenance education	☐	☐
57. Record keeping education	☐	☐
58. Crop/forage management education	☐	☐
59. Soil and/or waste sampling education	☐	☐

Facility Number [ ] - [ ] Date: [ ]

COMMENTS:

TECHNICAL SPECIALIST [ ] [ ] [ ]

SIGNATURE _____ _____ _____

North Carolina Department of Environment and Natural Resources
Soil and Water Conservation Commission

Michael F. Easley, Governor
William G. Ross Jr., Secretary
James M. Ferguson, Chairman

EXHIBIT D-11

NCDENR

February 2, 2006

To: The Honorable Charles Albertson
The Honorable Daniel Clodfelter
The Honorable Pryor Gibson

From: James M. Ferguson, Soil and Water Conservation Commission

Re: 2005 Annual Report on the Agriculture Cost Share Program

This memo transmits the 2005 Annual Report on the Agriculture Cost Share Program for Nonpoint Source Pollution Control as required by General Statute 143-215.74. The statute requires the Soil and Water Conservation Commission to provide annual reports to the Environmental Review Commission and the Fiscal Research Division that include a list of projects that received State funding pursuant to the program, the results of the water quality evaluations conducted pursuant to subdivision (7) of subsection (b), findings regarding the effectiveness of each of these projects to accomplish its primary purpose, and any recommendations to assure that State funding is used in the most cost-effective manner and accomplishes the greatest improvement in water quality.

If you have any questions or need additional information, please contact Manly Wilder, Director of the Division of Soil and Water Conservation at 715-6097 or by email at Manly.Wilder@ncmail.net.

Sincerely,

James M. Ferguson,
Chairman

Enclosure

cc: Manly Wilder
Johanna Reese

REPORT TO THE ENVIRONMENTAL REVIEW COMMISSION AND FISCAL RESEARCH DIVISION OF THE NORTH CAROLINA GENERAL ASSEMBLY
ON
WATER QUALITY ACCOUNTABILITY FOR THE AGRICULTURE COST SHARE PROGRAM FISCAL YEAR 2005

INTRODUCTION

In 1983 the North Carolina Agriculture Cost Share Program (ACSP) was authorized by the General Assembly to improve water quality associated with agriculture in three nutrient sensitive areas of the state covering 16 counties. It was expanded in 1990 to include all 96 Soil and Water Conservation Districts covering all 100 counties.

While the Soil and Water Conservation Commission (Commission) has the statutory responsibility to create, implement and supervise the Cost Share program, it is delivered at the local level by 492 elected and appointed soil and water conservation district supervisors who are assisted by their staff and partners in natural resource conservation. These partners include technical and professional employees of the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS), the District or county, the Division of Soil and Water Conservation (Division), the Cooperative Extension Service, and the North Carolina Department of Agriculture and Consumer Services.

In this very popular program, participating farmers receive up to 75 percent of the average cost of an installed best management practice (BMP) with the remaining 25 percent paid by the farmer directly or through in-kind contributions (e.g., labor). When complete cost information is not available, the farmer is required to submit invoices and is paid at 75 percent of actual cost rather than average cost. Cost Share payments cannot exceed $75,000 per year per applicant.

The Commission continues to adapt the program to respond to changing needs and technology. For Program Year 2005, there were 50 approved BMPs grouped under 48 definitions in the ACSP. BMPs include both short-term and

long-term practices. The definitions of approved BMPs for the Cost Share program are provided in the Detailed Implementation Plan (Attachment A).

For a BMP to be approved by the Commission for the ACSP, there must be 1) an NRCS technical standard addressing that BMP, and 2) sufficient cost information to determine the appropriate cost share amount. Occasionally, BMPs are approved on a limited scale for evaluation purposes (District BMPs).

For most practices, the amount provided in cost share is based on 75% of a predetermined average cost for the practice. However, some practices are cost shared on 75% of actual cost due to the variable nature of the practice. (In the 2003-04 Budget Bill, the General Assembly approved a special budget provision that modified N.C.G.S 143-215.74(b) to allow beginning farmers and limited resource farmers to receive up to 90% cost share beginning in the 2004 program year.) The Commission conducts a wholesale review of its cost share rates every three years, but it can make necessary mid-course corrections when presented with information that one of its predetermined costs is inaccurate.

Districts spot check a minimum of 5% of randomly selected active contracts each year to ensure that practices are being maintained properly. Division and NRCS also spot check contracts as part of regular reviews of district office implementation of the ACSP. Spot checks have shown excellent compliance with maintenance requirements by participating farmers. When practices are discovered to need additional maintenance, the district is usually able to assist the cooperator to restore the practice.

PROGRAM ACCOMPLISHMENTS

Since the first Cost Share contracts were issued in 1984, there have been 45,241 contracts for installing BMPs (through the end of program year 2005, which ended on June 30, 2005). Most BMPs have a life expectancy of ten years, which is how long participating farmers must agree to maintain the practices.

Early in the program, the major factor used for determining success was tons of soil saved because the program funded predominantly sediment and erosion control practices. It is estimated that an average of 7.22 million tons of soil have been saved annually during the life of the program. Since the mid-1990s, while continuing its attention on minimizing soil loss and erosion, the program has increased its attention on reducing and managing nutrients from cropland and livestock production. Part of the impetus for this new attention was the promulgation of the 15A NCAC 2H.0200 animal waste management rules and the nutrient sensitive waters strategies for the Neuse and Tar-Pamlico River Basins.

Highlights of additional accomplishments include the following:

- Nearly 117,000 acres of marginal or environmentally sensitive cropland have been converted to trees, grass, or wildlife habitat
- 3,446 waste management structures have been constructed to properly store and manage dry and wet animal waste
- 3,805 water control structures have been installed improving water management on and reducing nutrient loss from approximately 292,500 acres
- Over 912 miles of fencing have been erected, in combination with other practices (e.g., watering sources) to exclude livestock from streams
- Over 601,898 acres of cropland acres have been converted to no-till or conservation tillage to reduce sediment loss associated with traditional practices
- Over 195 miles of forested riparian buffer have been established to reduce nutrient loss from approximately 15,287 acres of cropland
- 113 structures have been built for the proper handling and storage of agricultural chemicals (pesticides and fertilizers)

REPORTING REQUIREMENTS

Projects Receiving State Funds

Participating farmers have up to three years to complete the work included in ACSP contracts. Therefore, cost share payments made each year may be for contracts written in the current fiscal year or in the two previous fiscal years. For this reason the fund balance for the program will always exceed the amount appropriated in a given year.

Each contract is considered a "project." Each project may include only one BMP or a system of practices that include several BMPs. Cost share payments are made only when installation of the BMP is completed and certified to be in accordance with current NRCS or Commission standards.

Cost Share payments were applied to 939 projects statewide between July 1, 2004 and June 30, 2005. These contracts received total payments of $5,959,344. A list of individual contracts to which Cost Share funds were applied in Program Year 2005 is available upon request.

New Contracts for Fiscal Year 2005

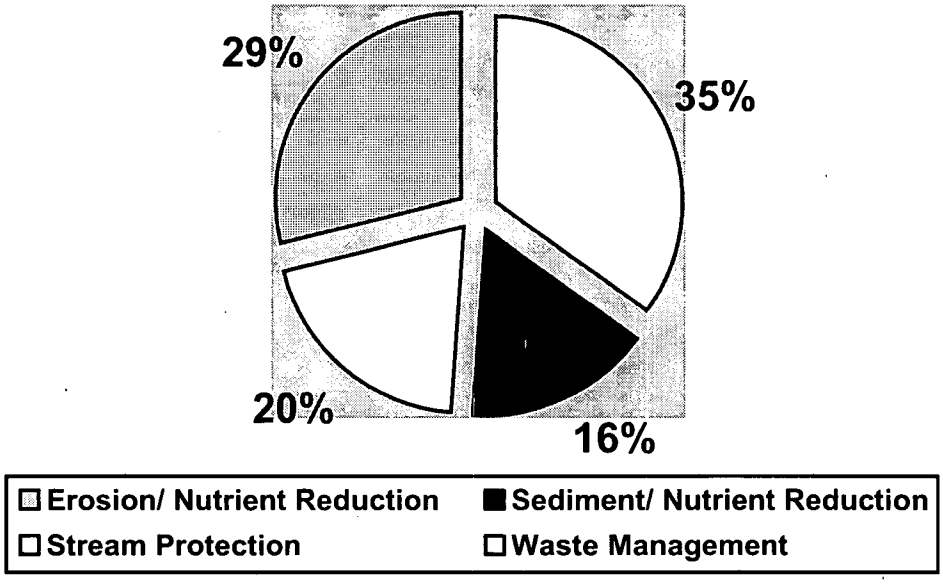
The General Assembly appropriated $5,244,897 in recurring general funds for BMP installation. For Fiscal Year 2005 soil and water conservation districts requested $24,713,695 to address identified water quality needs. Current appropriations do not enable districts to meet demand for financial assistance for installing BMPs to protect water quality in North Carolina.

For Fiscal Year 2005, the Commission allocated $7,700,398 to districts. In addition to the 2005 appropriation, the Commission also had available for allocation: 1) funds allocated to districts in 2004 which districts were unable to execute contracts with farmers prior to the end of the fiscal year, and 2) funds recovered from completed and expired contracts from Program Years 2002 through 2004. Despite the Commission's actions to improve efficiency of the cost share program (discussed on pp. 7-8), districts still must turn away three out of every five farmers requesting cost share assistance.

In Fiscal Year 2005 districts obligated $7,473,798 to 1,532 new contracts with farmers.

As shown in Figure 1, 35% of the 2005 funds were directed toward erosion and nutrient-reducing BMPs (e.g., conservation tillage, cropland conversion to grass or trees), 20% were directed toward stream protection systems (e.g., livestock exclusion from streams), 16% were directed toward sediment and nutrient-reducing BMPs (e.g., riparian buffers, field borders, grassed waterways), 29% were directed toward animal operations for waste management BMPs (e.g., poultry litter storage structures, closure of inactive lagoons, livestock feeding/waste storage structures).

Figure 1: Breakdown of 2005 ACSP Contracts by BMP Type



Attachment B is a chart displaying a summary of contracts initiated during the 2005 program year (July 1, 2004 - June 30, 2005). This chart shows the planned as well as installed BMPs. The most-used single BMP from a financial and acres affected standpoint (over $523,966 affecting over 6,266 acres) was the 3-year conservation tillage incentive. . Attachment C presents the number and value of 2005 contracts by soil and water conservation district and each district's allocation of cost share funds for 2005.

Estimated Water Quality Benefits of ACSP Contracts Initiated in 2005

N.C.G.S 143-215.74(b)(7) requires that each project's benefits to water quality be estimated before funding is awarded. To meet this requirement, the Commission chose three indicators of water quality benefits: tons of soil saved, pounds of nitrogen saved or managed, and pounds of phosphorus saved or managed. Soil savings estimates have been required on all Cost Share contracts since the beginning of the program. Beginning with the 1997 program year, estimates of nitrogen and phosphorus savings were required to be reported. The Division continues to work with the Division of Water Quality, NRCS, and North Carolina State University to improve and refine our method to estimate and account for nutrient reductions.

These estimates have been very useful to help track progress by agriculture relative to the nutrient reduction requirements in the Neuse and Tar-Pamlico Nutrient Reduction Rules for agriculture. The ACSP is playing a key role in helping farmers achieve the 30% nutrient reduction required by these rules.

Local soil and water conservation districts determine which projects are eligible for funding in their districts according to a required priority ranking process, tailored to each district's water quality concerns. The water quality evaluations on each project are carried out at the district level, and the water quality benefit estimates are provided to the Division on each contract form. The data are entered from the contract form into the Division's cost share database and tracked by Division staff. The estimated sediment and nutrient reduction benefits for program years 2003-2005 are summarized in Table 1.

Some BMPs standing alone will not directly result in sediment or erosion reductions or nitrogen or phosphorus savings, but are used in conjunction with other practices. These BMPs are called "facilitating practices" and are necessary to facilitate and ensure that other practices in the BMP system are effective at reducing nutrient or sediment loading to a water resource. Therefore, their reduction credit is linked to the facilitated practice. An example of a facilitating practice is a water tank, which must be installed for livestock drinking water purposes before fencing can be put up to keep livestock out of a stream.

Table 1: Sediment and Nutrient Reduction Benefits for Program Years 2003 through 2005.

	2003	2004	2005
Number of Contracts	1,819	2,053	1,532
Acres Affected	89,436 acres	76,255 acres	67,621 acres
Soil Saved	290,065 tons	277,556 tons	172,378 tons
Nitrogen Saved	1,359,918 pounds	1,717,092 pounds	1,392,754 pounds
Phosphorus Saved	741,691 pounds	626,600 pounds	262,404 pounds
Waste Nitrogen Managed	4,406,982 pounds	24,923,721 pounds	3,709,391 pounds
Waste Phosphorus Managed	4,572,177 pounds	5,219,734 pounds	3,483,287 pounds

Effectiveness of Each Project to Accomplish Its Primary Purpose

The statutory purpose of the program and each project is to improve water quality by reducing the input of agricultural non-point source pollution into the water courses of the state. Each BMP approved for the Cost Share program is designed for at least one of five major purposes to protect the water resources of the state:

1) sediment/nutrient delivery reduction through reduction of applied nutrients, reduction of soil loss, or interception of nutrients from fields;
2) erosion reduction/nutrient loss reduction in fields through reduction of applied nutrients or prevention of soil detachment;
3) prevention of agricultural chemical pollution of ground or surface water from improper handling or accidents;
4) reduction of nutrient loading through proper management of animal waste; and
5) stream protection measures to reduce the delivery of sediment and nutrients by animals and stabilize streambanks to minimize further erosion and sediment contribution.

Attachment D is a chart showing the approved BMPs in these categories and their relationship to water quality improvement.

Staff of the Division, soil and water conservation districts, and NRCS has verified every project for which program funds have been expended to have been installed in accordance with program standards and to be accomplishing its primary purpose.

TARGETING ACSP FUNDS TO WATERSHEDS OF IMPAIRED WATERS

The Commission continues to exercise leadership in allocating ACSP resources to local districts containing impaired waters and in encouraging district supervisors to use ACSP funds to address impaired waters. This is best illustrated by the fact that the Commission targeted $160,270 of funds available in 2005 for the specific purpose of installing erosion and sediment-reducing best management practices into watersheds of waters listed on the State's 303(d) list of waters as impaired due to sediment from sources including agriculture in 14 counties.

Historically, about 30% of ACSP funds have been used to implement BMPs in watersheds of impaired waters. Considering that only 3% of North Carolina's stream miles are attributed to being impaired by agricultural sources, this demonstrates that the ACSP funds are being significantly targeted toward improving streams that do not fully meet their uses.

Approximately 27% of funds contracted in Program Year 2005 were contracted with farmers in the Neuse and Tar-Pamlico River Basins to help them achieve the required 30 percent reduction in agricultural nitrogen losses. Districts in the Neuse and Tar-Pamlico Basins will continue to use ACSP to sustain the reductions already achieved and to attain further voluntary reductions in these nutrient sensitive watersheds. ACSP funds are also being used to reduce phosphorus losses from agriculture to help achieve the goal of no net increase in phosphorus loading to the Tar-Pamlico Basin. Participating farmers continue to assess phosphorus losses using the Phosphorus Loss Assessment Tool (PLAT).

The Commission also targeted $119,003 of Program Year 2005 funds to 22 districts to assist with implementation of riparian buffers in nutrient sensitive watersheds under the Conservation Reserve Enhancement Program.

NEW PROGRAM ENHANCEMENTS TO IMPROVE EFFICIENCY AND PROGRAM DELIVERY

Because of the need to continually improve the program's cost effectiveness, and because of recurring budget reductions in the program's appropriation, the Commission is moving forward on several enhancements for the 2005 program year. These enhancements were designed to improve the efficiency by which program funds are used by agricultural cooperators to install best management practices and to improve the responsiveness of the program to state and local water quality priorities.

One efficiency improvement was to initiate an upgrade to the existing ACSP database. The Division has worked with the DENR Information Technology Services Division to upgrade the current ACSP database. Funding for the new database is being provided by Clean Water Act Section 319 grant funds administered by the Division of Water Quality (DWQ). The proposed upgraded system will utilize the DENR-Integrated Build Environment for Application Management (IBEAM) approach to permit more efficient on-line contracting and contract approval to eliminate duplicative data entry and to shorten contract review and approval time. The proposed system will also include mechanisms to attach GPS and GIS information and digital photographs to better present the benefits and outcomes associated with BMP implementation. The proposed system will also better coordinate with the federal Pro-Tracks system to permit a more complete accounting for agricultural BMP implementation and progress reporting in North Carolina.

This database will provide real-time 24 hours a day, seven days a week ACSP information that can easily be updated by the Division, DENR Regional Office and local Soil & Water Conservation District staff, with minimal errors, and be used to generate standard reports on program use and water quality benefits. Non-sensitive information will be accessible for public view on the internet (read-only format).

The database upgrade will streamline data entry and management for all aspects of the agriculture cost share program. Contracts, request for payments, water quality benefits and compliance letters will all be generated and tracked from one system statewide. This will eliminate repetitive data entry and standardize documentation statewide. The non-point source planning program and others will be able to geographically display agricultural BMPs and view pictures and obtain water quality benefits per practice. Detailed data and summary statistics will be readily available for use by the Division , Division of Land Resources (DLR), DWQ, Environmental Protection Agency (EPA) and NRCS.

The Commission also established a policy in 2005 relating District Strategy Plans to the DWQ's Basinwide Water Quality Plans. The Commission is now requiring that all district strategy plans for ACSP include a section describing waters listed as impaired or with notable water quality problems and concerns as documented in the most recent applicable basinwide water quality plan(s), and for which agriculture is a potential source or stressor. The District should also list any waters of local concern that has been identified by the district, and for which agriculture is a potential source or stressor. The section of the strategy plan shall also describe how the district intends to address agricultural nonpoint source problems impacting these waters. This policy shall become effective for Program Year 2007.

COST-EFFECTIVENESS CONSIDERATIONS

The ACSP is a cost-effective program from both a state expenditure perspective and the farmer's perspective. This program has been credited with helping the state to achieve considerable success in protecting and improving water quality. Many farmers could not afford to implement BMPs (many of which are required by regulations) without cost share assistance. Because a farmer must invest at least 25% of the cost for BMPs, the farmer has ownership in the practice and is more likely to maintain it. The educational value of local farmers participating the program is substantial in helping to change local practices.

Use of ACSP to Leverage Additional BMP Implementation Funds From Other Sources

The Commission's 2005 allocation to districts included $160,270 for the intended purpose of installing BMPs in watersheds of streams on the state list of impaired waters due to sediment from agricultural sources. Because of this targeted allocation the Division of Soil and Water Conservation and districts were able to obtain $1,000,000 in grant funds from the Clean Water Management Trust Fund and $700,497 from the US Environmental Protection Agency 319 (EPA-319) program to implement sediment reducing BMPs in these watersheds. The Division has also entered into a cooperative agreement with the United States Geological Survey who will provide an additional $150,000 of water quality monitoring services to document reduction in sediment loading.

ACSP funds are an essential part of the state match for the Conservation Reserve Enhancement Program (CREP), a federal/state partnership. ACSP and other state programs (CWMTF, NC Wetlands Restoration Program) are providing a total of $54 million over eight years to match $221 million in federal payments to North Carolina landowners participating in CREP.

ACSP funds for BMP implementation and technical assistance also provide the required state match for three EPA-319 grants for accelerating BMP implementation in the Neuse and Tar-Pamlico river basins. The total of the three grants is $1,419,180.

Whenever possible, the districts use the ACSP in conjunction with other programs, such as the federal Environmental Quality Incentive Program and the Conservation Reserve Enhancement Program, to stretch scarce resources as far as possible. Districts also partner to meet the needs of cooperating producers and landowners.

Leveraging of Local and Federal Resources for Technical Assistance and Local Delivery

This program is delivered locally by 492 elected and appointed volunteer Soil and Water Conservation District Supervisors and by over 400 local staff of districts and NRCS. District supervisors receive no state salary, yet are responsible for seeing that state funds are spent where they are most needed to improve water quality. District supervisors are required to develop a prioritization ranking system for administering the ACSP in their respective district to maximize the water quality benefits of the program. Applications to each district are evaluated and prioritized according to this system. District supervisors also must inspect at least five percent of all cost share contracts in their district every year to ensure the BMPs are properly maintained.

The ACSP is heavily dependent on the technical resources of the local soil and water conservation districts and the NRCS. District and federal employees develop conservation plans, design BMPs, and provide engineering assistance for water quality improvements at no cost to the farmers whose applications are accepted for cost share assistance. These staff also assist farmers and other landowners in implementing water quality projects using other funding sources such as the USDA's Environmental Quality Incentives Program and Conservation Reserve Enhancement Program, the U.S. Environmental Protection Agency's Section 319 Non-Point Source Program, and North Carolina's Clean Water Management Trust Fund.

A critical portion of the General Assembly's appropriation for ACSP provides a state match for salaries for many of these district technical employees and for their operating expenses to carry out the cost share program. For 2005, the General Assembly appropriated $1,875,000 in recurring funds for cost sharing technical assistance positions in local districts and directed DENR to continue to transfer $240,000 from BMP assistance to support technical assistance. County commissions provide more than 50% match for salaries and operating expenses, including office space and administrative support for these technical assistance positions. In program year 2005 the cost share technical assistance program cost shared on 122 technical positions in 90 counties to assist farmers in designing and installing BMPs. These state technical assistance cost share funds maintain a local conservation infrastructure and are critical to sustain local county support and funding for local delivery of the program.

NRCS engineers and conservation specialists are also available to each district. These federal employees carry out a portion of the cost share work support without cost to the state, and they provide additional technical resources and expertise to ensure that cost-shared practices are properly installed and maintained for the expected life of the practice.

In addition, NRCS allows district staff to use federal vehicles for use on state cost share work. NRCS also provides computers and sophisticated natural resources materials and computer software in all 100 county field offices, and develops the technical standards for most of the BMPs used in the cost share program. This state program leverages a much greater amount of federal funding for water quality improvements in North Carolina.

PROGRAM MANAGEMENT

Attachment E is an overview of the funding and compliance process used for implementing the Agriculture Cost Share Program.

A Division program staff of four FTEs reviews approximately 2,000 contracts annually and processes about 2,500 requests for payment each year. The Division also maintains the ACSP Manual, trains local personnel, provides daily technical assistance to the districts, and conducts oversight through district program reviews to ensure proper record keeping and BMP maintenance for continued water quality protection.

Because the state specifies that the purpose of the program is to assist agricultural operations in addressing an existing water quality problem, the program does not assist new operations to go into business. It is the policy of the Commission that new producers or companies constructing new agricultural operations should be aware of the existing environmental requirements and technical standards and should be prepared to meet them without state funding assistance. This is especially important when existing operations are struggling to comply with new requirements that were not in place when they began operating. Therefore, the Commission has restricted eligibility for Cost Share funds to those operations, which have been in existence for three years prior to the date of cost share application (i.e., 15A NCAC 2H.0200). Operations that were not in existence for three years prior to application date may still be eligible for cost-share if changes in environmental statutes or regulations create new requirements that could, without assistance, make the facility out of compliance. These exceptions require Commission approval.

For detailed information about 2005 BMP project locations refer to Attachment F (BMP project locations within NC River Basins) and Attachment G (BMP project locations 2005).

IMPACT OF BUDGET REDUCTIONS OVER THE PAST 5 YEARS

For Fiscal Year 2001 the Department was directed to transfer $240,000 appropriated for BMP assistance to overcome a projected shortfall of funds for cost sharing for essential technical assistance staff in local soil and water conservation districts. This transfer represented a 3.4 percent reduction in the

funding available for assisting farmers with costs to install best management practices for Fiscal Year 2002.

The 2002 budget bill made the transfer for technical assistance permanent. Further, for 2002 the recurring appropriation for the Agriculture Cost Share Program was reduced by another $1,000,000. In 2003, the recurring appropriation for ACSP funding was further reduced by $400,000. The net effect of the reductions and diversions is that for Fiscal Year 2005 the funding available for assisting farmers to install best management practices was reduced by $1,640,000 (23.7%) relative to the Fiscal Year 2000 funding level.

This recurring loss of funds for the ACSP has had several negative consequences. These include:

- Reducing the number of agricultural producers assisted, turning away an estimated 250-300 additional producers per year.
- Diminishing the local impact of the ACSP to the point that it may weaken local governments' support (match) for soil and water conservation district technicians who provide technical assistance (BMP design and installation oversight) to agricultural producers. The Soil and Water Conservation Commission has worked diligently over a number of years to build local support for district technical assistance. A reduction of local support would jeopardize the state's ability to maintain technical support for conservation programs.
- Further threatening the state's ability to provide the required 20% match for the $221 million in federal funds for the Conservation Reserve Enhancement Program (CREP). The non-federal match for CREP relies on $8.84 million of ACSP funds over 5 years used to establish riparian buffers on agricultural land enrolled in CREP. DENR may be forced to seek additional legislative appropriations or other non-federal revenue sources (e.g., Tobacco Trust Fund Commission) or risk termination of the State's CREP agreement by USDA. In FY-2005, the Commission allocated over $119,003 to be used toward the match for CREP.
- Further restricting funding available to allow soil and water conservation districts to provide additional cost share to new farmers and limited resource farmers in response to the statutory revision enacted in the 2003 Legislative Session.
- Limiting the ability of districts to provide additional cost share to farmers participating in Enhanced Voluntary Agricultural Districts as authorized by the General Assembly in HB 607 in the 2005 Legislative Session.
- Reducing the financial assistance available to assist livestock and poultry producers to respond to new phosphorus management requirements resulting from modification to the NRCS Nutrient Management Standard.

- Further reducing funding available for installing conservation practices on private working lands, a major provision of the One North Carolina Naturally Initiative.
- Significantly diminishing the financial assistance available to assist agricultural producers in the Neuse and Tar-Pamlico river basins to implement BMPs and achieve and maintain 30% nutrient reduction requirements.
- Reducing funds available for installing BMPs in watersheds of streams impaired by sediment from agricultural sources. The Agricultural Sediment Initiative is a priority for the Soil and Water Conservation Commission and the Sediment Control Commission. The Commission allocated $160,270 for this purpose in FY-2005.
- Reducing available funding for installing riparian buffers and protecting streams from impacts from livestock and cropland. DENR wants to rely on voluntary approaches to protect buffers, and the ACSP is a valuable tool for this purpose.

CONCLUSIONS AND RECOMMENDATIONS

Based on the above considerations, the Commission believes the ACSP is being administered very cost-effectively and that considerable water quality benefits are being realized for the investment made with state funds. The program aids agricultural operations in making essential water quality improvements, the cost of which cannot be passed on to the consumer in the price of the food or fiber product, and thereby contributes both to water quality and to sustaining a strong state agricultural economy. The Commission continues to emphasize prioritizing, targeting, accountability, leveraging, and adaptability in managing these public funds to further improve the water quality benefits intended by the General Assembly.

The Commission believes that budget reductions have impacted the program's effectiveness and local support to a serious degree. The Commission has taken actions to improve program efficiencies that have helped to partly offset these impacts in the short-term. The ACSP continues to play a vital role in assisting farmers and ranchers with voluntary water quality protection and with compliance with state and federal regulatory requirements. The program is our state's cornerstone in efforts to support private working lands stewardship for the benefit of water quality and all the citizens of North Carolina.

The Commission will establish a group to provide a programmatic review and to evaluate the effectiveness of the ACSP with special emphasis on ensuring the program and cost shared BMPs are meeting the conservation needs on the private working agricultural lands of North Carolina.

Attachment A
DETAILED IMPLEMENTATION PLAN
September 2005 (Revised)

Definition of Practices

(1) An agrichemical handling facility means a permanent structure that provides an environmentally safe means of mixing agrichemicals and filling tanks with agrichemicals for application and storage to improve water quality. Benefits may include prevention of accidental degradation of surface and ground water. Cost share for this practice is limited to $25,000 per facility.

(2) Agricultural road repair/stabilization means repair or stabilization of existing access roads utilized for agricultural operations, including roads to existing crop fields, pastures, and barns.

(3) A fertigation or chemigation backflow prevention system means a system for preventing backflow of fertilizers or chemicals from contaminating water sources in fertigation and or chemigation applications. It can include retrofitting or installing injection equipment, check valves, gauges, drains, and vacuum breakers. It does not include items unrelated to backflow prevention (e.g., tanks, mixers, or filters). Cost share for this practice is limited to $1,500 per system.

(4) A Christmas Tree Conservation Cover practice means to establish and maintain a conservation cover of grass, legumes, or other approved plantings on fields previously with no groundcover established, to reduce soil erosion and improve water quality. Other benefits may include reduced offsite sedimentation and pollution from dissolved and sediment-attached substances.

(5) A three-year conservation tillage system means any tillage and planting system in which at least (60) sixty percent of the soil surface is covered by plant residue for the same fields for three consecutive years to improve water quality. Benefits may include reduction of soil erosion, sedimentation and pollution from dissolved and sediment-attached substances. The three-year conservation tillage incentive is broken down into two categories depending on the crop(s) to be grown:

a. Grain crops and cotton
b. Vegetables, Tobacco, Peanuts, and Sweet Corn

Cost share for each category of this practice is limited to $15,000 per cooperator in a lifetime.

(6) A critical area planting means an area of highly erodible land that cannot be stabilized by ordinary conservation treatment on which permanent perennial vegetative cover is established and protected to improve water quality. Benefits may include reduced soil erosion and sedimentation.

(7) A cropland conversion practice means to establish and maintain a conservation cover of grasses, trees, or wildlife plantings on fields previously used for crop production to improve water quality. Benefits may include reduced soil erosion, sedimentation and pollution from dissolved and sediment-attached substances.

(8) A diversion means a channel constructed across a slope with a supporting ridge on the lower side to control drainage by diverting excess water from an area to improve water quality. Benefits may include reduced soil erosion, sedimentation and pollution from dissolved and sediment-attached substances.

A field border means a strip of perennial vegetation established at the edge of the field that provides a stabilized outlet for row water to improve water quality. Benefits may include reduced soil erosion, sedimentation and pollution from dissolved and sediment-attached substances.

(10) A filter strip means an area of permanent perennial vegetation for removing sediment, organic matter, and other pollutants from runoff and waste water to improve water quality. Benefits may include reduced soil erosion, sedimentation, pathogen contamination and pollution from dissolved, particulate, and sediment-attached substances.

(11) A grade stabilization structure means a structure (earth embankment, mechanical spillway, detention-type, etc.) used to control the grade and head cutting in natural or artificial channels to improve water quality. Benefits may include reduced soil erosion and sedimentation.

(12) A grassed waterway means a natural or constructed channel that is shaped or graded to required dimensions and established in suitable vegetation for the stable conveyance of runoff to improve water quality. Benefits may include reduced soil erosion, sedimentation and pollution from dissolved and sediment-attached substances.

(13) A heavy use area protection means an area used frequently and intensively by animals, which must be stabilized by surfacing with suitable materials to improve water quality. Benefits may include reduced soil erosion, sedimentation and pollution from dissolved, particulate, and sediment-attached substances.

(14) A land smoothing practice means reshaping the surface of agricultural land to planned grades for the purpose of improving water quality.

(15) A livestock feeding area is a sized concrete pad where feeders are located, surrounded by a Heavy Use Area. The Livestock Feeding Area is designed for the purpose of improving the lifespan of the heavy use area and to reduce the runoff of nutrients and fecal coliform to adjacent water bodies. The practice is to be used to address water quality concerns where livestock feeding areas are in close proximity to streams and where relocation or rotation of feeding areas is infeasible due to physical limitations (e.g., slope) and where other stream protection measures are insufficient to protect water quality. Cost share for the concrete pad for this practice is limited to $3,000.

(16) A livestock exclusion system means a system of permanent fencing (board or barbed, high tensile or electric wire) installed to exclude livestock from streams and critical areas not intended for grazing to improve water quality. Benefits may include reduced soil erosion, sedimentation, pathogen contamination and pollution from dissolved, particulate, and sediment-attached substances.

(17) A long- term no-till practice means planting all crops for five consecutive years with at least 80 percent plant residue from preceding crops to improve water quality. Benefits may include reduced soil erosion, sedimentation and pollution from dissolved and sediment-attached substances. Cost share for this incentive or this incentive combined with 3-year conservation tillage for grain and cotton is limited to $25,000 per cooperator in a lifetime.

(18) A nutrient management practice means a definitive plan to manage the amount, form, placement, and timing of applications of nutrients to minimize entry of nutrients to surface and groundwater and improve water quality.

(19) A nutrient scavenger cover crop means a crop of small grain grown primarily as a seasonal nutrient scavenger. The purpose is to scavenge and cycle plant nutrients, add organic matter to the soil, improve infiltration, aeration and tilth, improve soil quality, reduce soil crusting, provide residue for conservation tillage and sequester carbon. Benefits may include reduction of soil erosion, sedimentation and pollution from dissolved and sediment-attached substances. Cost share for this incentive practice is limited to $25,000 per cooperator in a lifetime. (DIP)

(20) A pastureland conversion practice means establishing trees or perennial wildlife plantings on excessively eroding land with a visible sediment delivery problem to the waters of the state used for pasture that is too steep to mow or maintain with conventional equipment to improve water quality. Benefits may include reduced soil erosion and sedimentation.

(21) A rock-lined outlet means a waterway having an erosion-resistant lining of concrete, stone or other permanent material where an unlined or grassed waterway would be inadequate to improve water quality. Benefits may include safe disposal of runoff, reduced erosion and sedimentation.

(22) A sediment control basin means a basin constructed to trap and store waterborne sediment where physical conditions or land ownership preclude treatment of a sediment source by the installation of other erosion control measures to improve water quality.

(23) A sod-based rotation practice means an adapted sequence of crops, grasses and legumes or a mixture thereof established and maintained for a definite number of years as part of a conservation cropping system which is designed to provide adequate organic residue for maintenance or improvement of soil tilth to improve water quality. Benefits may include reduced soil erosion, sedimentation and pollution from dissolved and sediment-attached substances. Cost share for this incentive practice is limited to $25,000 per cooperator in a lifetime.

(24) A stock trail or walkway means to provide a stable area used frequently and intensively for livestock movement by surfacing with suitable material to improve water quality. Benefits may include reduced soil erosion, sedimentation and pollution from dissolved, particulate, and sediment-attached substances.

(25) A stream protection system means a planned system for protecting streams and stream banks that eliminates the need for livestock to be in streams by providing an alternative-watering source for livestock to improve water quality. Benefits may include reduced soil erosion, sedimentation, pathogen contamination, and pollution from dissolved, particulate and sediment-attached substances. System components may include:

(A) A spring development means improving springs and seeps by excavating, cleaning, capping or providing collection and storage facilities.

(B) A stream crossing means a trail constructed across a stream to allow livestock to cross without disturbing the bottom or causing soil erosion on the banks.

(C) A trough or tank means devices installed to provide drinking water for livestock at a stabilized location.

(D) A well means constructing a drilled, driven or dug well to supply water from an underground source.

(E) A windmill means erecting or constructing a mill operated by the wind's rotation of large vanes and is used as a source of power for pumping water.

(26) A Streambank Stabilization system means the use of bioengineering practices, native material revetments, channel stability structures, and/or the restoration or management of riparian corridors in order to protect upland BMPs, restore the natural function of the stream corridor and improve water quality by reducing sedimentation to streams from streambank erosion and decreasing the delivery of nitrogen, phosphorus and other pollutants to the stream from adjacent pasture or cropland. Cost share for this practice is limited to $25,000 per cooperator per year.

(27) A stripcropping practice means to grow crops and sod in a systematic arrangement of alternating strips or bands on the contour to improve water quality. Benefits may include reduced soil erosion, sedimentation, and pollution from dissolved and sediment-attached substances. The crops are arranged so that a strip of grass or close-growing crop is alternated with a strip of clean-tilled crop, fallow, or no-till crop, or a strip of grass is alternated with a close-growing crop.

(28) A riparian buffer means an area adjacent to solid blue line streams as shown on 7.5 minute USGS maps where a permanent, long-lived vegetative cover (sod, shrubs, trees, or a combination of vegetation types) is established to improve water quality. Benefits may include reduced soil erosion, sedimentation, pathogen contamination and pollution from dissolved, particulate and sediment-attached substances.

(29) A terrace means an earth embankment, a channel, or a combination ridge and channel constructed across the slope to improve water quality. Benefits may include reduced soil erosion, sedimentation and pollution from dissolved and sediment-attached substances.

(30) A waste management system means a planned system in which all necessary components are installed for managing liquid and solid waste to prevent or minimize degradation of soil and ground and surface water resources. System components may include:

(A) A Closure of Abandoned Waste Impoundment means the safe removal of existing waste and waste water and the application of this waste on land in an environmentally safe manner. Cost share for this practice is limited to $75,000 per cooperator.

(B) A constructed wetland for land application practice means an artificial wetland area into which liquid animal waste from a waste storage pond or lagoon is dispersed over time to lower the nutrient content of the liquid animal waste.

(C) A controlled livestock lounging area means a planned, stabilized and vegetated area in which livestock are kept for a short duration.

(D) A drystack means a fabricated structure for temporary storage of animal waste. Cost share for drystacks for poultry and non-.0200 animal operations are limited to $30,000 per structure.

(E) A feeding/waste storage structure means a fabricated structure for the combined purpose of animal feeding and temporary storage of animal waste. Cost share for this practice is limited to $25,000 per structure.

(F) An insect control system means a practice or combination of practices (planting windbreaks, pre-charging structures, incorporation of waste into soil, etc.) which manages or controls insects from confined animal operations, waste treatment and storage structures, and waste applied to agricultural land.

(G) A livestock mortality management system is a facility for managing livestock mortalities such as to minimize water quality impacts or to produce a material that can be recycled as a soil amendment and fertilizer substitute. Cost shareable mortality management system components include: composter, rotary drum composter, forced aeration static pile composter, mortality freezer, and mortality incinerator.

(H) An odor control management system means a practice or combination of practices (planting windbreaks, pre-charging structures, incorporation of waste into soil, etc.) which manages or controls odors from confined animal operations, waste treatment and storage structures and waste applied to agricultural land.

(I) An offsite or an alternative poultry dry litter waste utilization means applying, processing and/or transporting poultry dry litter such that it is properly utilized to reduce nutrient impacts. Payments for this incentive shall be limited to $15,000 per farm per year for no more than 3 years.

(J) A Retrofit of On-Going Animal Operations means modification of structures to increase storage or to correct design flaws to meet current standards. This practice may also be used to close waste impoundments on on-going operations, including the safe removal of existing waste and waste water and the application of this waste on land in an environmentally safe manner. .

(K) A storm water management system means a system of collection and diversion practices (guttering, collection boxes, diversions, etc.) to prevent unpolluted storm water from flowing across concentrated waste areas on animal operations.

(L) A waste application system means an environmentally safe system (such as solid set, dry hydrant, mobile irrigation equipment, etc.) for the conveyance and distribution of animal wastes from waste treatment and storage structures to agricultural fields as part of an irrigation and waste utilization plan. Cost share for this practice is limited to $25,000 per cooperator in a lifetime.

(M) A waste storage pond means an impoundment made by excavation or earthfill for temporary storage of animal waste, waste water and polluted runoff.

(N) A waste treatment lagoon means an impoundment made by excavation or earthfill for biological treatment and storage of animal waste.

(27) A water control structure means a permanent structure placed in farm canals and ditches, which provides control of surface and subsurface drainage to improve water quality. The primary benefit is to reduce nutrient pollution. Other benefits may include reduced pollution from other dissolved and sediment-attached substances, reduced sedimentation and reduced stormwater surges of fresh water into estuarine areas.

(28) A wetland restoration system means a system of practices designed to restore the natural hydrology of an area that had been drained and cropped.

Attachment B

NC Agriculture Cost Share Program
Practice Log Summary

Year : 2005
Program : CS, SE, CE

Best Management	Planned Units	Msr.	Cost	Implemented Units	Msr.	Cost
Erosion/Nutrient Reduction						
Conservation Tillage (3 Yr.)	7,134.96	Acre	$610,735	6,266.08	Acre	$523,966
Long Term No-Till	2,471.30	Acre	$290,459	1,805.41	Acre	$213,742
Sod-Based Rotation	1,394.35	Acre	$215,324	1,140.95	Acre	$170,952
Cropland Conversion - Grass	3,023.93	Acre	$694,717	2,062.36	Acre	$468,763
Cropland Conversion - Trees	1,014.66	Acre	$78,341	809.46	Acre	$60,910
Christmas Tree Conservation Cover	208.70	Acre	$23,137	106.40	Acre	$11,965
Critical Area Planting	59.85	Acre	$117,733	29.03	Acre	$57,873
Diversion	20,998.04	Feet	$25,946	10,759.04	Feet	$18,053
Land Smoothing	1,363.35	Acre	$151,658	846.80	Acre	$89,223
Terraces	28,955.00	Feet	$29,284	18,665.00	Feet	$17,555
Pastureland Conversion To Trees	33.54	Acre	$2,137	31.24	Acre	$1,964
Stripcropping	23.00	Acre	$3,375	7.00	Acre	$1,575
Nutrient Scavenger Crop	1,785.37	Acre	$40,773	1,785.37	Acre	$25,742
Ag Road Repair-Stabilization	18.38	Acre	$175,981	8.60	Acre	$72,291
Conservation Tillage	43.20	Acre	$5,400	0.00	Acre	$0
Sediment/Nutrient Reduction						
sed Waterway	156.87	Acre	$314,450	72.22	Acre	$144,697
Border	148.82	Acre	$223,765	84.31	Acre	$121,497
ter Strip	56.50	Acre	$8,127	54.70	Acre	$6,590
Riparian Buffer	1,693.85	Acre	$150,737	1,240.98	Acre	$88,097
Water Control Structure	50.00	Units	$80,174	28.00	Units	$26,094
Nutrient Management	7,999.90	Acre	$139,282	3,610.10	Acre	$56,707
Rock-Lined Outlet	15.00	Units	$9,562	12.00	Units	$2,188
Streambank Stabilization	2,070.00	Feet	$103,784	540.00	Feet	$12,582
Grade Stabilization Structure	101.00	Units	$62,360	19.00	Units	$30,296
Wetlands Restoration System	1.00	Units	$10,057	0.00	Units	$0
Sediment Control Basin	1.00	Units	$3,315	0.00	Units	$0
Stream Protection						
Trough Or Tank	313.00	Units	$448,660	111.00	Units	$132,665
Livestock Exclusion	222,141.20	Feet	$267,819	67,805.20	Feet	$73,127
Heavy Use Area Protection	96.00	Units	$210,023	46.00	Units	$108,376
Stream Crossing	39.00	Units	$61,530	14.00	Units	$20,020
Stock Trail	38.40	Units	$112,804	16.00	Units	$44,702
Spring Development	54.00	Units	$85,654	30.00	Units	$36,355
Well	43.00	Units	$151,486	14.00	Units	$43,143
Livestock Feeding Area	4.00	Units	$17,453	0.00	Units	$0
Waste Management						
Dry Stack	42.00	Units	$664,201	17.00	Units	$203,347
Incinerator	81.00	Units	$465,983	36.00	Units	$151,736
Feed/Waste Storage	11.00	Units	$131,682	4.00	Units	$30,734
Hydrants	43.00	Units	$91,057	36.00	Units	$58,897
Closure - Waste Impoundments	8.00	Units	$131,408	4.00	Units	$23,177
Waste Application Equip	46.00	Units	$342,168	28.00	Units	$208,180
Waste Treatment Lagoon	1.00	Units	$35,818	1.00	Units	$35,818
Pads	1.00	Units	$1,771	1.00	Units	$1,771
Composter	5.00	Units	$55,386	3.00	Units	$36,720
Solid Set	2.00	Units	$22,610	1.00	Units	$5,711
ntrolled Livestock Lounging Area	1.00	Units	$3,678	0.00	Units	$0
try Incentive	24,648.00	Poun	$2,464	116,432.00	Pound	$822

NC Agriculture Cost Share Program
Practice Log Summary

Year : 2005
Program : CS, SE, CE

Best Management	Planned Units	Msr.	Cost	Implemented Units	Msr.	Cost
Storm Water Management	4.00	Units	$1,393	4.00	Units	$2,098
Mortality Freezers	1.00	Units	$1,875	1.00	Units	$1,875
Land Application (Dry)	1.00	Tons	$6,000	0.00	Tons	$0
Agri-Chemical Pollution Prevention						
Agri-Chemical Handling Facility	4.00	Units	$75,353	1.00	Units	$17,681
Chemigation Backflow Prevention	4.00	Units	$6,904	2.00	Units	$2,404
Contracts: 1,454 0200	0	Total:	$6,965,793		Total:	$3,462,681

	Value	Expended
Contract $:	$6,877,062	$3,446,662
Non-ACSP	$60,552	$24,095
Total $:	$6,937,614	$3,470,757

Dairy	3,430
Beef	8,449
Hogs	218,040
Horses	280
Broilers	4,854,425
Layers	83,000
Turkeys	368,551
Poultry	1,791,300
Sheep	42
Goats	129

Acres Affected	Acre	61,317.11
Soil Saved	Tons	160,467.72
Nitrogen Saved	Pound	1,296,624.50
Phosphorus Saved	Pound	188,728.63
Waste-N Managed	Pound	3,547,983.45
Waste-P Managed	Pound	3,383,977.15

Attachment C

Agriculture Cost Share Program 2005 contracts and Allocation by County

County	Number of 2005 Contracts	Amount	2005 Allocation
Alamance	50	$ 74,586	$ 80,576
Alexander	11	$ 84,482	$ 85,741
Alleghany	18	$ 134,398	$ 134,495
Anson	6	$ 66,439	$ 67,552
Ashe	11	$ 118,832	$ 119,660
Avery	22	$ 31,380	$ 45,606
Beaufort	22	$ 132,772	$ 139,865
Bertie	15	$ 64,236	$ 65,221
Bladen	13	$ 86,878	$ 86,878
Brunswick	10	$ 35,622	$ 39,723
Buncombe	17	$ 116,253	$ 134,639
Burke	9	$ 49,453	$ 68,183
Cabarrus	4	$ 27,251	$ 63,070
Caldwell	5	$ 53,904	$ 53,904
Camden	4	$ 47,871	$ 47,874
Carteret	1	$ 34,492	$ 40,350
Caswell	36	$ 94,254	$ 94,537
Catawba	4	$ 53,926	$ 61,396
Chatham	12	$ 102,430	$ 102,430
Cherokee	22	$ 71,691	$ 65,304
Chowan	10	$ 33,704	$ 80,080
[illegible]	7	$ 68,337	$ 83,734
[illegible]eland	6	$ 14,410	$ 63,121
Columbus	10	$ 65,313	$ 65,313
Craven	14	$ 54,111	$ 87,576
Cumberland	9	$ 78,264	$ 79,681
Currituck	2	$ 16,493	$ 17,500
Davidson	7	$ 60,083	$ 60,935
Davie	12	$ 56,378	$ 56,512
Duplin	29	$ 193,309	$ 193,708
Durham	10	$ 46,885	$ 47,026
Edgecombe	28	$ 85,068	$ 88,179
Forsyth	14	$ 69,288	$ 69,288
Franklin	22	$ 130,092	$ 130,940
Gaston	5	$ 44,323	$ 44,620
Gates	18	$ 55,329	$ 55,716
Graham	3	$ 18,688	$ 21,894
Granville	29	$ 62,213	$ 71,429
Greene	29	$ 88,756	$ 116,452
Guilford	31	$ 101,638	$ 123,283
Halifax	30	$ 140,412	$ 142,803
Harnett	34	$ 89,121	$ 91,300
Haywood	22	$ 87,777	$ 96,977
Henderson	14	$ 63,572	$ 82,133
Hertford	21	$ 56,208	$ 58,422
Hoke	5	$ 43,689	$ 48,000
Hyde	20	$ 86,770	$ 94,941
[illegible]edell	10	$ 92,285	$ 92,285
[illegible]kson	5	$ 19,333	$ 46,823

County	Number of 2005 Contracts	Amount	2005 Allocation
Johnston	30	$ 108,254	$ 108,128
Jones	9	$ 72,354	$ 78,799
Lee	12	$ 35,586	$ 38,118
Lenoir	58	$ 122,945	$ 148,706
Lincoln	10	$ 68,364	$ 68,734
Macon	3	$ 29,553	$ 36,217
Madison	42	$ 49,898	$ 69,898
Martin	17	$ 53,273	$ 56,095
McDowell	1	$ 13,060	$ 43,345
Mecklenburg	1	$ 552	$ 38,135
Mitchell	10	$ 67,712	$ 81,487
Montgomery	5	$ 68,419	$ 68,419
Moore	14	$ 155,566	$ 155,566
Nash	8	$ 102,044	$ 119,520
New Hanover	0	$ 0	$ 29,216
Northampton	37	$ 81,366	$ 85,572
Onslow	8	$ 58,451	$ 67,386
Orange	33	$ 104,934	$ 105,046
Pamlico	20	$ 85,361	$ 85,368
Pasquotank	8	$ 44,181	$ 44,181
Pender	18	$ 67,455	$ 69,428
Perquimans	10	$ 82,011	$ 84,319
Person	16	$ 51,304	$ 61,113
Pitt	40	$ 103,510	$ 115,910
Polk	5	$ 30,196	$ 33,542
Randolph	6	$ 94,121	$ 94,486
Richmond	8	$ 67,343	$ 70,440
Robeson	23	$ 76,221	$ 79,973
Rockingham	30	$ 71,676	$ 76,720
Rowan	15	$ 83,994	$ 85,511
Rutherford	15	$ 70,054	$ 70,498
Sampson	18	$ 108,161	$ 111,704
Scotland	13	$ 88,549	$ 87,911
Stanly	14	$ 91,025	$ 91,730
Stokes	11	$ 51,274	$ 58,436
Surry	19	$ 87,525	$ 87,907
Swain	5	$ 22,819	$ 29,327
Transylvania	4	$ 50,726	$ 50,726
Tyrrell	2	$ 30,000	$ 46,610
Union	8	$ 93,161	$ 98,816
Vance	18	$ 50,835	$ 51,239
Wake	27	$ 67,139	$ 72,377
Warren	32	$ 61,390	$ 65,828
Washington	4	$ 30,733	$ 55,000
Watauga	14	$ 95,173	$ 101,369
Wayne	19	$ 109,870	$ 114,604
Wilkes	10	$ 119,079	$ 119,079
Wilson	34	$ 85,272	$ 85,697
Yadkin	8	$ 86,666	$ 86,666
Yancey	12	$ 61,106	$ 67,294

ATTACHMENT D

NC AGRICULTURE COST SHARE PROGRAM
WATER QUALITY IMPROVEMENT PURPOSES OF APPROVED BMPs

Purpose: Sediment/Nutrient Delivery Reduction From Fields

BMP	Reduction of applied nutrient	Reduction of soil loss	Nutrient interception	Facilitating BMP	Life of BMP (yrs)
Field Border	-	√	√	-	10
Filter Strip	-	√	√	-	10
Grade Stabiliz. Structure	-	-	-	√	10
Grassed Waterway	-	√	√	-	10
Nutrient Mgmt.	√	-	-	-	3
Riparian Buffer	-	√	√	-	10
Rock-lined Outlet	-	-	-	√	10
Sediment Control Basin	-	-	√	-	10
Water Control Structure	-	√	√	-	10
Streambank Stabilization	-	√	√	-	10
Agricultural Road Repair/Stabilization	-	√	-	-	10

Purpose: Erosion Reduction/Nutrient Loss Reduction in Fields

BMP	Reduction of applied nutrient	Reduction of soil loss	Life of BMP (yrs.)
Conservation Tillage 3-yr	-	√	3
Critical Area Planting	-	√	10
Cropland Conversion	√	√	10
Water Diversion	-	√	10
Land Smoothing			10
Long Term No-till	-	√	5
Pastureland Conversion	√	√	10
Sod-based Rotation	√	√	4 or 5
Stripcropping	√	√	5
Terraces	-	√	10
Wetlands Restoration			10
Christmas Tree Conservation Cover	√	√	6
Nutrient Scavenger Cover Crop	√	√	10

Purpose: Agricultural Chemical Pollution Prevention

BMP	Interception of chemicals	Life of BMP (yrs.)
Agri-chemical Handling Facility	√	10
Chemigation Back Flow Prevention	√	10
Fertigation Back Flow Prevention	√	10

Purpose: Proper Animal Waste Management

BMP	Proper mgmt. of nutrients	Reduction of soil loss	Nutrient interception	Facilitating BMP	Life of BMP (yrs.)
Animal Waste Lagoon Closure	√	-	-	-	5
Constructed wetlands	√	-	√	-	10
Controlled Livestock Lounging Area	-	√	-	√	10
Dry Manure Stack	√	-	-	-	10
Feeding/Waste Storage					10
Heavy Use Area Protection	-	√	-	-	10
Insect Control	-	-	-	-	5
Odor Control	-	-	-	-	1-10
Storm Water Management	√	-	-	-	10
Waste Treatment Lagoon/Storage Pond	√	-	-	-	10
Mortality Management System	√	-	-	-	10
Waste Application System	√	-	-	√	10
Offsite/Alternative Dry Litter Incentive	√	-	-	-	1

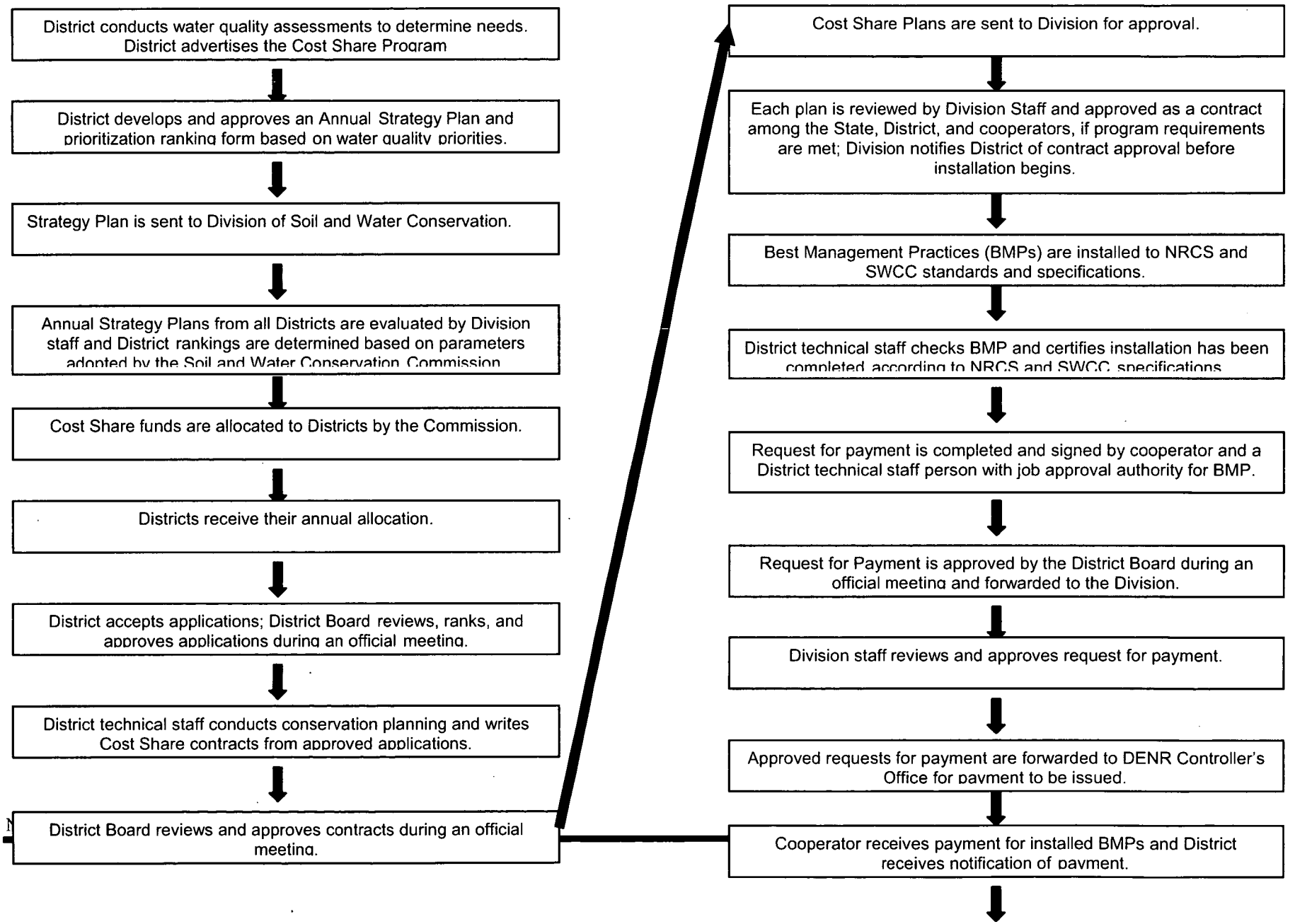
Purpose: Stream Protection from Animals

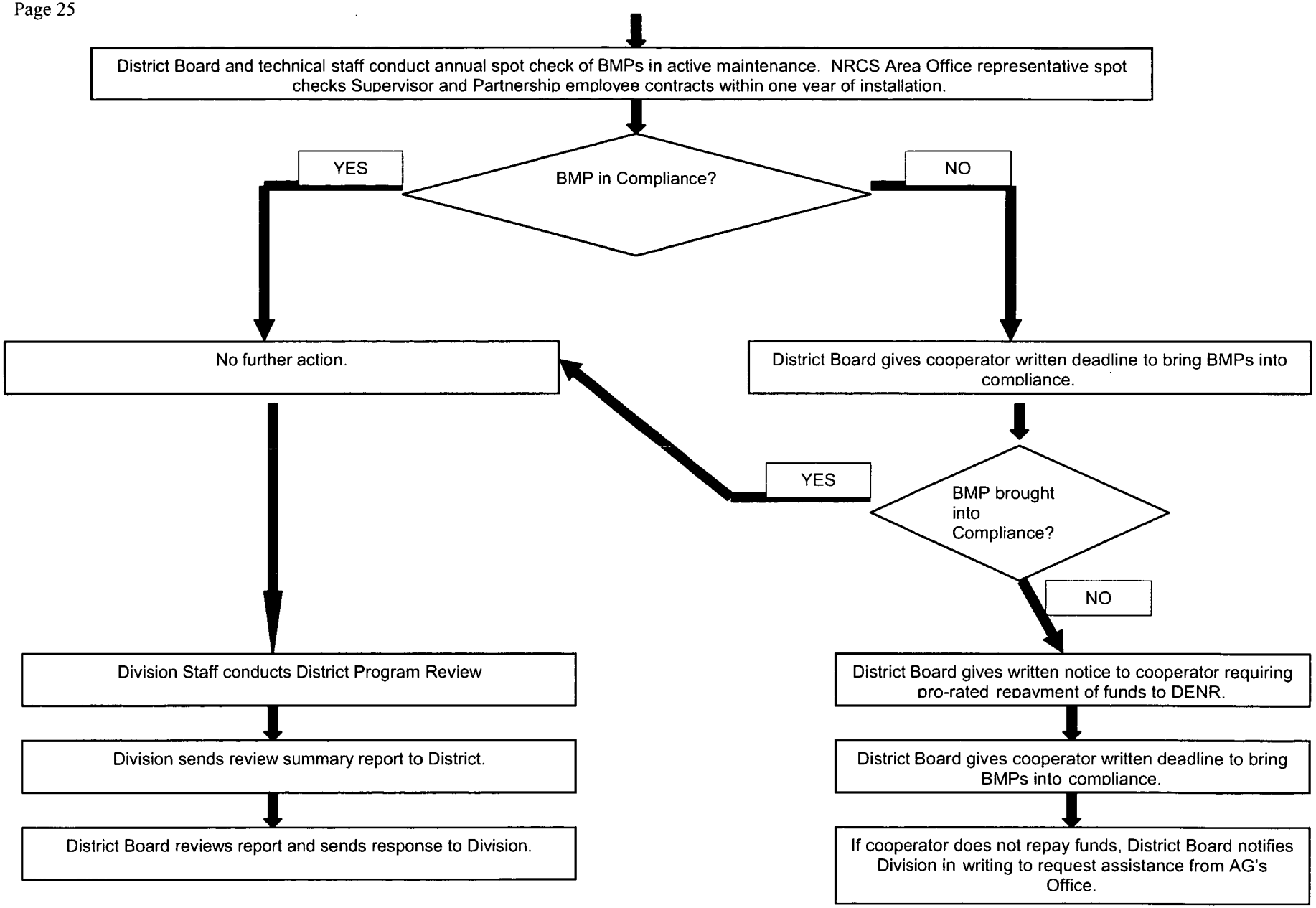
BMP	Reduction of applied nutrient	Reduction of soil loss	Facilitating BMP	Life of BMP (yrs.)
Heavy Use Area Protection	-	√	-	10
Livestock Exclusion System	√	√	-	10
Spring Development	-	-		10
Stock Trail	-	√	-	10
Stream Crossing		√	-	10
Trough or Tank	-	-	√	10
Well	-	-	√	10
Windmill	-	-	√	10
Livestock Feeding Area	-	-	√	10

Attachment E

NC Agriculture Cost Share Program

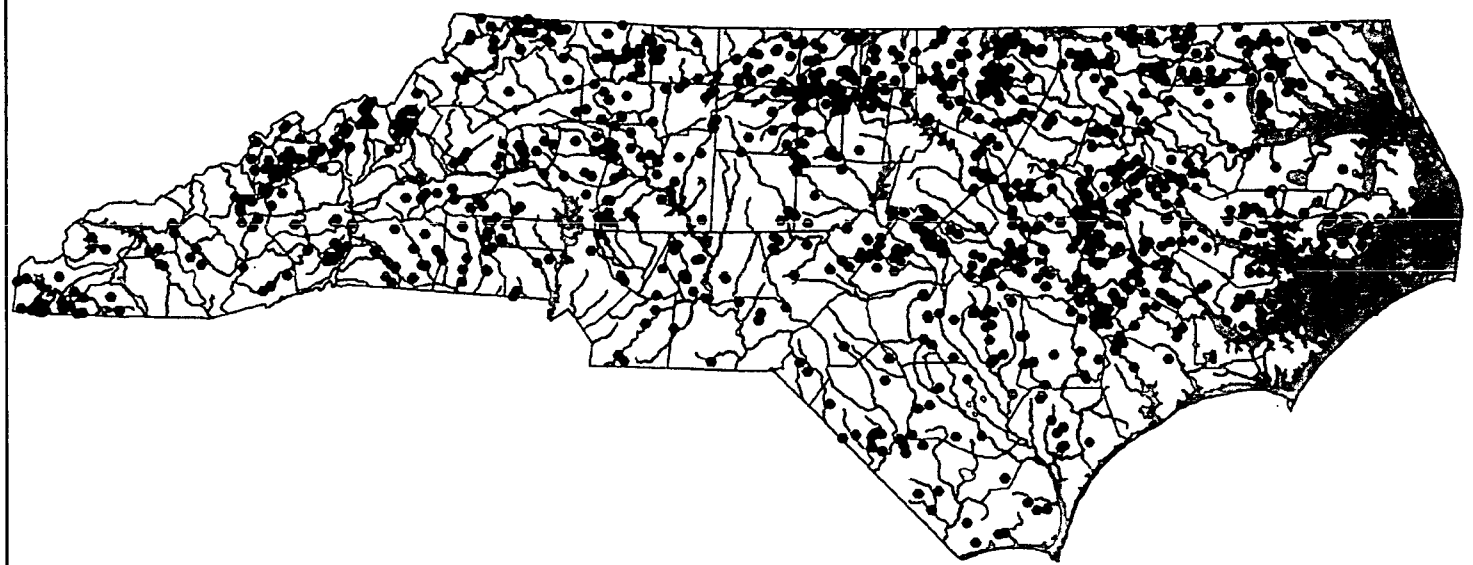
Funding and Compliance Process




District Board and technical staff conduct annual spot check of BMPs in active maintenance. NRCS Area Office representative spot checks Supervisor and Partnership employee contracts within one year of installation.
BMP in Compliance?
YES
NO
No further action.
District Board gives cooperator written deadline to bring BMPs into compliance.
YES
BMP brought into Compliance?
NO
Division Staff conducts District Program Review
Division sends review summary report to District.
District Board reviews report and sends response to Division.
District Board gives written notice to cooperator requiring pro-rated repayment of funds to DENR.
District Board gives cooperator written deadline to bring BMPs into compliance.
If cooperator does not repay funds, District Board notifies Division in writing to request assistance from AG's Office.

Attachment G

Best Management Practices
Project Locations 2005



BMP Projects 2005
Major Hydrography
County Boundaries

0 40 80 160 Miles

Points represent a point within project boundaries based on data collected by the NC Division of Soil and Water Conservation. This data set represents 1,173 projects in the database installed in 2005, excluding 359 projects that were missing accurate latitude/longitude data.

N

December 2, 2005

Attachment F

Best Management Practices
2005 Project Locations Within NC River Basins



0 62.5 125 250 Miles

N
W E
S

Legend

- bmp_2005points
- major_hydrography_arcs
- major_hydrography_polys

huncrb

- <all other values>

RIVBASIN_N

- BROAD
- CAPE FEAR
- CATAWBA
- CHOWAN
- FRENCH BROAD
- HIWASSEE
- LITTLE TENNESSEE
- LUMBER
- NEUSE
- NEW
- PASQUOTANK
- ROANOKE
- SAVANNAH
- TAR-PAMLICO
- WATAUGA
- WHITE OAK
- YADKIN

Points represent a point within project boundaries based on data collected by the Division of Soil and Water Conservation. This data set represents 1,173 projects in the database installed in 2005, excluding 359 projects that were missing accurate latitude/longitude data.

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Development of Environmentally Superior Technologies - NC Attorney General Agreements with Smithfield Foods, Premium Standard Farms, and Frontline Farmers

Findings Reported to the North Carolina Environmental Review Commission – March 8, 2006

C.M. (Mike) Williams, Ph.D.

Agreements' Designee

College of Agriculture and Life Sciences

North Carolina State University

EXHIBIT E

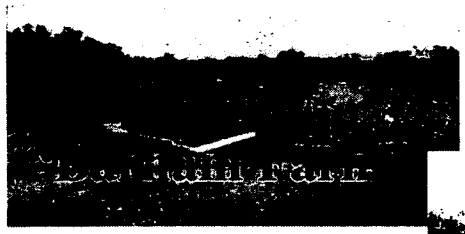
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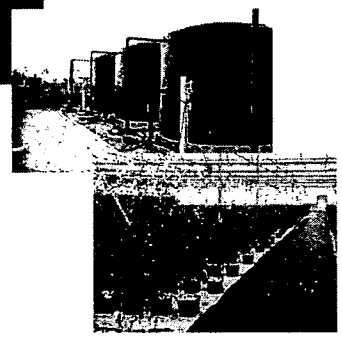
Agreements - Background

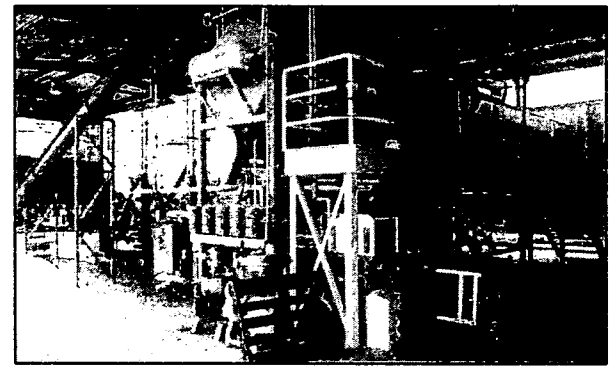
- **Smithfield Foods (July 2000) - $15 million for development of "Environmentally Superior Technologies" (EST); $50 million for "environmental enhancement" activities**
- **Premium Standard Farms (September 2000) – $2.5 million ($2.3 for EST)**
- **Frontline Farmers (March 2002) - "use its best efforts and influence to encourage its members to convert to economically feasible EST"**
- **Agreements' "Designee" responsible for "Technology Determinations" – a written determination re findings relative to EST**

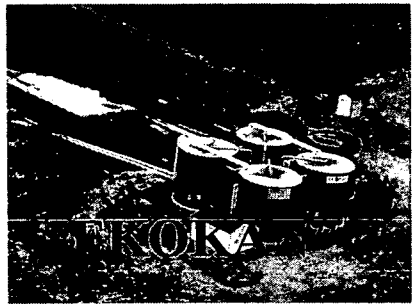
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Phase 1 Technology Determination Rpt. issued July 2004 (8 technologies covered); also included quantification of environmental standards







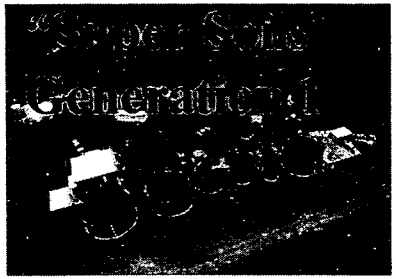








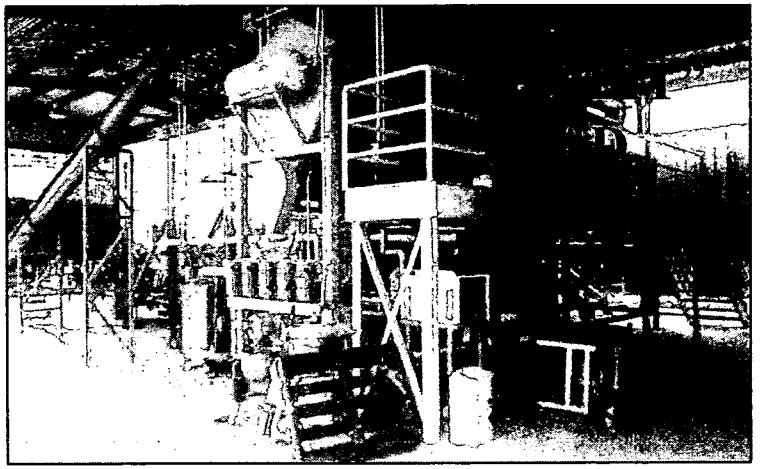




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Phase 1 (July 2004) Technology Determination findings: 2 Contingent EST





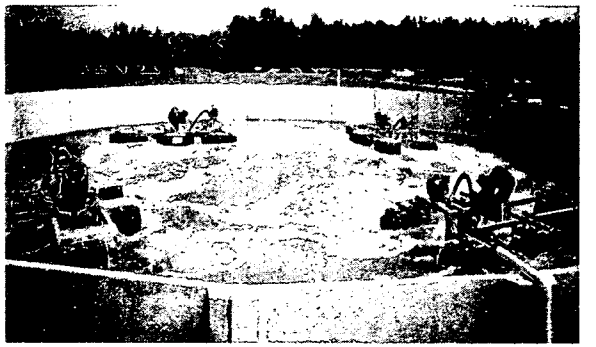
Contingencies

- Economics
- Environmental performance re 2nd generations and steady state operations

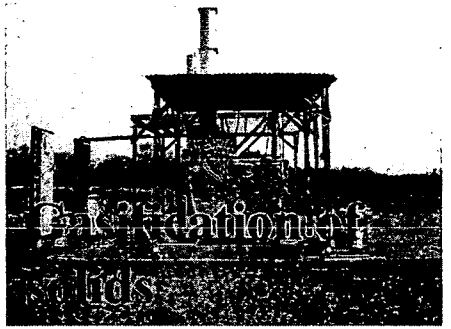
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Phase 2 Technology Determination Report July 2005 (7 technologies covered)



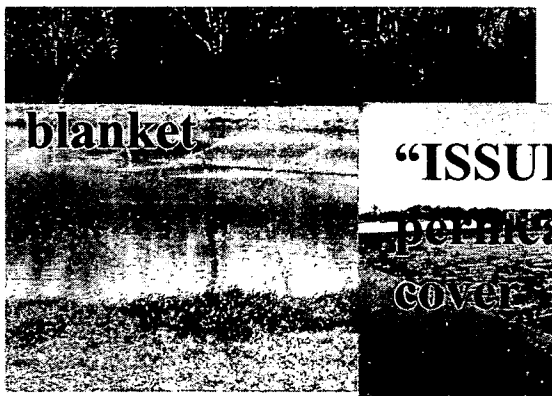


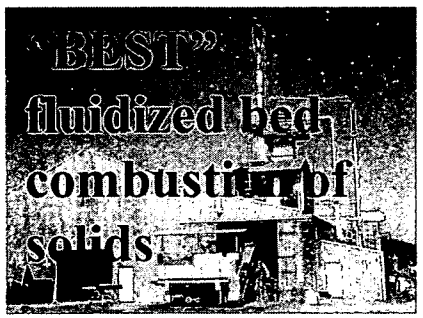










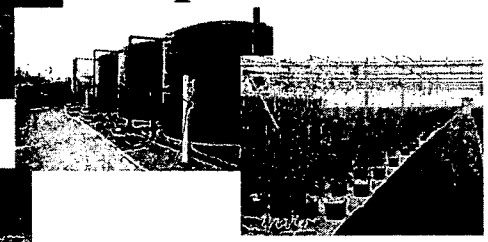


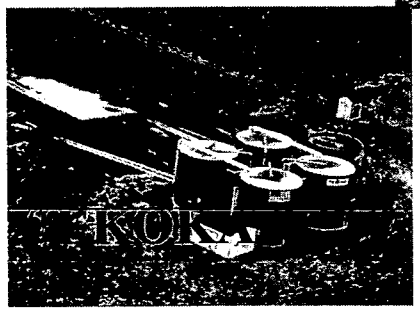


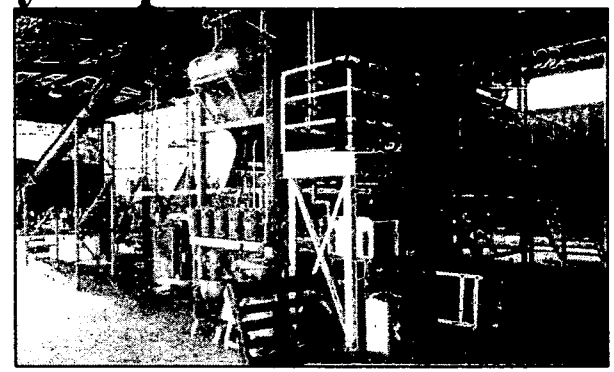
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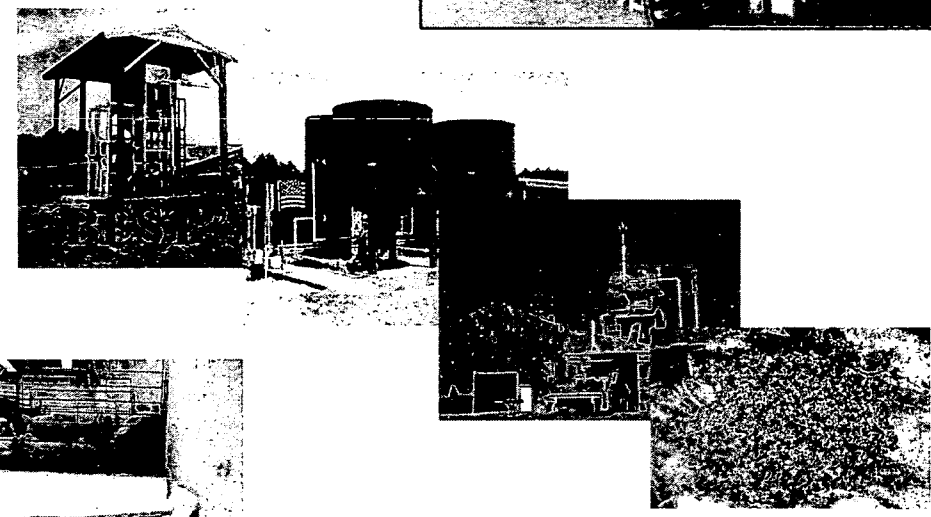
Phase 2 Technology Determination Report also included costs-returns data for original 8 technologies and industry impact economic report

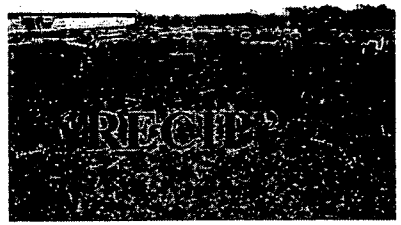


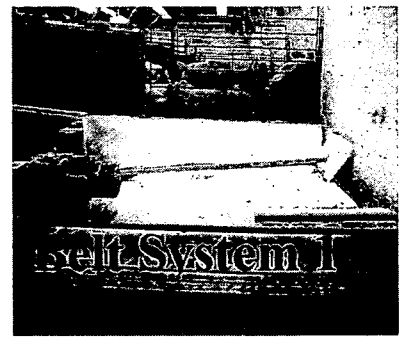


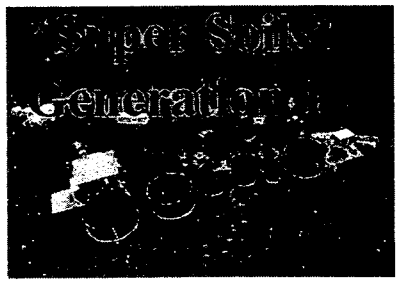










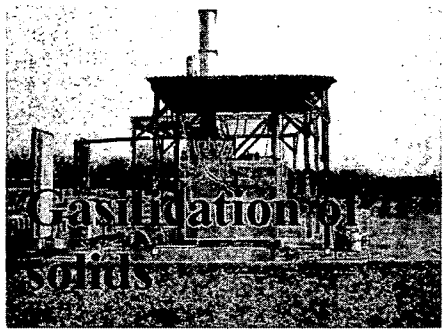


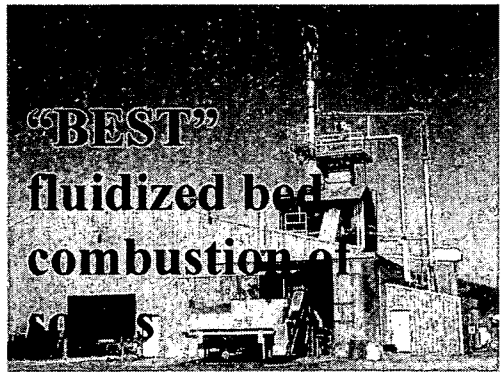


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Phase 2 Technology Determination findings: 3 additional contingent EST





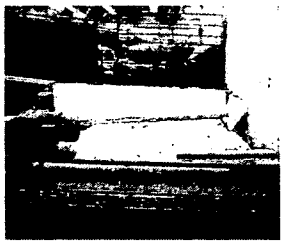


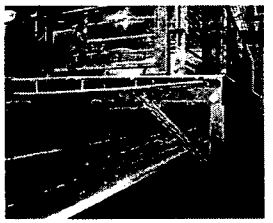
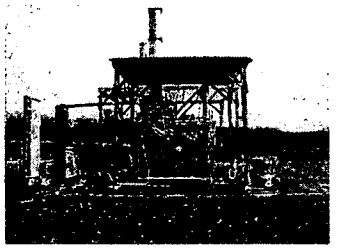
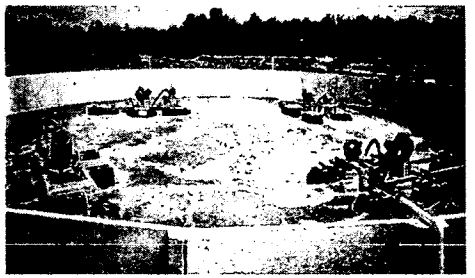
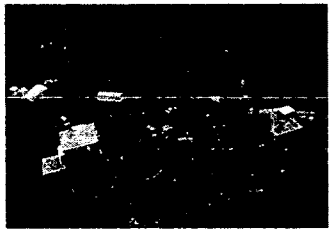
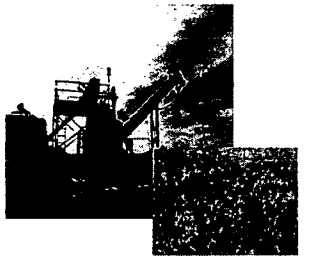
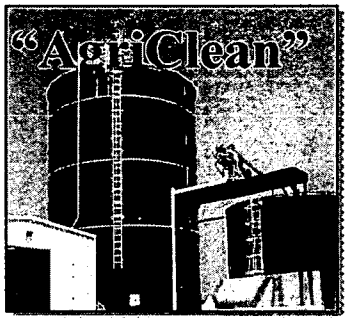
Contingencies

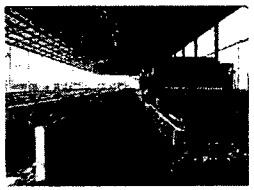
- Economics
- Permits

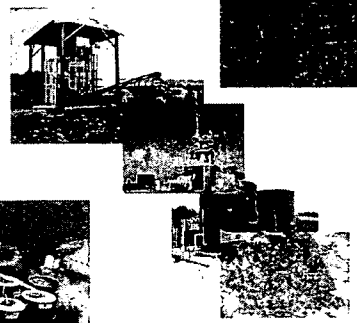
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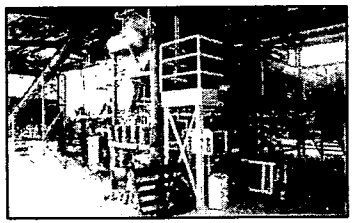
March 8, 2006 Phase 3 Technology Determination Report includes detail findings for 2 additional technologies and overview of all technologies and findings relative to EST standards.

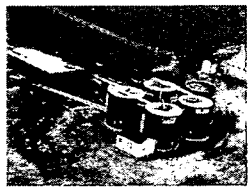







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Environmentally Superior Technologies defined:

- **"permittable by the appropriate governmental authority**
- **determined to be technically, operationally, and economically feasible for identified categories of farms**
- **meets the following performance standards…"**

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Performance Standards (Ref: General Assembly of North Carolina, Session 1997, Session Law 1998-188, House Bill 1480)

- "Eliminate the discharge of animal waste to surface waters and groundwater through direct discharge, seepage, or runoff;
- Substantially eliminate atmospheric emissions of ammonia;
- Substantially eliminate the emission of odor that is detectable beyond the boundaries of the parcel of land on which the swine farm is located;
- Substantially eliminate the release of disease-transmitting vectors and airborne pathogens;
- Substantially eliminate nutrient and heavy metal contamination of soil and groundwater"

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Economic Feasibility Determination

- **Projected 10 year annualized cost of the technology (including capital, operation and maintenance) per 1000 # steady state live weight for each category of farm system**
- **Compared to lagoon and spray-field system**
- **Projected revenues, including income from byproducts**
- **Available cost-share monies or other financial assistance from federal, state or other public sources**
- **Impact that the adoption of the technology may have on the competitiveness of the NC pork industry**
- ***ID/quantification (if possible) of emissions to environmental media from each category of farm system implementing the technology as compared to lagoon and spray-field system***
- ***Estimate of the economic benefits to NC households arising from the changes in emissions to environmental media resulting from implementation of the technology***

(not mandated in Agreements)

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Advisory Panel Representation

- Government
- Environmental interests
- Community Interests
- Companies
- Individuals with expertise in: animal waste management; environmental science and public health; economics; and business management

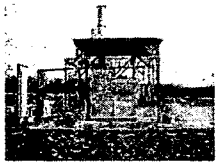
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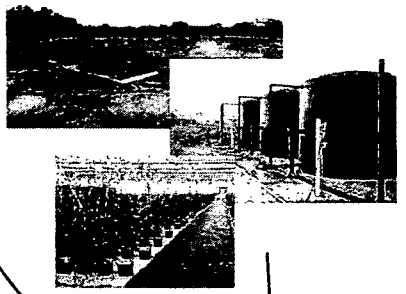
Advisory Panel Membership

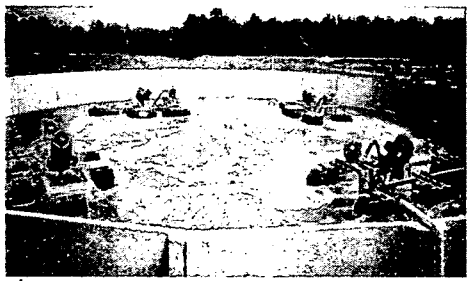
- Katy Ansardi; Sustainable NC
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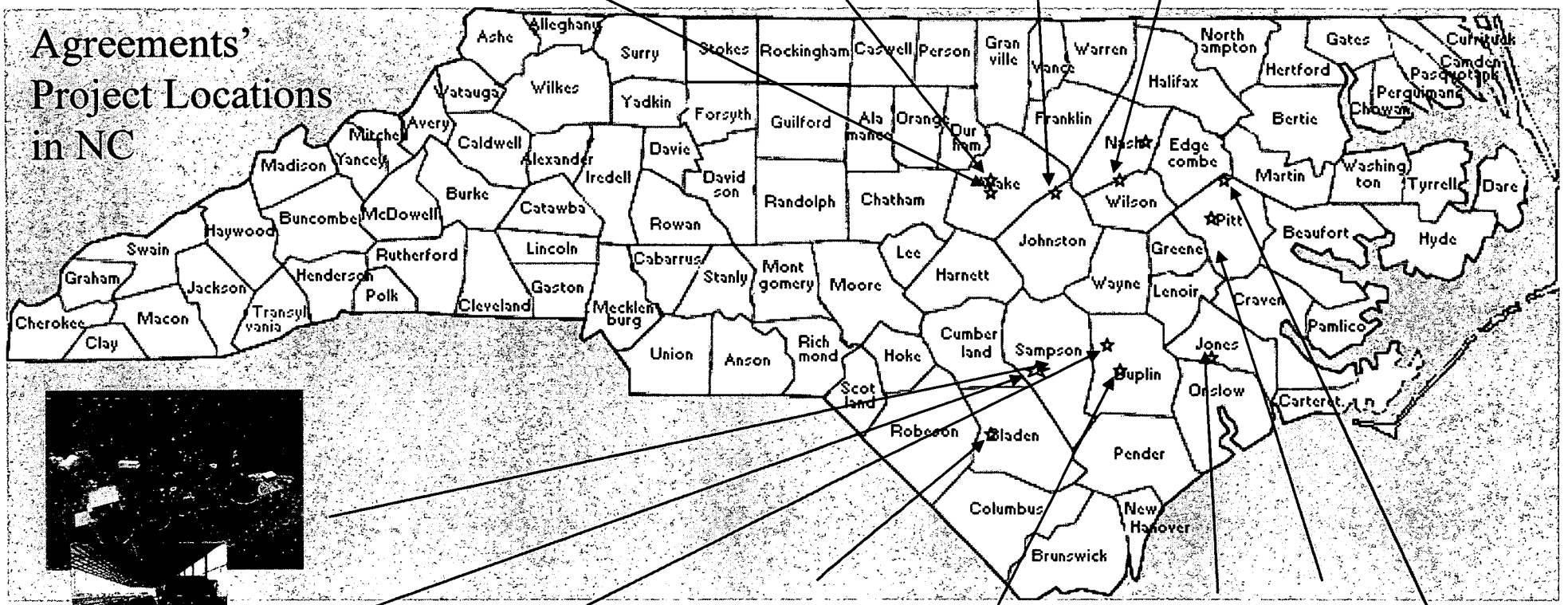








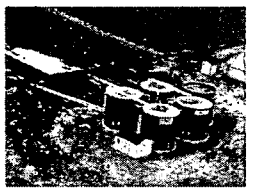
Agreements' Project Locations in NC



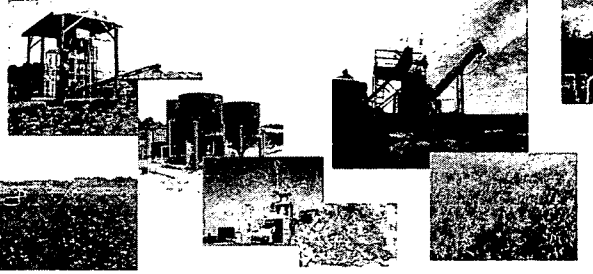




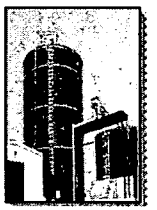








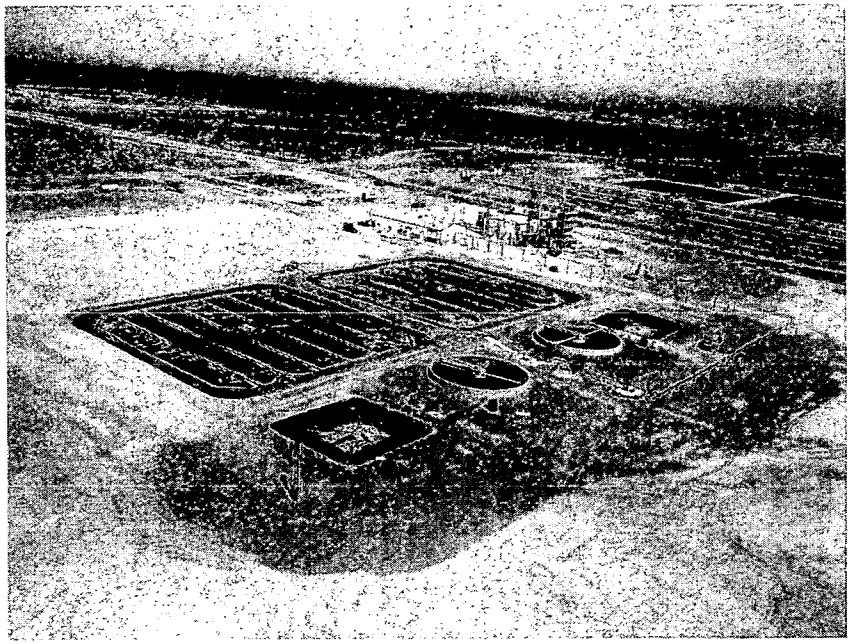


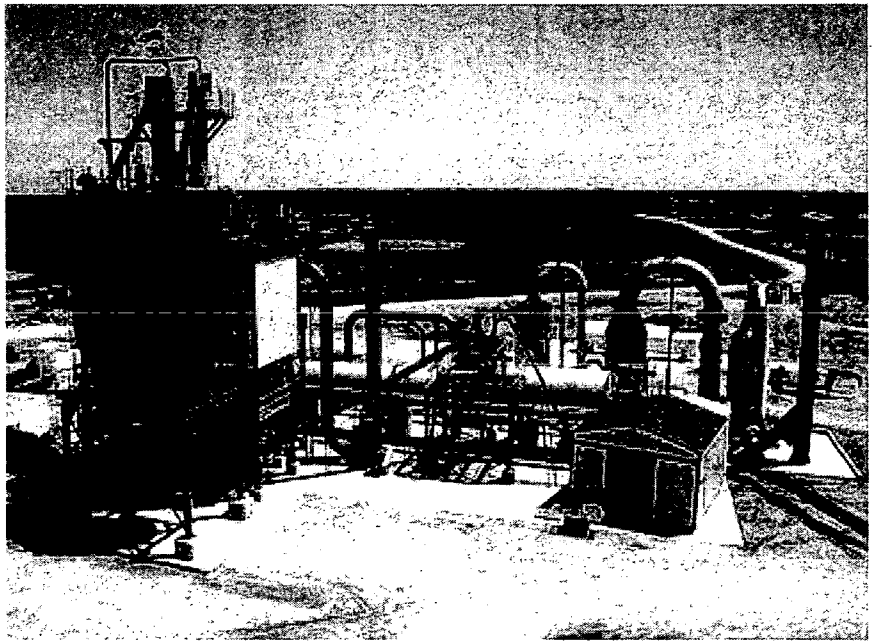


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Smithfield

Premium Standard FARMS





Smithfield bio fuel from manure project in Utah and PSF Crystal Peak Farms fertilizer from manure project in Missouri. NC EST models proposed.

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Project Principal Investigators

- Viney Aneja, NCSU MEAS
- Pal Arya, NCSU MEAS
- Adrian Atkinson, NCSU ARE
- Craig Baird, NCSU BAE
- Bert Bock, TVA
- Len Bull, NCSU APWMC
- Preston Burnette, NCSU ANS
- Gary Burtle, Univ. GA
- Jay Cheng, NCSU BAE
- Jan Chvosta, NCSU ARE
- John Classen, NCSU BAE
- Kurt Creamer, NCSU APWMC
- Dave Dickey, NCSU STAT
- Robert Dove, Univ. GA
- Aprel Ellison, USDA-ARS
- Brevick Graham, Duke Med Center
- Frank Humenik, NCSU BAE
- Pat Hunt, USDA-ARS
- Deug-Soo Kim, NCSU MEAS
- Jeanne Koger, NCSU ANS
- Sarah Liehr, NCSU BAE
- Christina Likirdopulos, UNC-CH ESE
- Michele Marra, NCSU ARE
- Patricia Millner, USDA-ARS
- Kathleen Mottus, UNC- CH ESE
- Briam Murray, RTI
- Larry Newton, Univ. GA
- Shabnam Qureshi, UNC-CH ESE
- Mary Peet, NCSU HS
- Mark Rice, NCSU BAE
- Mitch Renkow, NCSU ARE
- Wayne Robarge, NCSU Soil Sci.
- Ian Rumsey, NCSU MEAS
- Susan Schiffman, Duke Med Center
- Craig Sheppard, Univ. GA
- Chip Simmons, UNC-CH ESE
- Mark Sobsey, UNC-CH ESE
- Len Stefanski, NCSU STAT
- Ariel Szogi, USDFA ARS
- Lori Todd, UNC-CH ESE
- Theo VanKempen, NCSU ANS
- Matias Vanotti, USDA-ARS
- Wes Watson, NCSU ENT
- Phil Westerman, NCSU BAE
- Lynn Worley-Davis, NCSU APWMC
- Michael Wohlgenant, NCSU ARE
- Ada Wossink, NCSU ARE
- Kelly Zering, NCSU ARE

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Technology Determination: data requirements

Performance Data

- Project PI report
- OPEN team report
- ECON team report

Project PI report focus is on treatment system unit components

- Partitioning and fate (conversion or removal) of: solids, organics, N, P, Cu, Zn
- Operational feasibility (problems encountered, trained operator requirement, frequency and duration of operator on site, etc.)

OPEN team report focus is on emissions of:

- odor
- pathogens
- ammonia

ECON team report focus is on technology unit costs/returns and industry impact

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Technology Determination: process

1. Draft reports from Project Investigators, OPEN, ECON teams
2. Draft review by panel and technology supplier
3. Investigators consider review input and finalize reports
4. Panel review / discussion
5. Designee prepares Technology Determination Draft
6. Panel review / discussion
7. Technology Determination Final Reports (Phase 1, 2, 3)

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Performance Standards (Ref: General Assembly of North Carolina, Session 1997, Session Law 1998-188, House Bill 1480)

- "Eliminate the discharge of animal waste to surface waters and groundwater through direct discharge, seepage, or runoff;
- Substantially eliminate atmospheric emissions of ammonia;
- Substantially eliminate the emission of odor that is detectable beyond the boundaries of the parcel of land on which the swine farm is located;
- Substantially eliminate the release of disease-transmitting vectors and airborne pathogens;
- Substantially eliminate nutrient and heavy metal contamination of soil and groundwater"

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Advisory Panel Membership

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- Don Butler; Murphy-Brown, LLC
- Kim Colson; NCDENR
- Bundy Lane; Frontline Farmers, Inc.
- Steven Leath; NCSU, NC Agricultural Research Service
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Engineering Subcommittee
Chair: Paul Sherman

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Eliminate the discharge of animal waste to surface waters and groundwater through direct discharge, seepage, or runoff.

All wastewater-holding structures must have a mechanism for containing the flow rate of the largest pump in the system for the maximum amount of time that an operator will not be on-site.

Technologies should contain less than the volume equivalent of one month of flow in concentrated waste prior to complete treatment.

Any earthen structures should be designed and constructed to current Natural Resource Conservation Service (NRCS) standards and have a maximum hydraulic conductivity of 1.25×10^{-6} cm/sec.

Structures, other than earthen, should be designed and constructed using proper engineering practices to eliminate seepage. Solids storage structures should meet current NRCS design standards.

Land application of treated wastewater or solids should be based on realistic crop yield expectations, land application setbacks, buffers, and hydraulic loading rates that at a minimum maintain compliance with current NRCS, Local, State, and Federal standards and/or requirements.

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Substantially eliminate atmospheric emissions of ammonia.

Approximately 80% reduction, as compared to a typical swine farm, of ammonia emissions from waste storage/treatment components and land application areas.

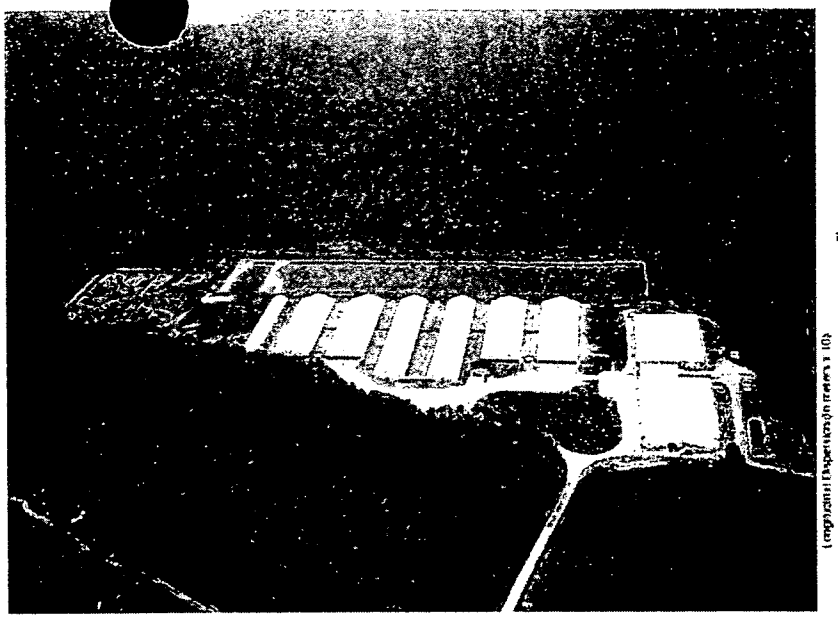
System must also target reduction of ammonia from the barns.

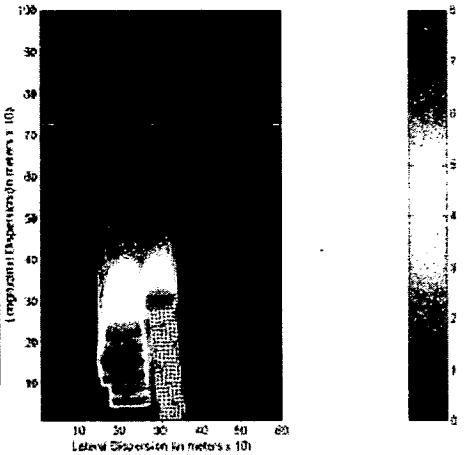
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Substantially eliminate the emission of odor that is detectable beyond the boundaries of the parcel or tract of land on which the swine farm is located.

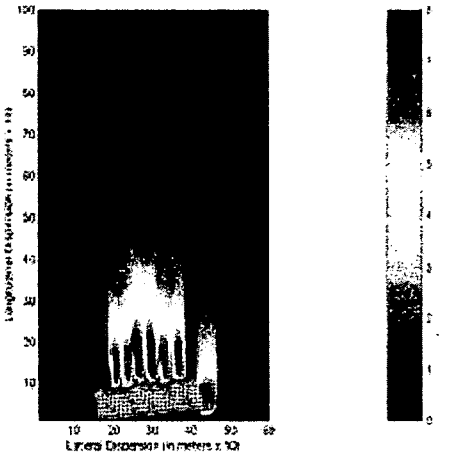
Odor intensity levels, measured using an index scale from 0-8, should not exceed the established metric of 2 (or equivalent) at a property line on which the swine farm is located.

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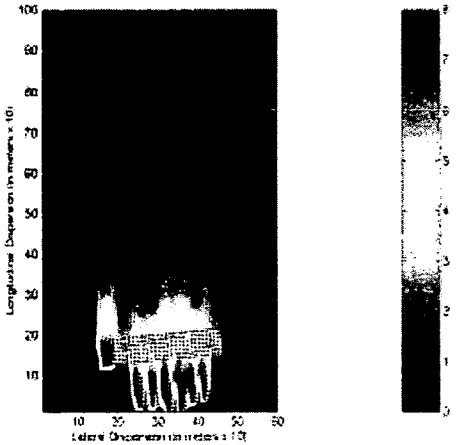




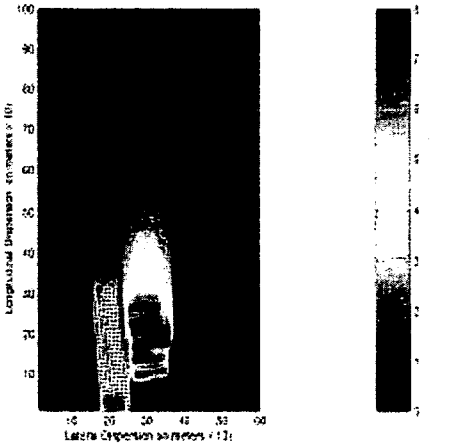
East



North



South



West

Spatial distribution of odor and odorants downwind from Barham farm during daytime

Eulerian- Lagrangian model to simulate odor dispersion

$y = 33.546\ e^{x}$

x = odor intensity (0-8)

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Substantially eliminate the release of disease-transmitting vectors and airborne pathogens.

Approximately 4 log reductions of pathogens (microorganisms documented to be of human health concern) in the treated liquid and solid waste stream, as compared to concentrations of the pathogens in raw manure.

All components of the waste management system (technology treatment, fate of farm generated solids, method and location of land application of liquid and/or solids, etc.) are considered factors for pathogen reductions.

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Pathogens and Indicators Measured on Candidate EST and Conventional Farm Sites

Waste Stream (liquid/solids) and Environmental Samples

- Fecal Coliform bacteria
- *E. coli*
- *Enterococci*
- Total coliphage (viruses)
- *Clostridium perfringens* spores
- *Salmonella*

Air Samples

- Fecal Coliform bacteria
- *E. coli*
- Total coliphage (viruses)
- *Clostridium perfringens* spores
- *Salmonella*
- Total aerobic bacteria
- Total fungi
- Bacterial endotoxins

* contracted to Peter Thorne, University of Iowa

UNC SCHOOL OF PUBLIC HEALTH

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Substantially eliminate nutrient and heavy metal contamination of soil and groundwater.

System should reduce total nitrogen mass by 75% and total phosphorus, copper and zinc mass by 50% from influent levels for the whole farm.

Current NC NRCS Nutrient Management Standard 590 must be met, including added considerations of current realistic yield expectations, individual plant available nitrogen calculations, NC Phosphorus Loss Assessment Tool (PLAT) evaluation to determine phosphorus loss and application rates, and metal soil index threshold warnings.

Where on-farm resources (i.e. available land) are not sufficient to meet these described standards, reductions may be met by transporting the nutrients off the farm, and/or animal diet modification.

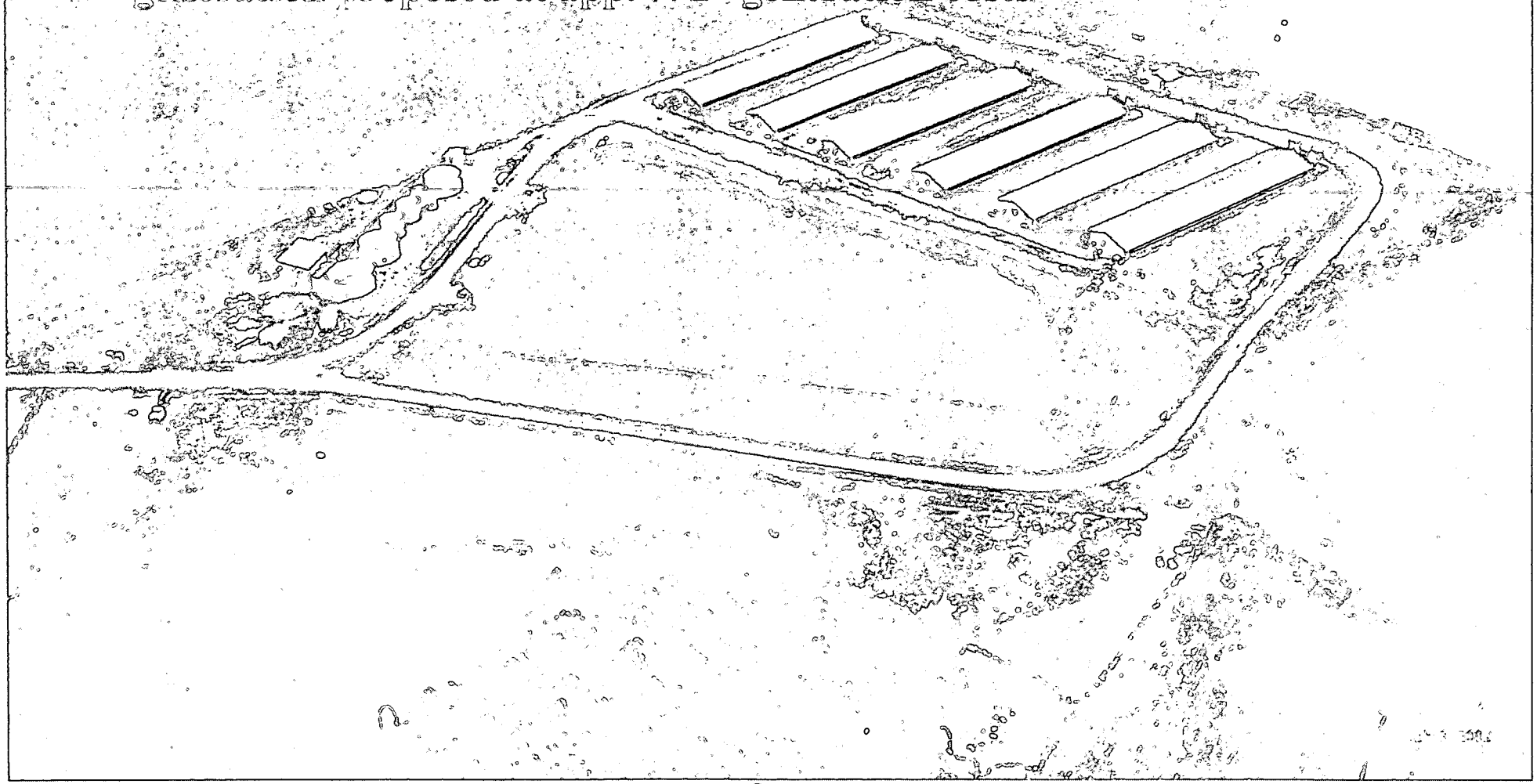
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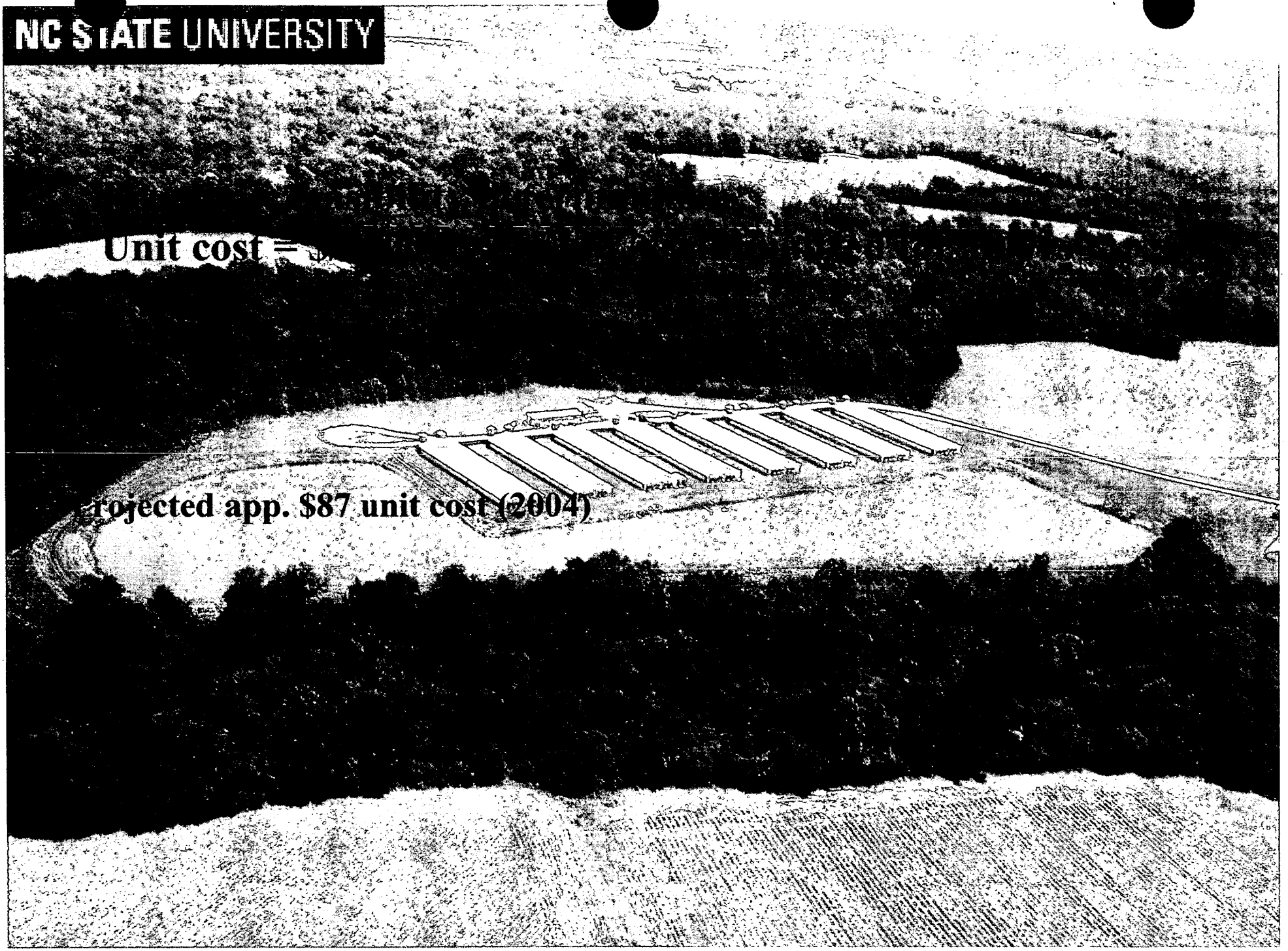
Economic feasibility determination

Unit cost = $/1000 lbs. SSLW/yr/annualized for 10 yrs

1st generation measured costs-returns ~ $400

2nd generation proposed at app. ¼ 1st generation costs




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Unit cost =
rojected app. $87 unit cost (2004)

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"Super Soils": Finishing operation, 4,000 head, 6 houses, 10,000 gal/d waste stream flow. 1st generation data

Parameter	Environmental data values
COD	97% reduction
Solids	98-99% reduction
Ammonia	99% reduction
Phosphorus	95% reduction
Pathogens	1.4-4.4 Log10 reductions
Odor – 200m from source	2.1 of 8 intensity (8=max)
Odor – 400m from source	1.3 of 8 intensity (8=max)

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Economic Feasibility Determination

- **Projected 10 year annualized cost of the technology (including capital, operation and maintenance) per 1000 # steady state live weight for each category of farm system**
- **Compared to lagoon and spray-field system**
- **Projected revenues, including income from byproducts**
- **Available cost-share monies or other financial assistance from federal, state or other public sources**
- **Impact that the adoption of the technology may have on the competitiveness of the NC pork industry**

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Economic Feasibility Analysis

STAGE I

DATA COLLECTION FOR TECHNOLOGIES AND BASELINE

Detail Technology Descriptions

Experiment Invoices

Operating Cost and Return Data

Performance Data

Design Parameters And Assumptions
- -Experiments
- -Literature
- -Industry Experts

STAGE II

COST MODELING

Technology Design Equations

Adjusted Standardized Prices, Flows and Concentrations

Component Prices

By-Product Prices

STAGE III

PREDICTED COST

Incremental Cost and Return Calculations For Size-Type Categories

Input to Task 2 (Industry Impact)

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Technology	Annualized Cost[1] ($ / 1,000 lbs. SSLW / year)
Baseline (lagoon and sprayfield)	**$86.81**
On-Farm Complete Systems	**Annualized Incremental Cost[1] ($ /1,000 lbs. SSLW / year)**
AgriClean	Insufficient data
ANT Sequencing Batch Reactor (SBR)	$221.43
Barham Farm	$89.17
Belt System	$89.39
BEST (FAN + TFS)	$114.56
BEST (Filtramat + TFS)	$146.50
Constructed Wetlands	$168.05
EKOKAN	$342.26
Environmental Technologies (Sustainable NC-Frontline Farmers)	$136.70
ISSUES Aerobic Blanket System (ABS)	$103.26
ISSUES Permeable Cover System (PCS)	$122.71
ISSUES RENEW	$125.79
Re-Cip	$143.21
Super Soils	$399.71

Separated Solids Treatment Systems (Add-On Technologies)[2, 3] (assumes 0.43 dry tons of solids collected / 1,000 lbs. SSLW / year)	**Annualized Incremental Cost[1] ($ / 1,000 lbs. SSLW / year)**
BEST Idaho (centralized fluidized bed combustion facility)	$255.68
Gasifier (RE-Cycle)	$76.33
High Solids Anaerobic Digester (ORBIT)	$373.22
Insect Biomass from Solids (black soldier fly)	Insufficient data
Super Soils Composting Facility	$83.27

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Industry impacts: Econ investigator's assessment

Incremental Cost[2]	Predicted Short Run Reduction	Predicted Intermediate Run Reduction	Predicted Long Run Reduction	Predicted Annual Cost Incurred by Remaining Producers[3]
$ /1,000 pounds SSLW / year	% reduction in North Carolina market quantities (1,000 pounds of weight marketed per year)			$ / year
$440.89	15.5%	49.1%	62.7%	$384,662,000
$396.80	14.0%	44.2%	56.4%	$366,763,000
$352.71	12.4%	39.3%	50.2%	$345,338,000
$308.62	10.9%	34.4%	43.9%	$319,953,000
$264.53	9.3%	29.5%	37.6%	$290,743,000
$220.45	7.8%	24.6%	31.3%	$256,475,000
$176.36	6.2%	19.7%	25.1%	$215,841,000
$132.27	4.7%	14.7%	18.8%	$170,141,000
$88.18	3.1%	9.8%	12.5%	$118,936,000
$44.09	1.6%	4.9%	6.3%	$62,224,000

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Economics Subcommittee
Chair: Richard Whisnant

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Requests to Econ. Subcommittee

- Consideration of information provided in the costs-returns and market impacts reports
- Quantitative recommendations relative to mandated economic feasibility requirements
- Assessment of how EST implementation schedule impacts "determination of economic feasibility'

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Economics Subcommittee Consensus Findings

- Designee should **consider economic versus financial points of view regarding feasibility** – e.g. in addition to the financial consequences which focus on payments made by farmers, the Agreements require attention to the true economic consequences, including non-monetized commitment of resources.
- **The economic models** used to determine the costs-returns and predicted impact on the competitiveness of the industry when utilizing the determined EST costs **are well reasoned and well justified and thoroughly conducted** but **include uncertainty and many assumptions** (the same conclusions were derived by external ad hoc reviewers).
- In consideration of **who makes up the North Carolina pork industry**, Designee should consider **any and all business entities physically located in North Carolina that generate their income from either the production of live swine or the meat packing of pork**.
- It is economically appropriate to **implement EST in phases, allowing pilot testing and refinement of the technologies before they are adopted industry wide. New farm categories and company owned farms are appropriate and obvious candidates** for this approach.
- The **time frame for adoption of EST is important relative to the time value of money and assessing economic feasibility,** e.g. additional time for implementation reduces the economic impacts on North Carolina swine herd size.

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Economics Subcommittee Non-Consensus Findings

- **Competitiveness does not mean maintaining the present North Carolina hog inventory size** and **does not mean avoiding any net increase in waste handling costs. Designee should consider** that implementation of EST that has **a predicted economic consequence of reducing the North Carolina swine herd by 12% economically feasible.** This is, in part, justified based on precedent established by the North Carolina General Assembly upon adoption in 1993 of the so called ".0200 Rules", which were predicted to result in 12% of the State's swine operations not remaining in business.
- **Institutional considerations should be studied in consideration of EST implementation planning**, e.g. **an institution created to oversee technology transition**, tradable permits, etc. would ensure that widespread conversion occurs in the most economically feasible manner possible.

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Economics Subcommittee Non-Consensus Findings

- The **Agreements did not seek to close farms or otherwise reduce herd size** in North Carolina.
- A hog production entity **becomes non-competitive** when its inability to fund **production results in lost market share** and an **EST is economically feasible if and only if the commercial application of the technology in only North Carolina has no adverse affect, e.g. no net increase in cost or reduction in herd size**, on the fiscal competitiveness of North Carolina operations as compared to pork operations in all other states.
- **Byproduct revenue** from EST **must exist to offset any higher operating and capital costs** of the EST and the best opportunity for the candidate EST studied is fossil fuel substitutes.

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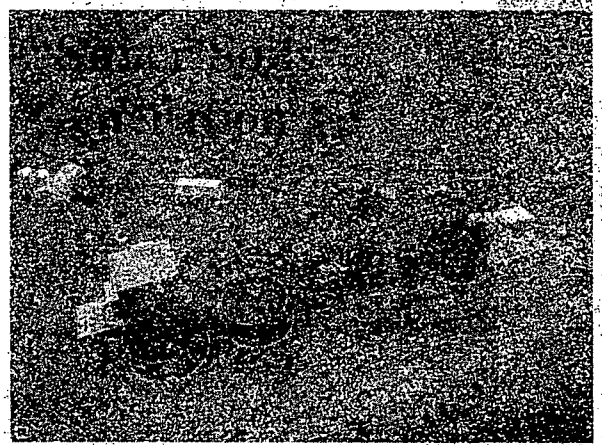
EST Economic Feasibility defined by Designee:

A technology may be economically feasible even though it would impose incremental cost increases on the North Carolina swine industry and potentially result in a reduction in swine herd size in North Carolina. Technologies will be considered candidates for EST Determinations only if the maximum predicted reduction in herd size resulting from implementation would not exceed 12 percent.

The Designee will be responsible for determining whether the predicted herd size reduction that would result from the implementation of a technology is sufficiently accurate to consider it a candidate for determination as an EST. The Designee will also be responsible for determining, and limiting his determination and implementation recommendations to a category, or categories of farms, to ensure that an EST Determination would not result in unintended negative impacts and consequences for other farms which are dependent on the EST farms for their ongoing supply of production animals.

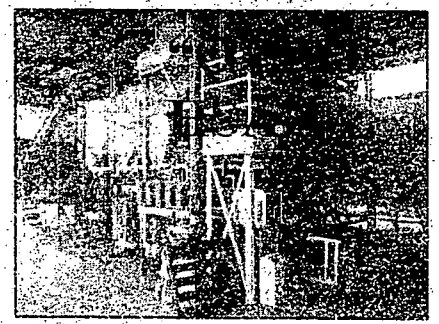
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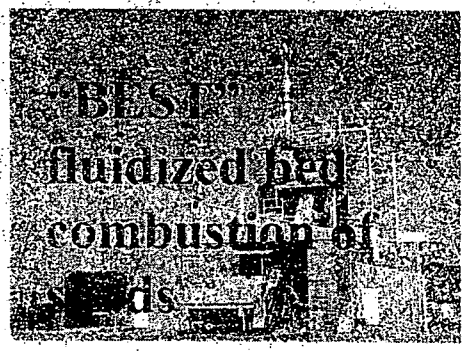
Phase 3 Technology Determination findings: 5 EST for new farm categories











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Farm categories

New farm category: farms using EST on sites that have not been used previously for the production of swine ("Greenfields"); construction of new swine facilities using the EST on farms which previously housed swine, but which are no longer permitted for that purpose; and expansions (for purposes of increasing permitted herd size) of existing swine farms using the EST to treat waste for new construction on such existing swine farms. In the case of expansions, this determination applies only to the waste generated from the expansion.

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Farm categories

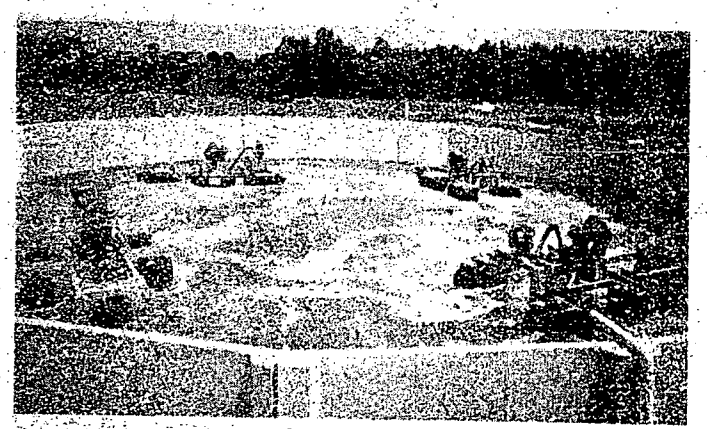
Existing farm categories: Contingent EST, as described in the July 2004 and 2005 technology determination reports, have not at the current time met economic feasibility conditions required for unconditional EST to be implemented onto existing farm categories in North Carolina.

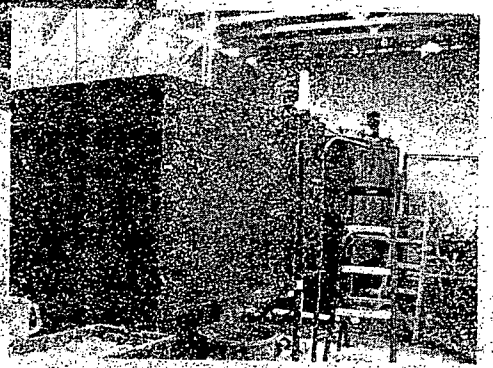
NC STATE UNIVERSITY

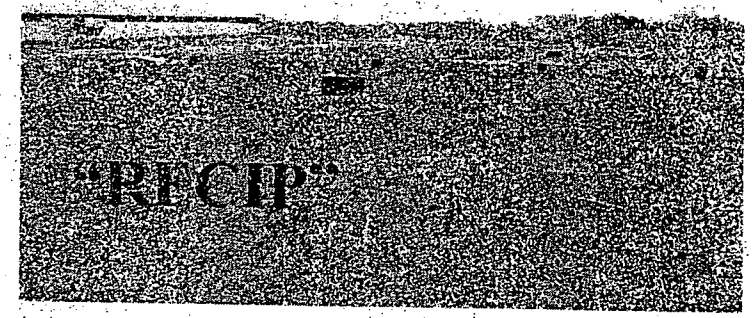
Technologies "on the bubble" of qualifying as EST











NC STATE UNIVERSITY

Industry impacts: alternative assessment by some members of Economics Subcommittee

Incremental Cost	Predicted Short Run Reduction	Predicted Intermediate Run Reduction	Predicted Long Run Reduction	Predicted Long Term Revenue Reduction
$/1,000 pounds SSLW/year	% reduction in North Carolina hog inventory (1,000 pounds SSLW)			% reduction from current revenue
$440.89	9.6	30.4	38.0	26
$396.80	8.6	27.3	34.5	23
$352.71	7.7	24.3	31.0	21
$308.62	6.7	21.3	27.1	18
$264.53	5.8	18.2	23.2	15
$220.45	4.8	15.2	19.4	12
$176.36	3.8	12.2	15.5	10
$132.27	2.9	9.1	11.6	7
$88.18	1.9	6.1	7.8	5
$44.09	1.0	3.0	3.9	2

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Recommendations

- Continue, as expeditiously as possible, current efforts by targeted technology suppliers and researchers to improve upon their treatment processes to reduce the costs of their respective treatment systems.

- Establish a framework or process by which additional technologies may be considered viable Environmentally Superior Technologies. This would include technologies that can be improved upon (technically and / or operationally and / or economically) as a result of information derived from this initiative, as well as technologies that were not part of this funded initiative.

- Identify potential institutional incentives, public policies, and markets related to the sale of byproducts (with priority on energy production) that will reward farmers for utilizing technologies identified by this process that are shown to yield improvements and environmental benefits over the current lagoon spray field system. The optimal method of achieving net cost reductions and even positive revenue flows from alternative technologies is to install targeted technologies on a sufficient number of farms to facilitate engineering improvements, value-added product market development, and other cost reduction methods.

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Summary

1. 5 Environmentally Superior Technologies identified that,

2. Meet environmental standards established by the state of North Carolina (and quantified through this process).

3. Economic feasibility has been defined.

4. Process for development and verification of EST documented.

5. Additional technologies have been verified that some modification are capable of meeting EST standards.

6. Process for implementation of EST proposed.

www.cals.ncsu.edu/waste_mgt/ (All reports posted)

Animal Feeding Operations Compliance and Inspection Report

JULY 1, 2004 – JUNE 30, 2005

NC Division of Water Quality

March 8, 2006

EXHIBIT F

Permitting Actions

- Total Permits Issued (FY 04-05) 1,448
  - Swine 1,192
  - Cattle 249
  - Poultry 7

Inspections & Operation Reviews

• Total Animal Operations (FY 04-05)	2,524
• DWQ Inspections Completed	2,465
– Routine	2,254
– Compliant/Emergency Response	47
– Follow-up Inspections	81
• DSWC Reviews Completed	2,115
– Routine	2,038
– Technical Assistance	38
– Follow-up Reviews	13
• Other Agencies Reviews	149

Animal Inspection Issues
(FY 04-05)

- Inspections w/Identified Violations 349
  - Discharges 71
    - To Surface Waters 29
  - Inadequate freeboard 82
    - Less Than One (1) Foot 23
  - Evidence of over application 120
  - Crops different than approved 52

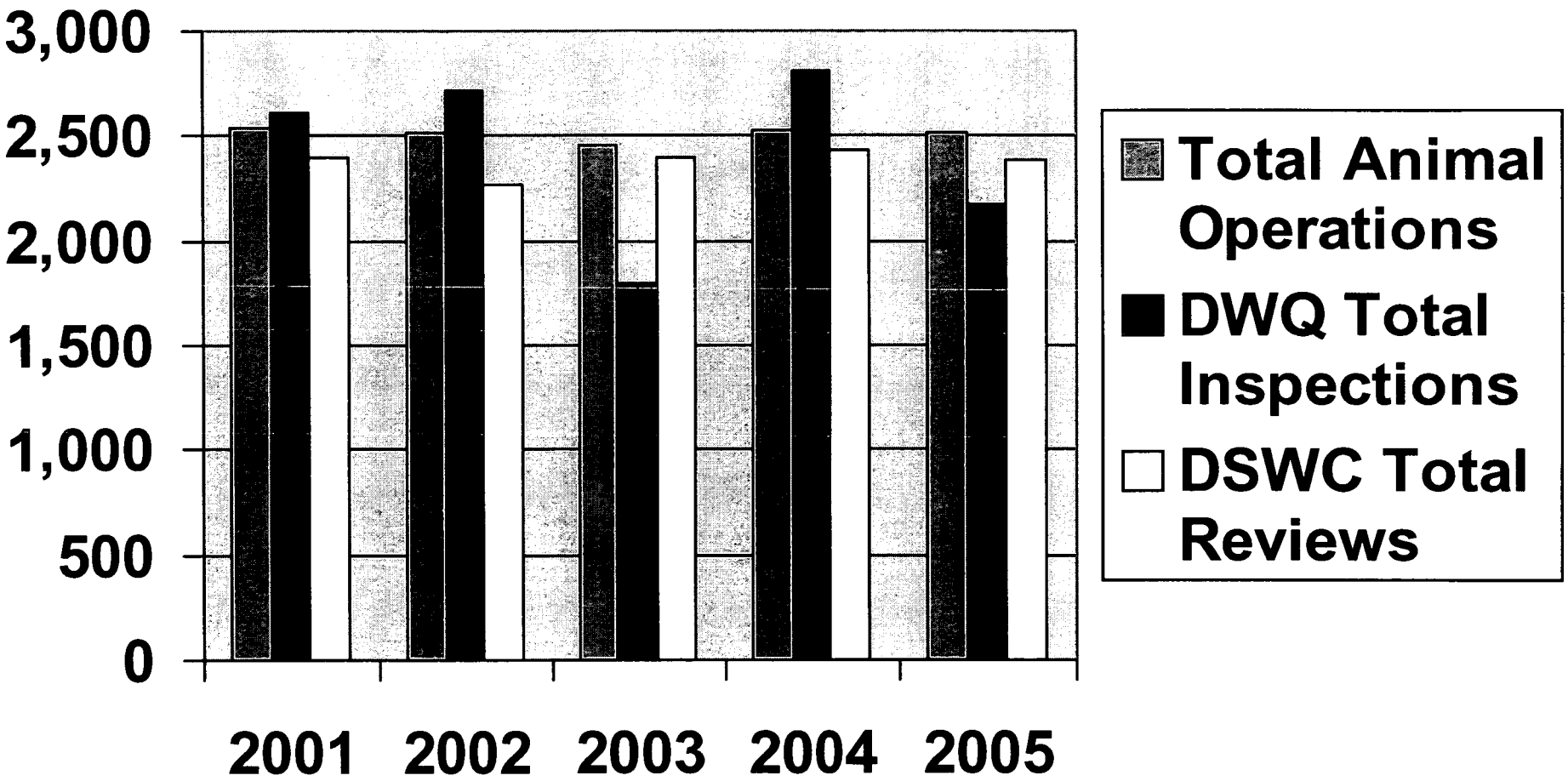
Violations & Enforcement Cases
(CY 2005)

• Identified Violations	331
• Notice of Deficiency Issued	2
• Notice of Violation Issued	105
• Enforcements Initiated	16
• Penalties Assessed	$69,622

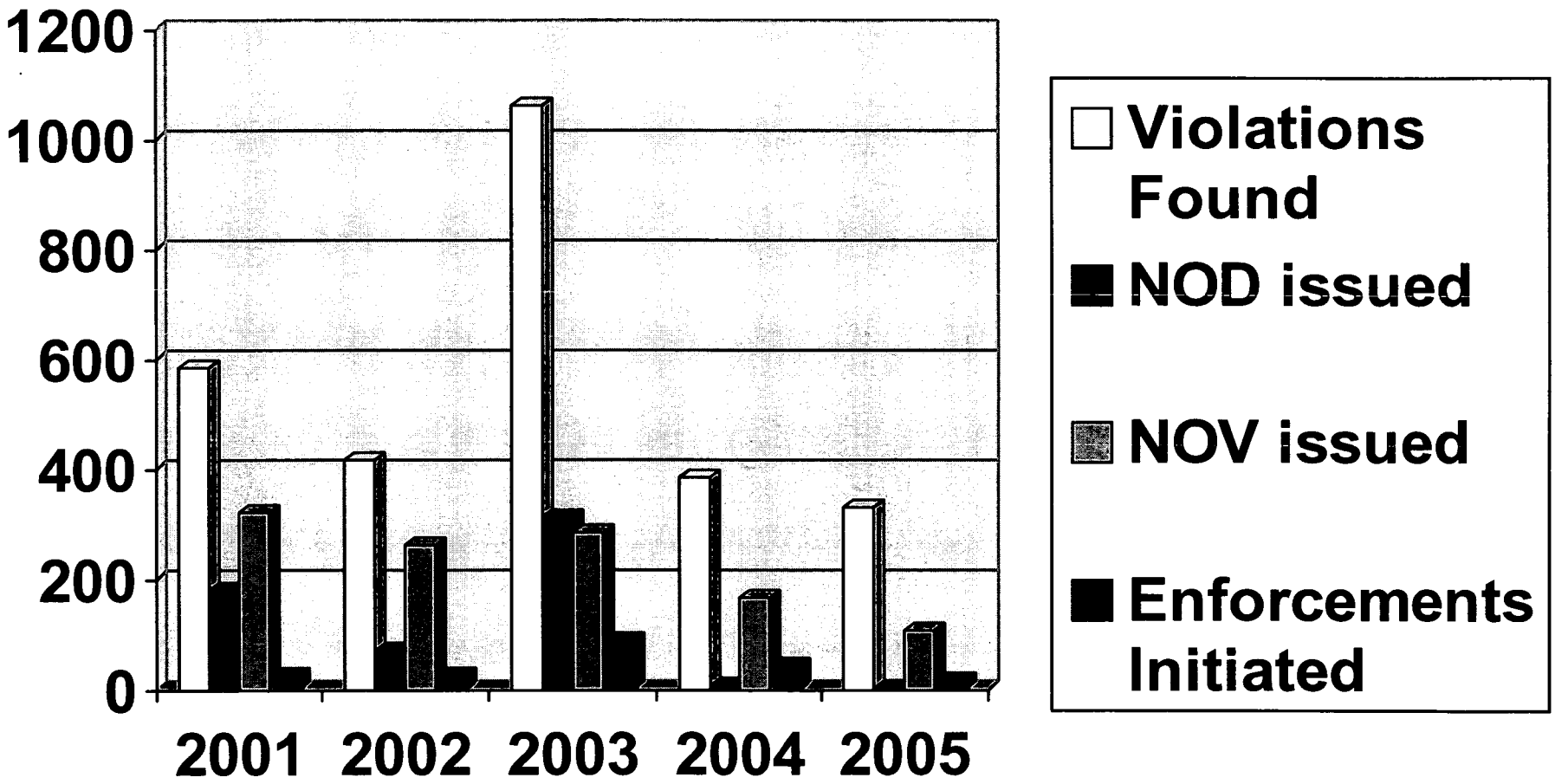
Historical Perspective

	2001	2002	2003	2004	2005
Total Animal Operations	2,544	2,512	2,461	2,524	2,517
DWQ Total Inspections	2,610	2,720	1,800	2,808	2,168
DSWC Total Reviews	2,394	2,266	2,402	2,429	2,382
Violations Found	586	416	1,060	383	331
NOD issued	181	71	310	6	2
NOV issued	321	262	285	164	105
Enforcements Initiated	23	24	89	43	16
Penalties Assessed	$149,500	$107,440	$356,972	$156,733	$69,622

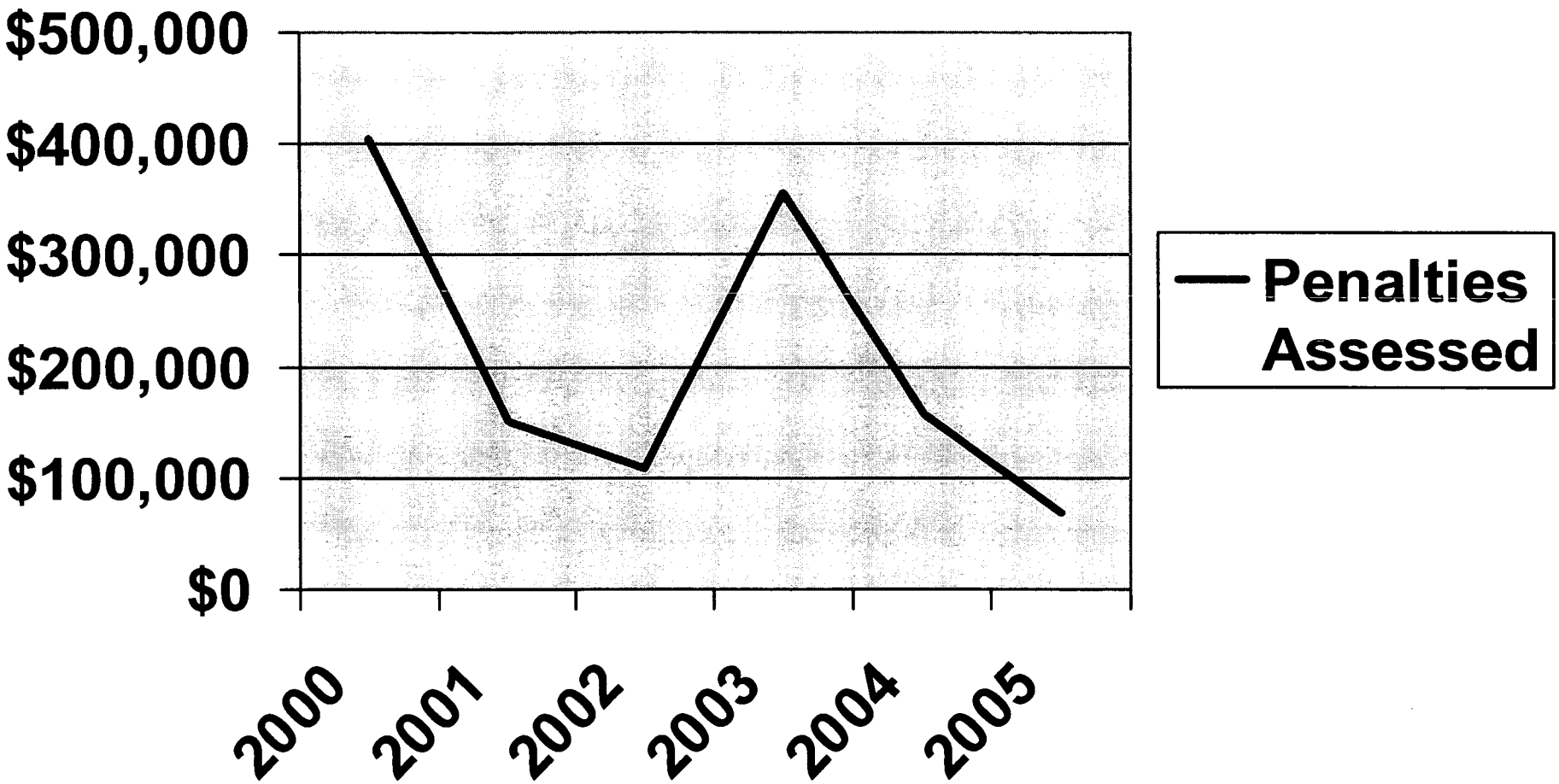
Site Visits


3,000
2,500
2,000
1,500
1,000
500
0
2001
2002
2003
2004
2005
Total Animal Operations
DWQ Total Inspections
DSWC Total Reviews

Violations


1200
1000
800
600
400
200
0
2001
2002
2003
2004
2005
Violations Found
NOD issued
NOV issued
Enforcements Initiated

Penalty Amounts



Questions?

Status Report on Individually Permitted Discharging Systems

July 1, 2004 – June 30, 2005

Re: General Statutes 143-215.9A

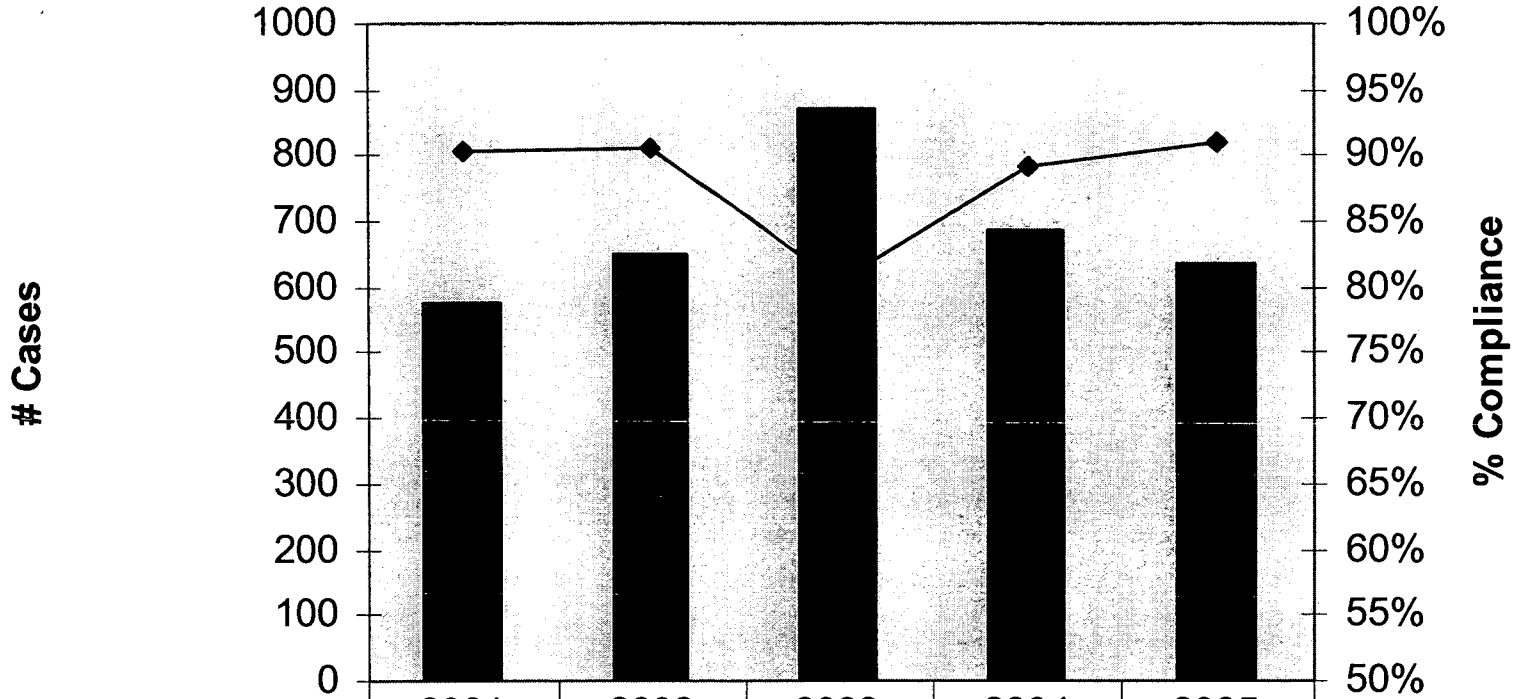
EXHIBIT G

Status of Civil Penalty Assessments July 1, 2004 – June 30, 2005	State Totals
Total Number Of Enforcement Actions Assessed	~~560~~ should be 520
Total Number Of Enforcement Actions Assessed By The Central Office+	**58**
Total Number Of Enforcement Actions Assessed By The Regional Supervisors	**462**
Enforcement Actions Generated From Limit &/or Monitoring Violations	**454**
Enforcement Actions Generated From Other Permit Condition Violations	**66**
Total Civil Penalties Assessed	**$680,243.43**
Total Civil Penalties Collected	**$738,973.21**
Remission & Contested Case Responses to Enforcement Actions	
Total Number Of Remission Requests	**99**
Total Number Of Enforcement Actions With Partial Or Full Remission By The Director	**40**

Status of Individually Permitted Facilities July 1, 2004 – June 30, 2005	**State Totals**
Total Number Of Individually Permitted Facilities	**1360**
Major Municipal Permitted Facilities	**149**
Major Non-Municipal Permitted Facilities	**78**
Minor Municipal Permitted Facilities	**150**
Minor Non-Municipal Permitted Facilities	**983**
Number Of NPDES Permits Issued	**308**
Total Number Of Compliance Evaluation Inspections Completed	**1173**
Total Number Of Other Inspections Completed	**300**

Status of Special Orders by Consent (SOCs) **July 1, 2004 – June 30, 2005**	**State Totals**
Total Number of Individually Permitted Facilities With Active SOCs	**42**
Total Number of Individually Permitted Facilities Requesting New or Amended SOCs	**37**

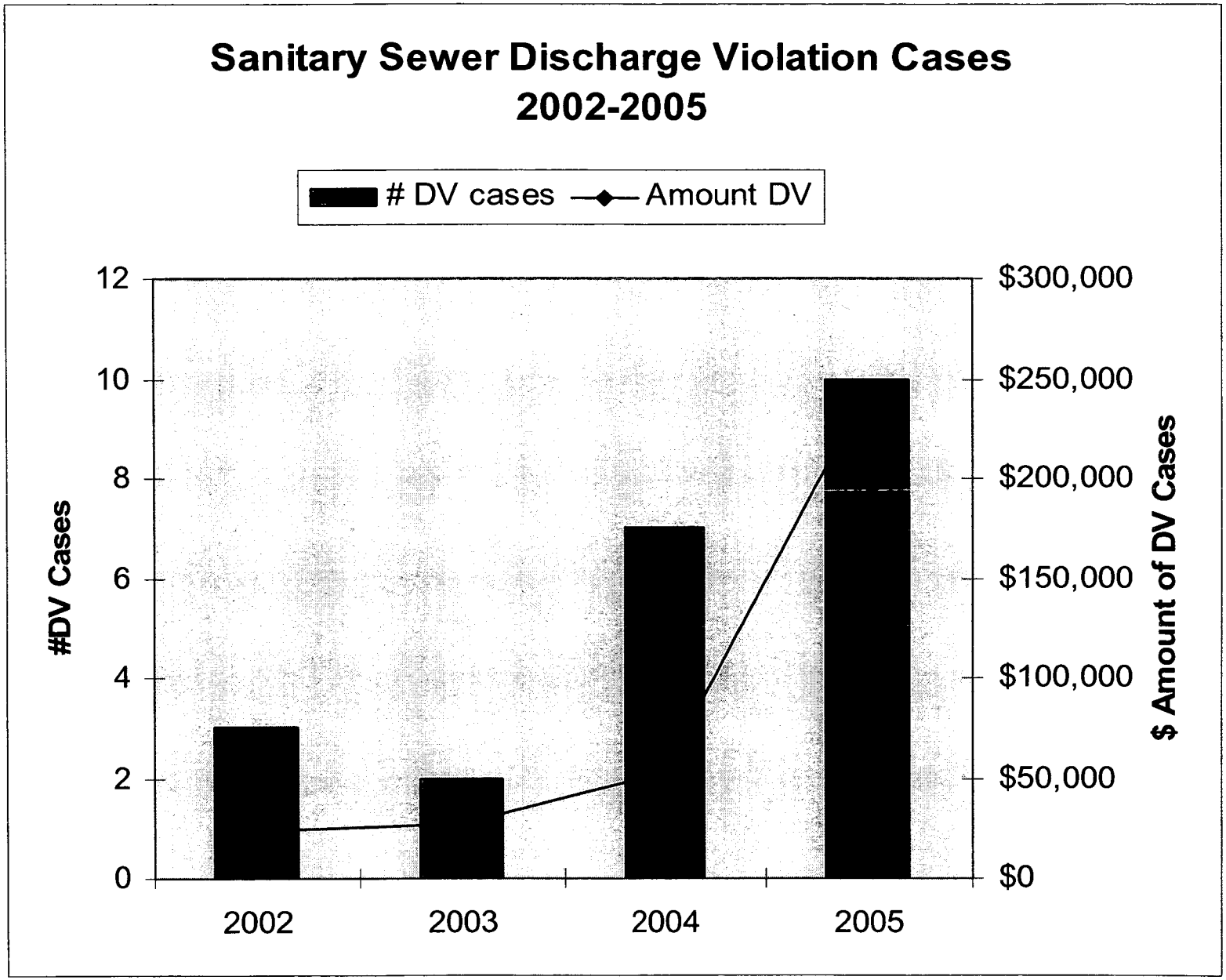
NPDES Compliance vs. Civil Penalties

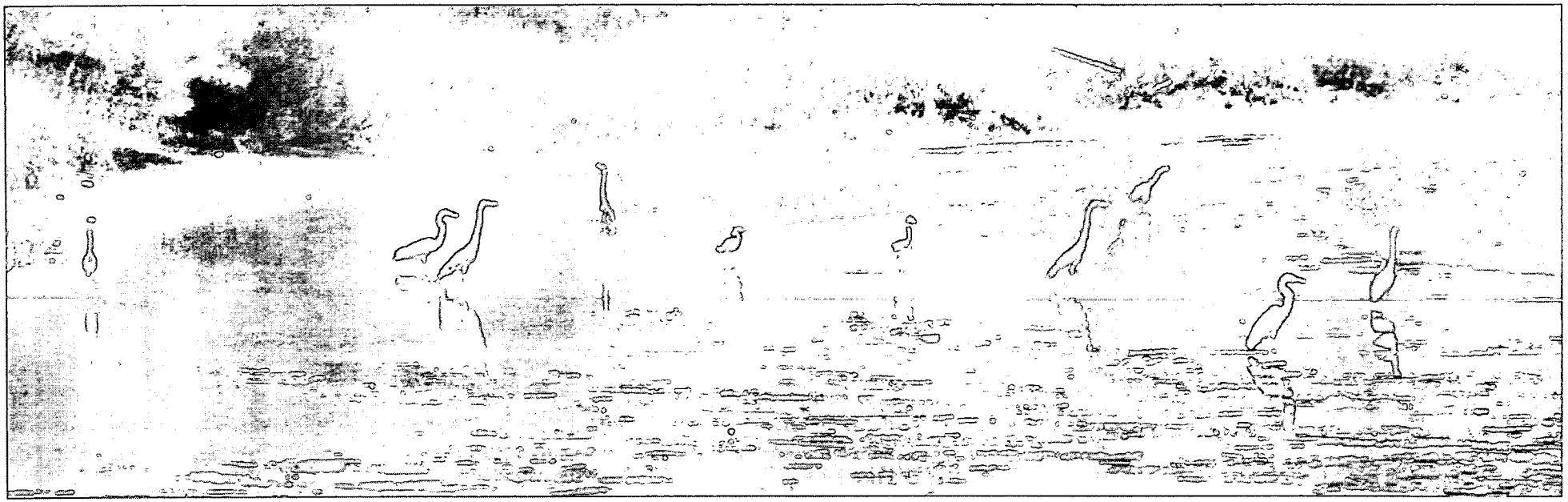


	2001	2002	2003	2004	2005
# Cases	575	648	872	686	634
% Compliance	90%	91%	80%	89%	91%
Total Penalties	$1,081,772	$921,435	$961,680	$838,053	$680,243

Sanitary Sewer Overflow Statistics

Year	# Spills	Gallons Reaching Surface Water	Total $
2002	1798	56,937,252	$24,087
2003	2859	98,025,246	$24,645
2004	2059	43,444,995	$53,408
2005	1790	38,221,458	$244,787


Sanitary Sewer Discharge Violation Cases
2002-2005
DV cases
Amount DV
#DV Cases
$ Amount of DV Cases
12
10
8
6
4
2
0
$300,000
$250,000
$200,000
$150,000
$100,000
$50,000
$0
2002
2003
2004
2005





Advanced Technology for Optimum Turf Growth & Quality

Benefits of NuTec Soil Inc.

- Optimum Growth Performance
- Environmentally Friendly Solution
- Complete Management of Fertility Program
- Cost Savings
- Reduction of Disease
- Exact Square Footage of Fertility Area
- Precision Technology for Uniform Growth
- Precision Application of Pre-Emerge Fertilizers
- Consultation in Fertility Decisions

NUTEC SOIL INC.

Landfall

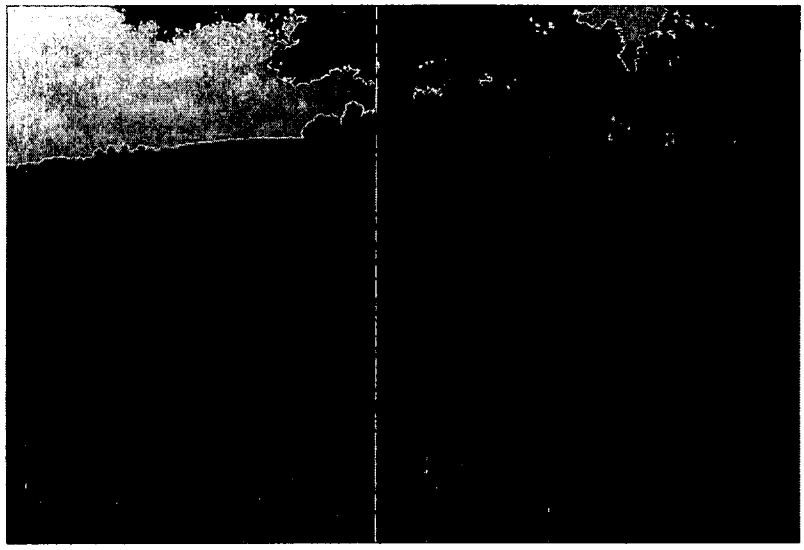
RIVER LANDING

EAGLE POINT GOLF CLUB

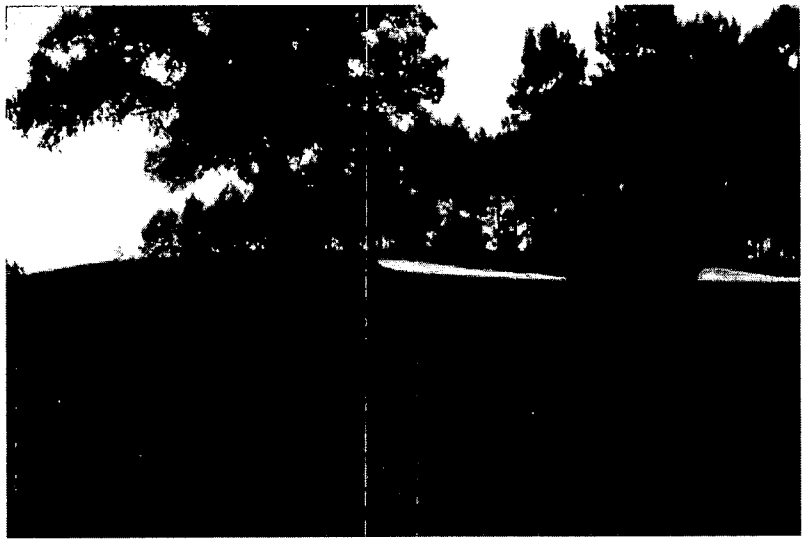
"Partnerships in Precision"

Before and After

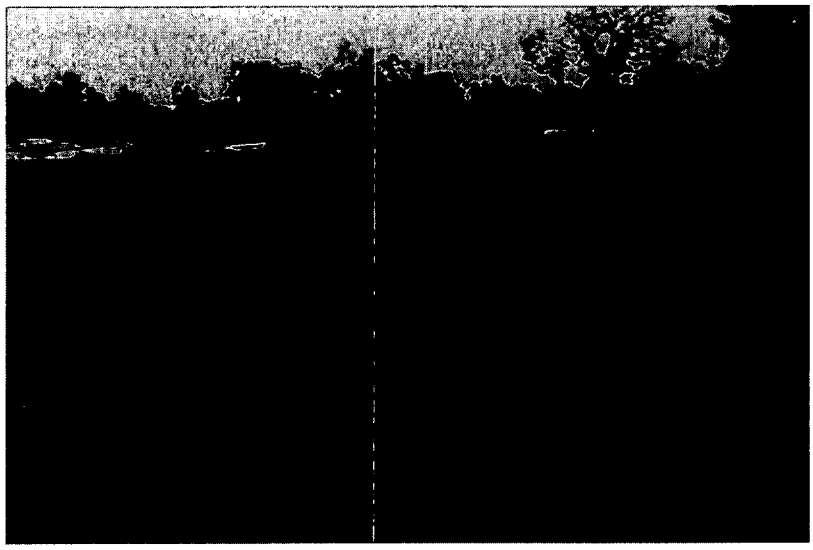
"Says it All"



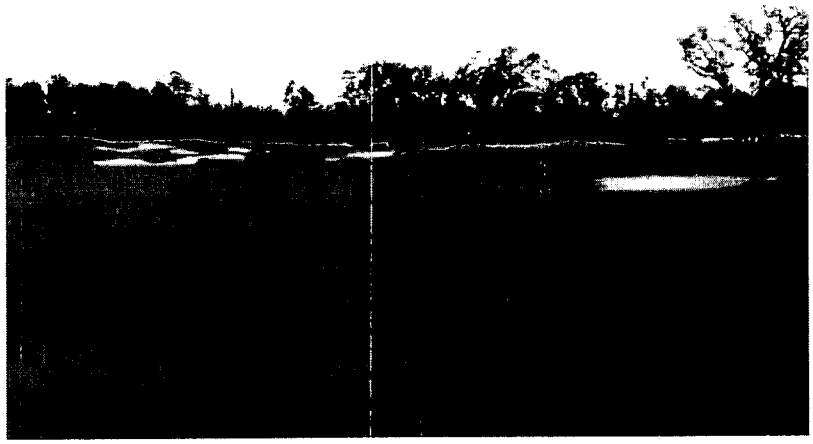
Eagle Point – Hole 11 - Before



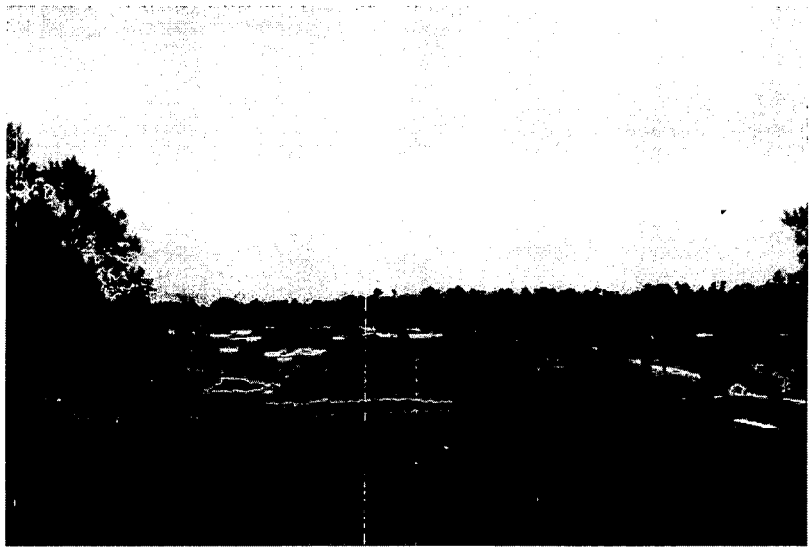
Eagle Point – Hole 11 - After



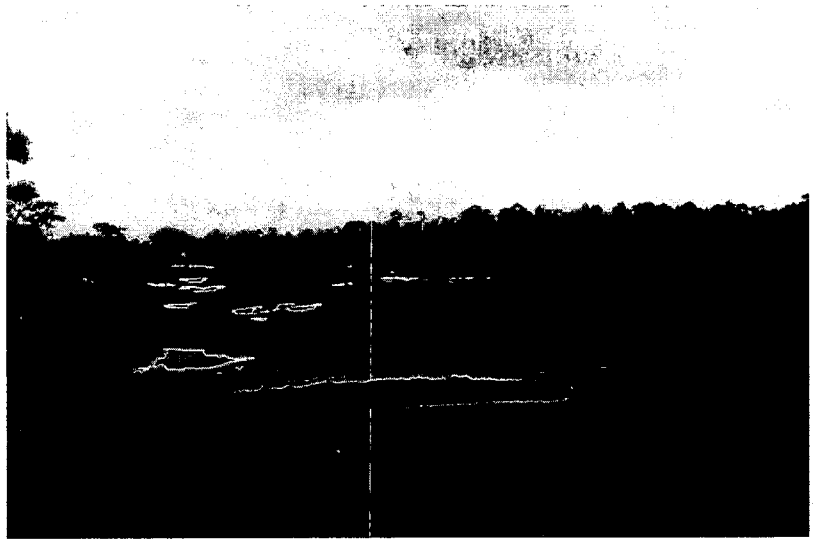
Eagle Point – Hole 18 - Before



Eagle Point - Hole 18 - After



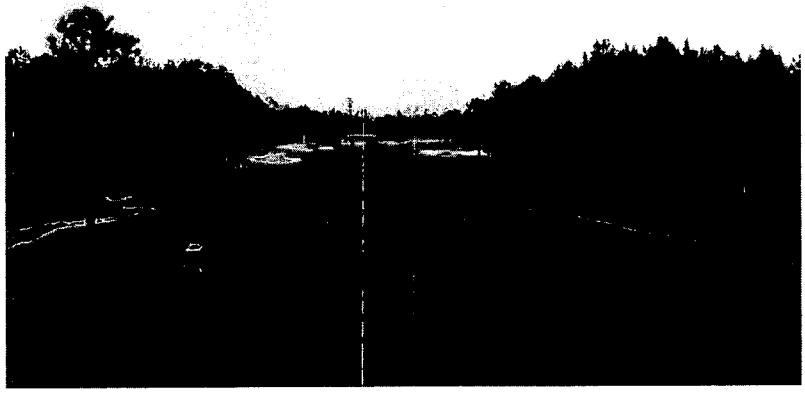
Eagle Point - Hole 17 - Before



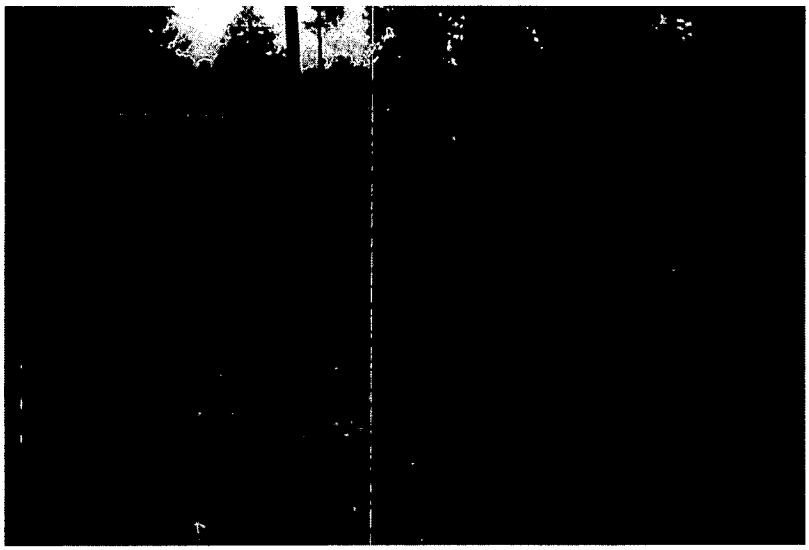
Eagle Point - Hole 17 - After



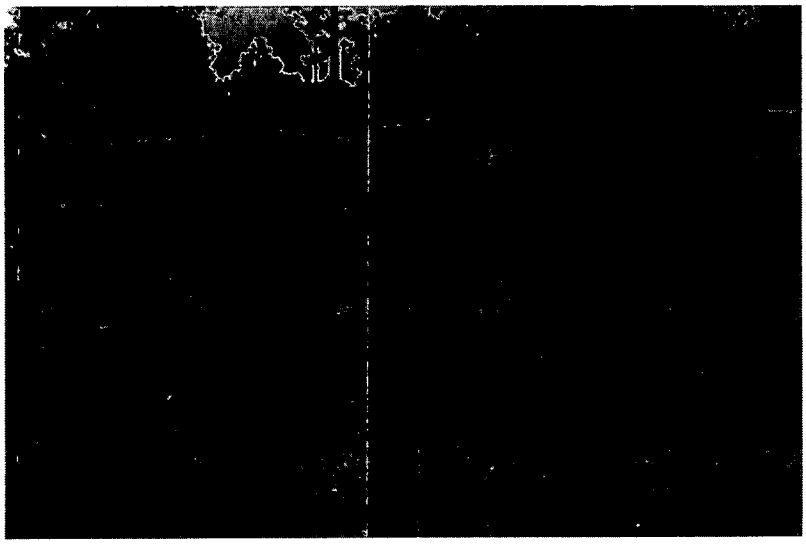
Eagle Point - Hole 18 - Before



Eagle Point - Hole 18 - After



Eagle Point - Hole 3 - Before



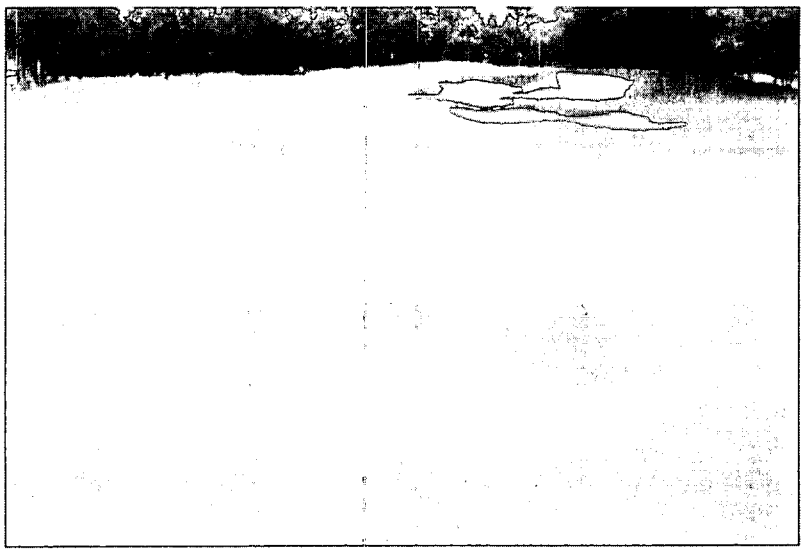
Eagle Point - Hole 3 - After



Landfall - Hole 4 - Before



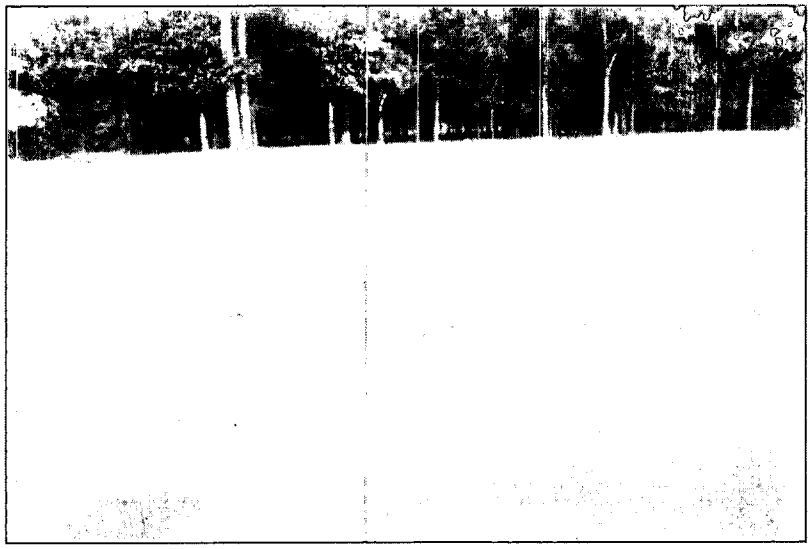
Landfall - Hole 4 - After



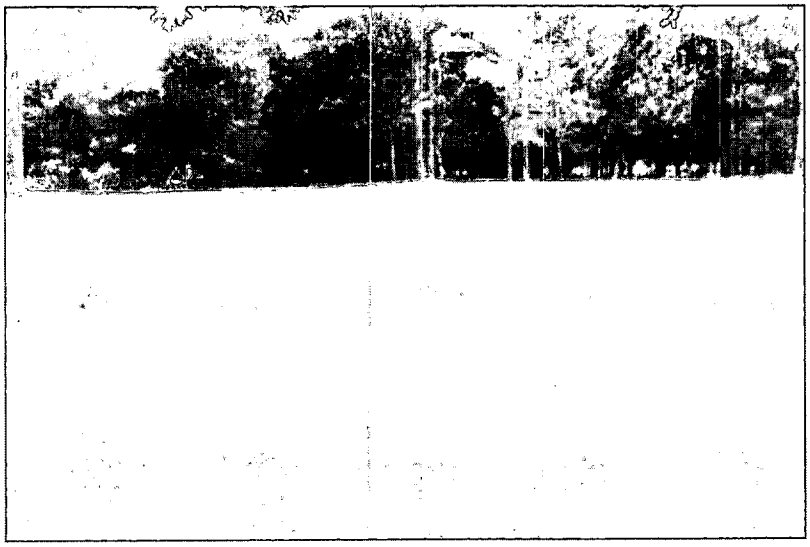
Eagle Point - Hole 8 - Before



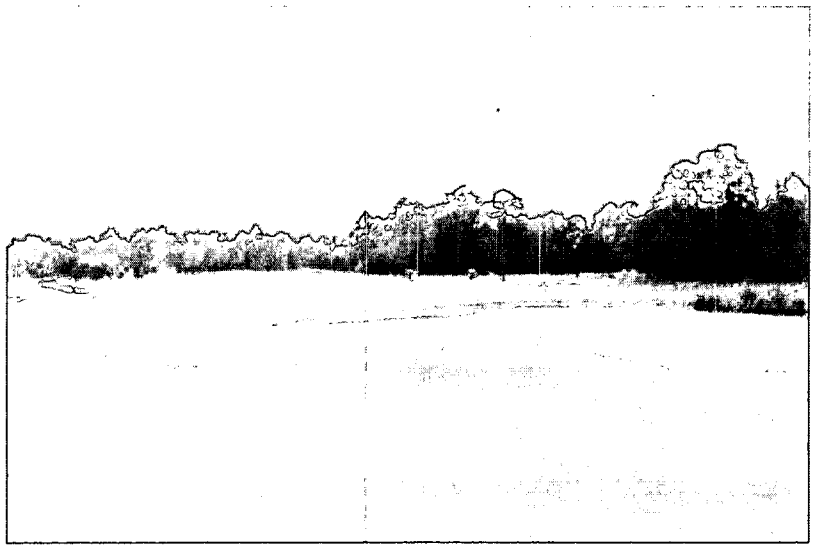
Eagle Point - Hole 8 - After



Eagle Point - Hole 8 - Before



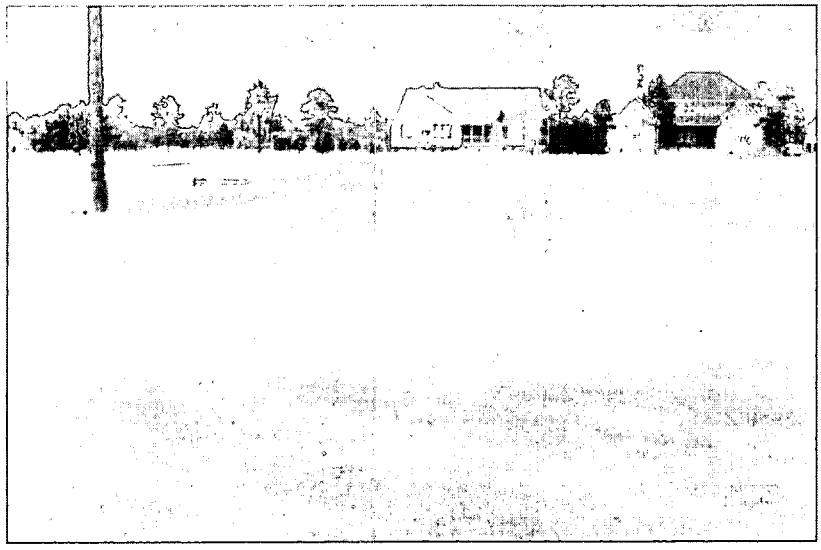
Eagle Point - Hole 8 - After



Landfall - Hole 2 - Before



Landfall - Hole 2 - After



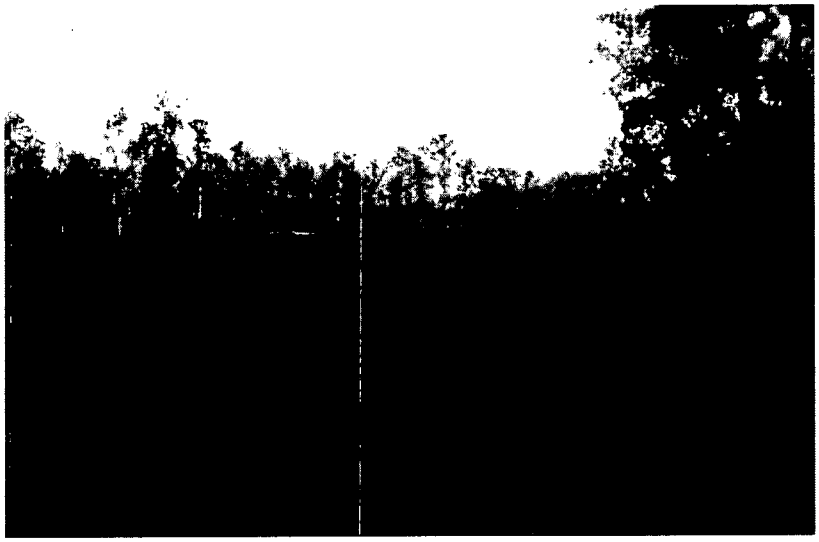
Landfall - Hole 8 - Before



Landfall - Hole 8 - After



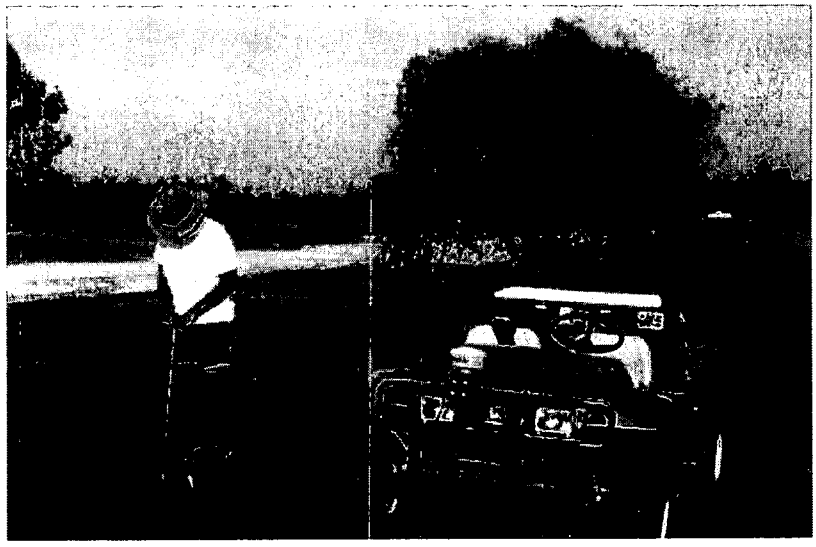
River Landing - Hole 4L - "Grow In" Before



River Landing - Hole 4L - "Grow In" After

Striving for Perfection

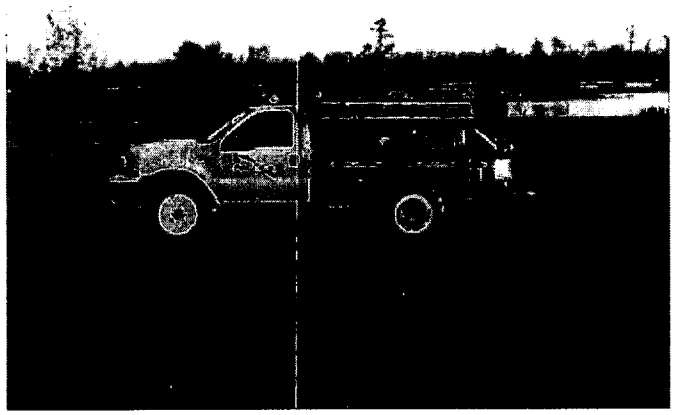
"Is What NuTec is All About"



NuTec Soil Sampling



NuTec Charts the Results



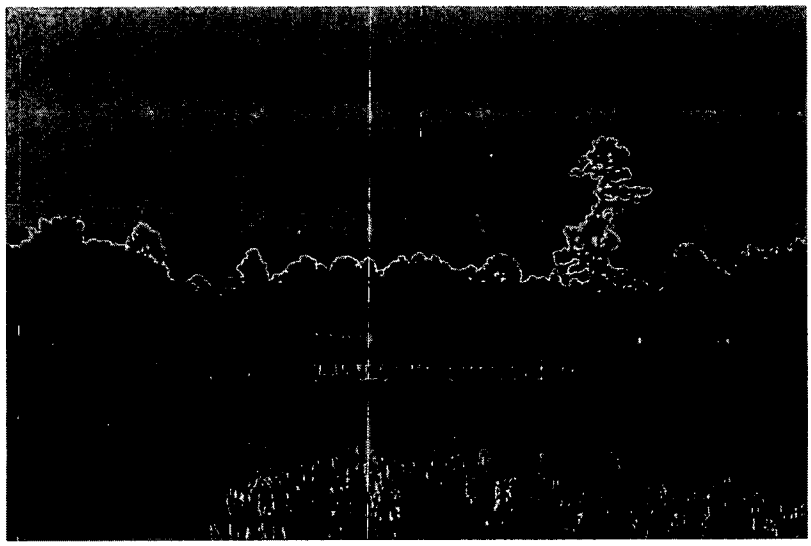
Precision Application of Fertilizer

NuTec Soil

"The Results"

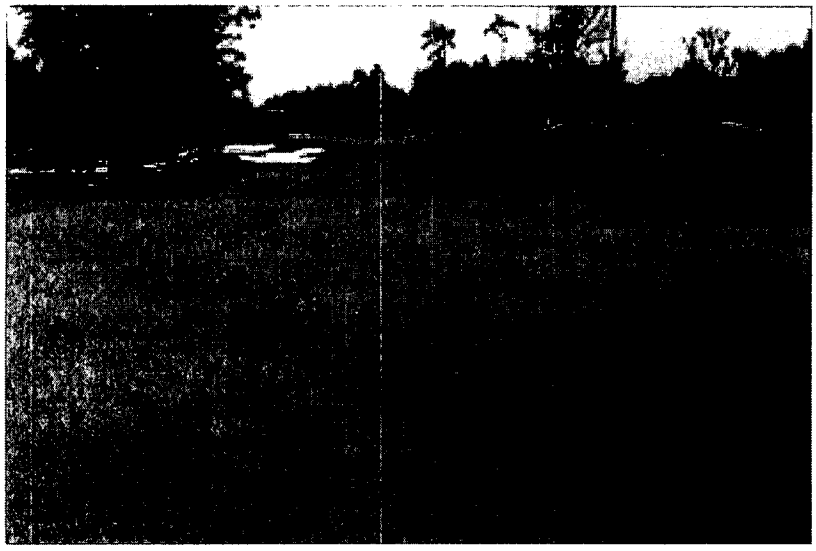














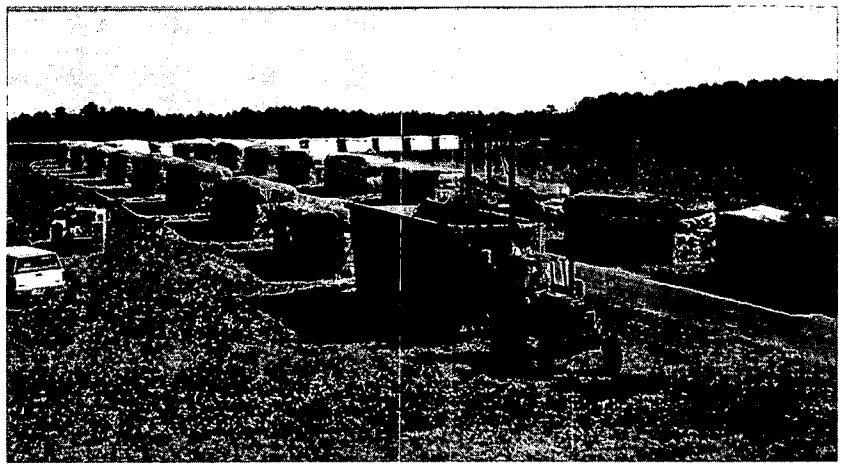




We Thank You

"For Your Time"

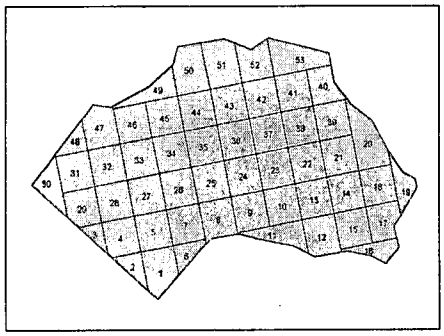
Optimizing Cotton Production



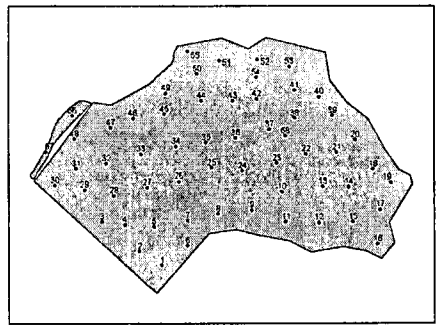
185 Acres → 32 Modules → 3.2 Bales/Ac

Soil Sampling

Grids

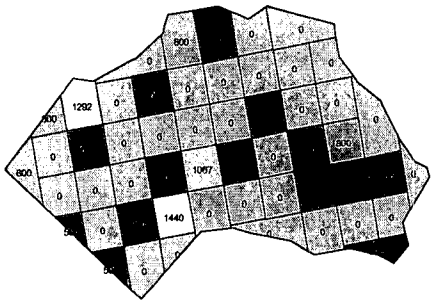


Grid Point Sampling



Lime Application

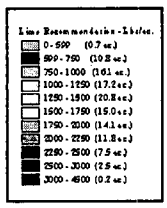
1999



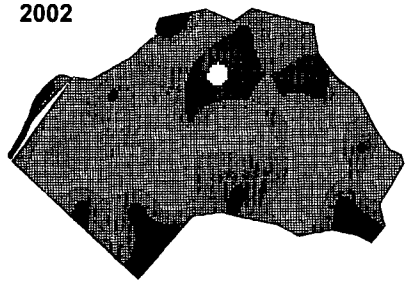
Target pH 6.0

Conventional Lime = 0 tons

VRT Lime = 15 Tons



2002



Target pH 6.5

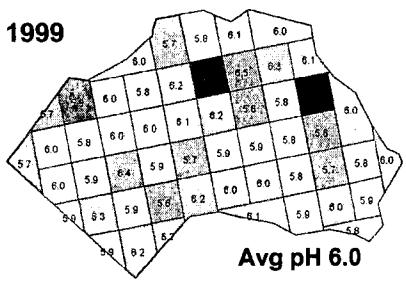
Conventional Lime = 99 Tons $2277

VRT Lime = 85 Tons $1955

Savings $322

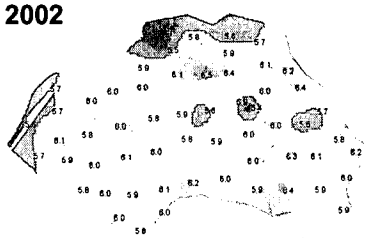
pH Maps

1999

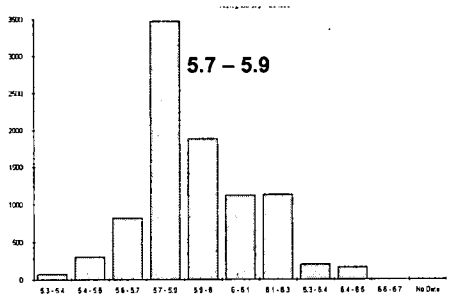


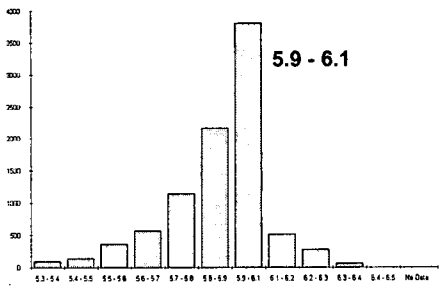
Avg pH 6.0

2002



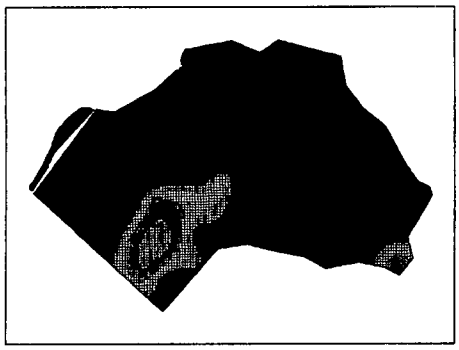
Avg pH 6.0

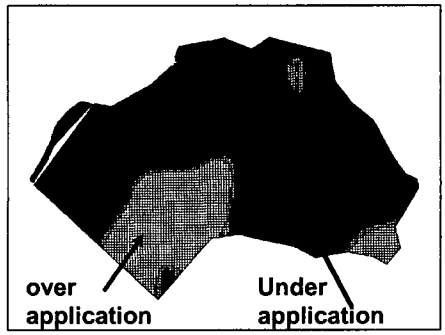




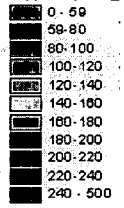
Potash Application

2002





Potash Application lbs/Ac



17.7 Tons VRT

13 Tons Conv

Straight rate 225 lbs/Ac

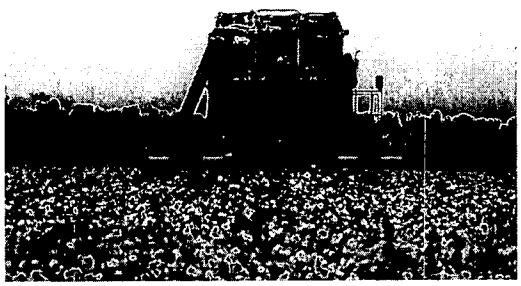
VRT Application

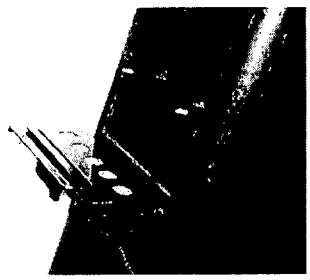
Min Rate 60 lbs

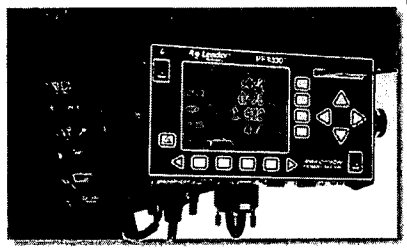
Max Rate 470 lbs

Avg Rate 330 lbs

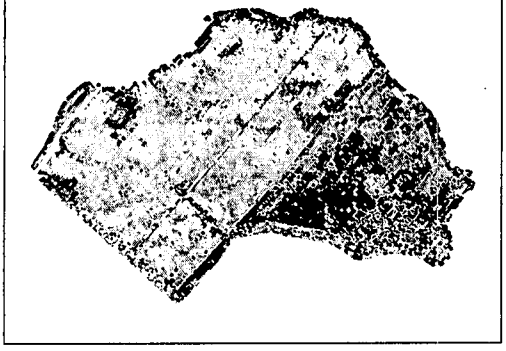
Yield Monitoring

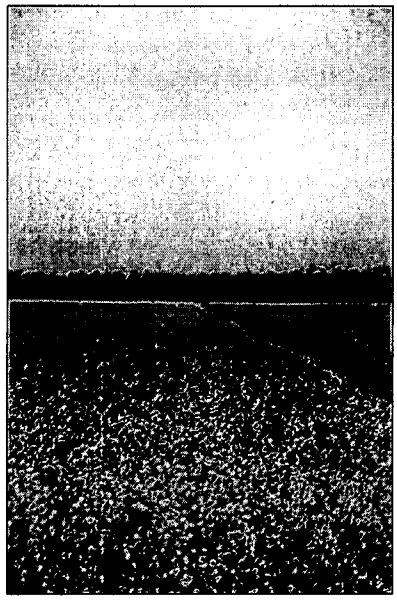






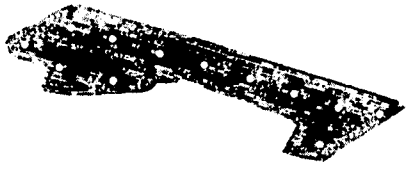
2001 Cotton Yield





Using the Information

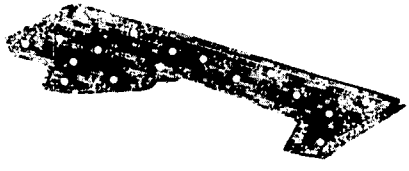
Initial Grid Sample



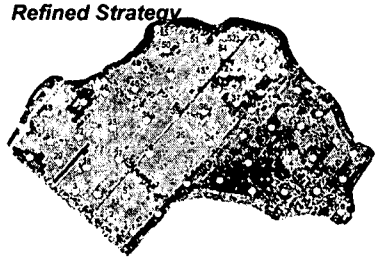
Initial Grid Sample



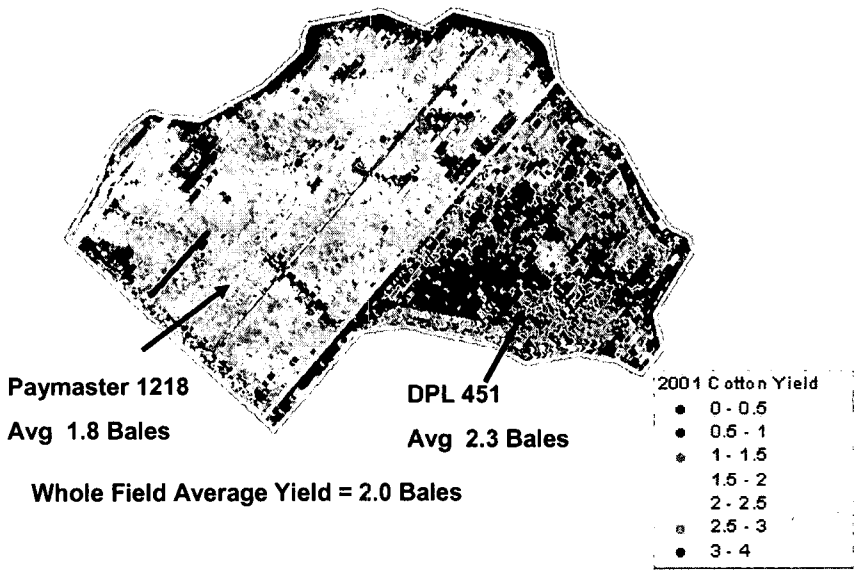
Refined Strategy



Refined Strategy

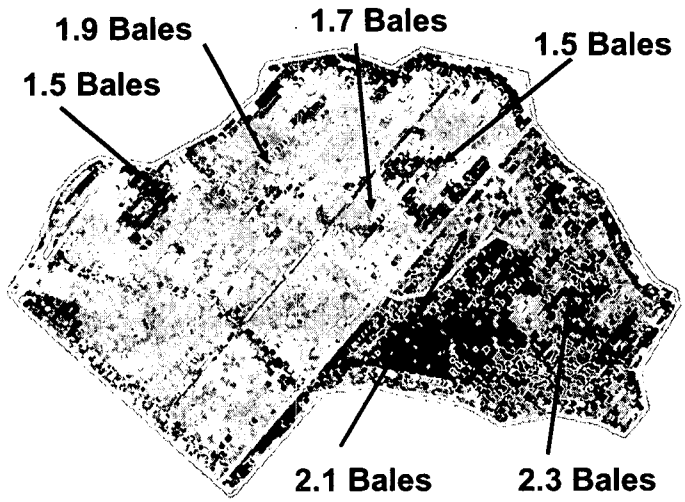


Cooper Field Cotton Yield 2001

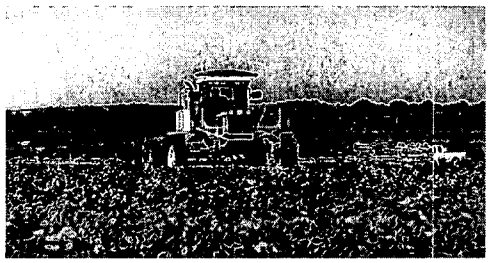


Whole Field Average Yield = 2.0 Bales

Determining lost yield potential

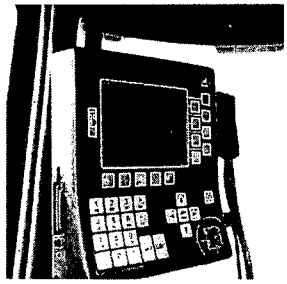


Hydro Agri's N Sensor



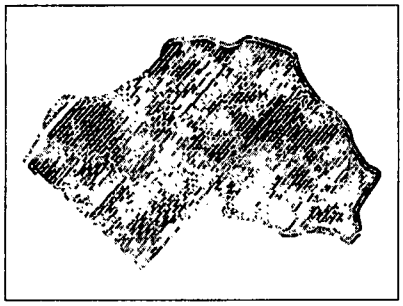
Sensors

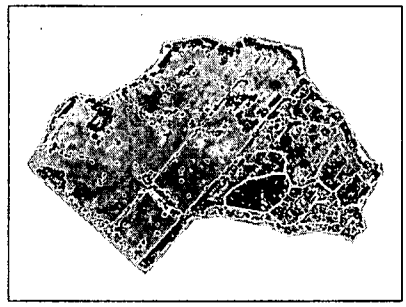


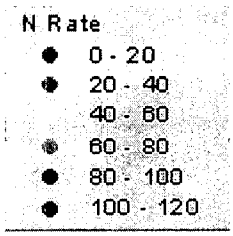


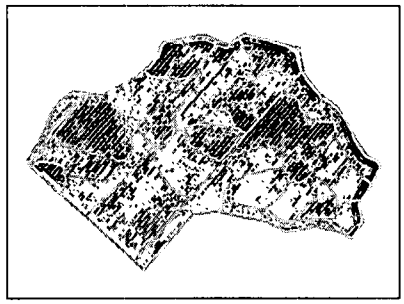
In Cab Screen

N Rate Determined from Sensor









INCLUDING PRECISION FARMING IN THE NC AGRICULTURE COST SHARE PROGRAM

David B Williams
Chief of Nonpoint Source Section
Division of Soil and Water Conservation

NCDENR

NORTH CAROLINA SOIL & WATER CONSERVATION

EXHIBIT I

Adding New Practices to the Agriculture Cost Share Program

- Soil and Water Conservation Commission is constantly adapting the ACSP to include new technologies and techniques for protecting water quality
- Presently 49 practices approved for cost share
- Request to Technical Review Committee
  - Subcommittee is formed to research practice and develop implementation policy and average costs
- Approval by Commission

Cost Share Incentive Payments

- A predetermined fixed annual payments paid to an applicant for implementing a BMP in lieu of full 75% cost share

Examples:

- Long term No-till
- Nutrient Management
- Sod Based Rotation



Average Cost Payments

- Payments of 75% of the average costs directly associated with the installation of a BMP.



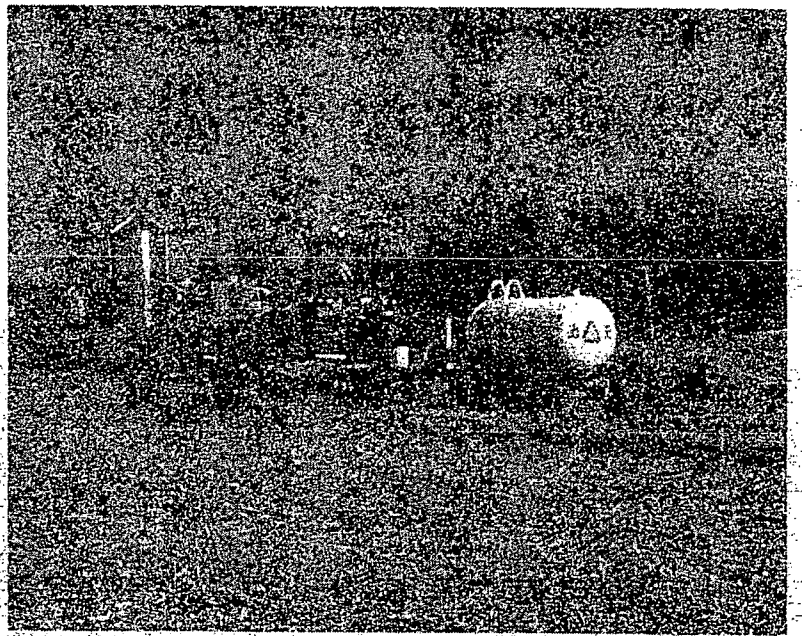


Examples include:

Water Control Structures
Livestock Exclusion
Riparian Buffers

Precision Farming Workgroup

- Began meeting in June 2005
- Workgroup Participants
  - Two NCSU Professors
    - Department of Soil Science
    - Bio. and Ag. Engineering
  - NCDA - Agronomist
  - NC Cooperative Extension Service
  - USDA-NRCS District Conservationists (2)
  - Soil and Water Conservation District Representative
  - Farmers

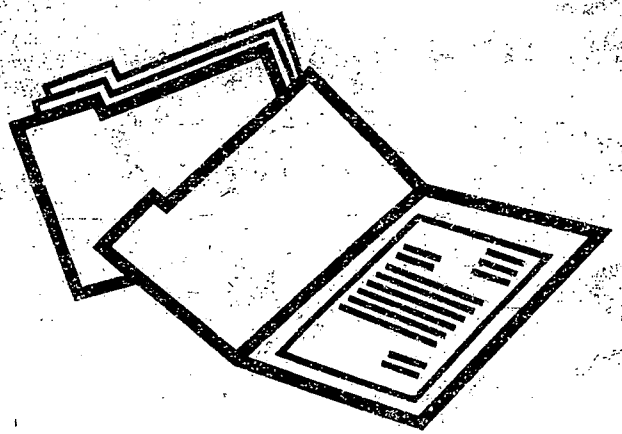


Proposed Tiered Nutrient Management Incentive

- Similar to Virginia's Multi-Layered Nutrient Management Approach
- Tier I - Nutrient Management Plans
- Tier II - Nutrient Management Plans
  + Grid Soil Sampling
  + Variable Rate Application
- Tier III – Nutrient Management Plans
  + Grid Soil Sampling
  + Variable Rate Application
  + Yield Monitoring

Proposed Tiered Nutrient Management Incentive

- Tier I – Nutrient Management Plans
  - Currently being implemented
  - Written plan based on realistic yield expectations, soil types and crops planted
  - Generic in terms of taking the predominant soil type of each field.

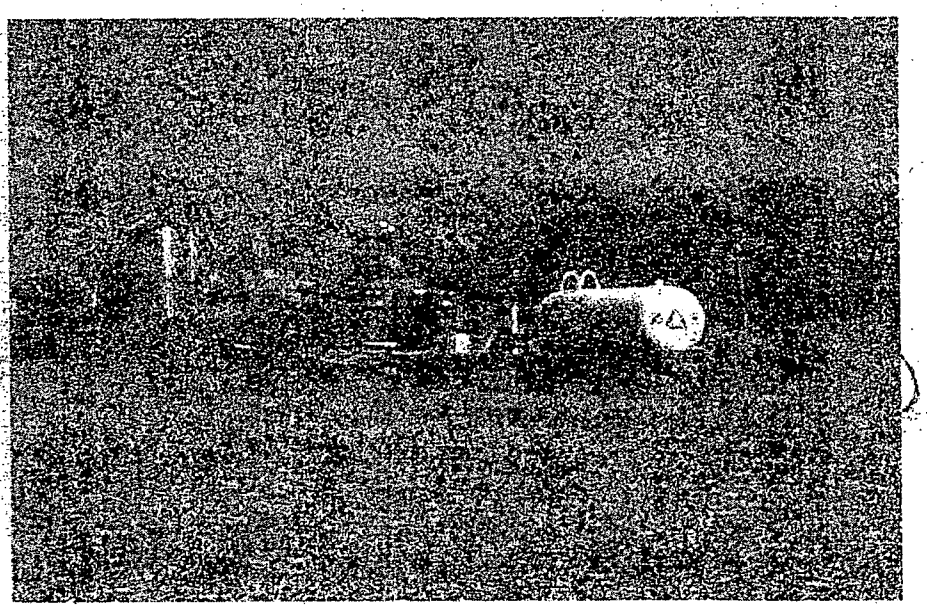


Proposed Tiered Nutrient Management Incentive

Tier II – Nutrient Management Plans
+ Grid Soil Sampling
+ Variable Rate Nutrient Application

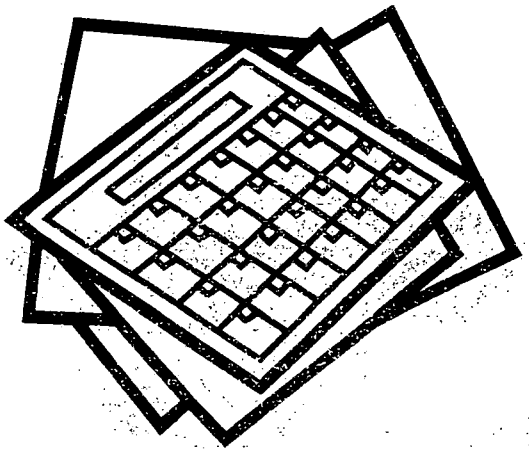
– GPS-based grid soil sampling will provide an accurate representation of the field

–Variable rate application of nitrogen and phosphorus will further reduce excess nutrients from entering surface waters.



Proposed Tiered Nutrient Management Incentive

- Tier III – Nutrient Management Plans
  + Grid Soil Sampling
  + Variable Rate Application and
  + Yield Monitoring
  - GPS-based yield monitoring records will enable the farmer to adjust precision nutrient application plans based on the actual production of the fields instead of general recommendations based on soil type.



Next Steps

- March - Workgroup will meet again to finalize incentive cost payments
- May - Present to the Technical Review Committee
- May - Request approval by the Soil and Water Commission
- July - Available to offer to farmers
  Conduct Education and Outreach

Current TRC Workgroups

- Controlled Drainage for Tile Drains
- Water Conservation for Animal Operations
- Offsite Poultry Litter Utilization
- Abandoned Well Decommissioning
- Aquaculture BMPs
- Nursery BMPs/Integrated Pest Mgmt.
- Tailwater Recycling
- Conservation Tillage

Soil and Water
Yours for Life!

David B. Williams

Division of Soil and Water Conservation

919-715-6103

David.B.Williams@ncmail.net

ENVIRONMENTAL REVIEW COMMISSION
2005-2006
MEMBERSHIP LIST

Senator Charlie Albertson, Co-chair
525 Legislative Office Building
Raleigh, NC 27603-5925
(919) 733-7505; Fax (919) 715-8329

Senator Stan Bingham
292 North Main Street
Denton, NC 27239
(336) 859-0999; Fax (336) 3939

Senator Daniel G. Clodfelter, Co-Chair
110 North Tryon Street
Charlotte, NC 28202-4003
(704) 331-1041; Fax (704) 378-2041

Senator Katie Dorsett
1000 N. English Street
Greensboro, NC 27405
(336) 275-0628; Fax (336) 272-6853

Senator James S. Forrester
P. O. Box 459
Stanley, NC 28164
(704) 263-8603; Fax (704) 263-8169

Senator Eleanor Kinnaird
207 West Poplar Avenue
Carrboro, NC 27510
(919) 929-1607; Fax (919) 856-2223

Senator A. B. Swindell
P. O. Box 788
Nashville, NC 27856
(252) 462-0190; Fax (252) 459-4385

Senator David Weinstein
204 Walnut Cove Drive
Lumberton, NC 28358
(910) 739-3048; Fax (910) 608-0034

Representative Pryor Gibson, III, Co-chair
P. O. Box 1010
Wadesboro, NC 28170
(704) 694-5957

Representative Joe Hackney
P. O. Box 1329
Chapel Hill, NC 27514
(919) 929-0323; Fax (919) 929-3960

Representative Jim Harrell
PO Box 626
Elkin, NC 28621
(336) 902-0276; Fax (336) 835-1241

Representative Pricey Harrison
PO Box 9339
Greensboro, NC 27429
(336) 292-1953; Fax (919) 856-0417

Representative Howard Hunter
146 NC 461
Winton, NC 27986
(252) 332-3130; Fax (252) 332-7580

Representative Carolyn H. Justice
P. O. Box 964
Hampstead, NC 28443
(910) 270-4604; Fax (910) 270-3455

Representative Daniel F. McComas
P. O. Box 2274
Wilmington, NC 28402
(910) 343-8372; Fax (910) 343-8003

Representative Edith Warren
P.O. Box 448
Farmville, NC 27828
(252) 753-4198; Fax (252) 753-5603

STAFF

George F. Givens, Commission Counsel
Jeffrey Hudson, Assistant Commission Counsel
Jennifer McGinnis, Assistant Commission Counsel
Tim Dodge, Commission Analyst
Research Division
545 Legislative Office Building
(919) 733-2578

Susan Iddings, Assistant Commission Counsel
Bill Drafting Division
401 Legislative Office Building
(919) 733-6660

Dot Waugaman, Commission Clerk
309 Legislative Office Building
(919) 715-2525; Fax (919) 754-3232

North Carolina General Statutes
ARTICLE 12D.

Environmental Review Commission.

§ 120-70.41. Commission established.

The Environmental Review Commission is hereby established.

§ 120-70.42. Membership; cochairs; vacancies; quorum.

(a) The Environmental Review Commission shall consist of six Senators appointed by the President Pro Tempore of the Senate, six Representatives appointed by the Speaker of the House of Representatives, who shall serve at the pleasure of their appointing officer, the Chair or a Cochair of the Senate Committee on Agriculture, Environment, and Natural Resources or the equivalent committee, the Chair or a Cochair of the House of Representatives Committee on Environment and Natural Resources or the equivalent committee, the Chair or a Cochair of the Senate Committee on Appropriations – Natural and Economic Resources or the equivalent committee, and the Chair or a Cochair of the House of Representatives Committee on Appropriations – Natural and Economic Resources or the equivalent committee.

(b) The President Pro Tempore of the Senate shall designate one Senator to serve as cochair and the Speaker of the House of Representatives shall designate one Representative to serve as cochair.

(c) Except as otherwise provided in this subsection, a member of the Commission shall continue to serve for so long as the member remains a member of the General Assembly and no successor has been appointed. A member of the Commission who does not seek reelection or is not reelected to the General Assembly may complete a term of service on the Commission until the day on which a new General Assembly convenes. A member of the Commission who resigns or is removed from service in the General Assembly shall be deemed to have resigned or been removed from service on the Commission. Any vacancy that occurs on the Environmental Review Commission shall be filled in the same manner as the original appointment.

(d) A quorum of the Environmental Review Commission shall consist of nine members.

§ 120-70.43. Powers and duties.

(a) The Environmental Review Commission shall have the following powers and duties:

(1) To evaluate actions of all boards, commissions, departments, and other agencies of the State and local governments as such actions relate to the environment or protection of the environment, including but not limited to an evaluation of:

a. Benefits of each program relative to costs;

b. Achievement of program goals;

c. Use of measures by which the success or failure of a program can be measured; and
d. Conformity with legislative intent;

(2) To study on a continuing basis the organization of State government as it relates to the environment or to the protection of public health and the environment, including but not limited to:
a. Improvements in administrative structure, practices, and procedures;
b. Increased integration and coordination of programs and functions;
c. Increased efficiency in budgeting and use of resources;
d. Efficient administration of licensing, permitting, and grant programs;
e. Prompt, effective response to environmental emergencies;
f. Opportunities for effective citizen participation; and
g. Broadening of career opportunities for professional staff;

(3) To make any recommendations it deems appropriate regarding the reorganization and consolidation of environmental regulatory agencies and the recodification of statutes relating to the environment, including but not limited to:
a. Ways in which agencies may operate more efficiently and economically;
b. Ways in which agencies can provide better services to the State and to the people; and
c. Instances in which functions of agencies are duplicative, overlapping, incomplete in scope or coverage, fail to accomplish legislative objectives, or for any other reason should be redefined or redistributed;

(4) To review and evaluate changes in federal law and regulations, relevant court decisions, and changes in technology affecting the environment or protection of the environment;

(5) To review existing and proposed State law and rules affecting the environment or protection of the environment and to determine whether any modification of law or rules is in the public interest;

(6) To make reports and recommendations, including draft legislation, to the General Assembly from time to time as to any matter relating to the powers and duties set out in this section; and

(7) To undertake such additional studies as it deems appropriate or as may from time to time be requested by the President Pro Tempore of the Senate, the Speaker of the House of Representatives, either house of the General Assembly, the Legislative Research Commission, the Joint Legislative Commission on Governmental Operations, the Joint Legislative Utility Review Committee, or the Joint Select Committee on

Low-Level Radioactive Waste and to make such reports and recommendations to the General Assembly regarding such studies as it deems appropriate; provided that the Environmental Review Commission shall not undertake any study which the General Assembly has assigned to another legislative commission or committee.

(b) The Environmental Review Commission may continue the study of environmental agency consolidation and reorganization. The study of environmental agency consolidation shall include, but is not limited to:

(1) Monitoring the implementation of Session Laws 1989, c. 727;

(2) Evaluation of the organization, programs, and operation of the Department of Environment and Natural Resources;

(3) Evaluation of the organization, functions, powers, and duties of the components of the Department of Environment and Natural Resources, including boards, commissions, councils, and regional offices; and

(4) Recodification of the General Statutes relating to the environment and environmental agencies.

(c) In addition to its general powers and duties, the Environmental Review Commission shall have the following powers and duties with respect to hazardous waste management:

(1) To study the current and projected need for hazardous waste treatment, storage, and disposal capacity in the State in light of anticipated generation of hazardous waste and alternatives for hazardous waste treatment and disposal;

(2) To evaluate the potential for the development of additional hazardous waste treatment, storage, and disposal capacity by the private sector;

(3) To study the necessity for and scope of hazardous waste treatment, storage, and disposal facilities which are sited, owned, or operated by the State;

(4) To review progress in securing a volunteer county to host a hazardous waste treatment facility;

(5) To study incentives and compensation for the community which hosts, either voluntarily or involuntarily, a hazardous waste treatment facility, including any additional incentives and compensation which may be needed, whether there should be differential compensation for a volunteer county, options for use of funds by local governments, distribution of compensation among local governments, and methods of providing flexibility in the development of an incentives and compensation package for a particular local community;

(6) To review progress in developing interstate agreements for the treatment, storage, and disposal of hazardous waste;

(7) To assist in the development of cooperative, comprehensive regional approach to hazardous waste treatment and disposal;

(8),(9) Repealed by Session Laws 2001-474, s. 12.

(10) To study the capacity assurance requirement under the Comprehensive Environmental Response, Compensation and Liability Act of 1980, Pub. L. No. 96-510, 94 Stat. 2767, 42 U.S.C. 9601 et seq., as amended, and the Superfund Amendments and Reauthorization Act of 1986, Pub. L. No. 99-499, 100 Stat. 1613, as amended as it relates to the continued eligibility of North Carolina for remedial actions under Superfund;

(11) To study alternatives available to the State for dealing with hazardous waste and the ramifications of those alternatives; and

(12) To receive and evaluate reports of every State agency, board, and commission which has any power or duty with respect to hazardous waste management.

§ 120-70.44. Additional powers.

The Environmental Review Commission, while in the discharge of official duties, may exercise all the powers provided for under the provisions of G.S. 120-19, and G.S. 120-19.1 through G.S. 120-19.4. The Environmental Review Commission may meet at any time upon the call of either cochairman, whether or not the General Assembly is in session. The Environmental Review Commission may meet in the Legislative Building or the Legislative Office Building upon the approval of the Legislative Services Commission.

Notwithstanding any rule or resolution to the contrary, proposed legislation to implement any recommendation of the Environmental Review Commission regarding any study the Environmental Review Commission is authorized to undertake or any report authorized or required to be made by or to the Environmental Review Commission may be introduced and considered during any session of the General Assembly.

§ 120-70.45. Compensation and expenses of members.

Members of the Environmental Review Commission shall receive subsistence and travel expenses at the rates set forth in G.S. 120-3.1.

§ 120-70.46. Staffing.

The Legislative Services Officer shall assign as staff to the Environmental Review Commission professional employees of the General Assembly, as approved by the Legislative Services Commission. Clerical staff shall be assigned to the Environmental Review Commission through the offices of the Supervisor of Clerks of the Senate and Supervisor of Clerks of the House of Representatives. The expenses of employment of clerical staff shall be borne by the Environmental Review Commission.

§ 120-70.47. Funding.

From funds available to the General Assembly, the Legislative Services Commission shall allocate monies to fund the work of the Environmental Review Commission.

MINUTES
ENVIRONMENTAL REVIEW COMMISSION
14 AND 15 MARCH 2006

The Environmental Review Commission (ERC) met on Tuesday 14 March 2006 at 1:00 p.m. in the Multi-Purpose Conference Room of the Education Building of the North Carolina Zoological Park south of Asheboro, North Carolina. Representative Gibson presided. In addition to the formal meeting, field trips to sites in Montgomery County were included on 14 March and a tour of the zoo on Wednesday 15 March.

The following members were present: Senators Albertson, Forrester, and Dorsett; and Representatives Gibson, Hackney, Harrison, and Warren. In addition, Representative Laura Wiley and Senator Stan Bingham attended as invited guests. Mr. George Givens, Commission Counsel; Mr. Jeffrey Hudson, Assistant Commission Counsel; Mr. Tim Dodge, Commission Analyst; and Ms. Dot Waugaman, Commission Clerk, were also present.

On 17 February 2006, notice was sent to members and interested parties via e-mail and regular mail. A copy of the notice and a copy of the Itinerary for the two day meeting are included in the attachments to these minutes as **Exhibit A**. Copies of the agenda for the meeting and visitor registration sheets are included in the attachments as **Exhibits B** and **C**.

During lunch, which preceded the formal meeting, the members of the Commission heard remarks by Dr. David M. Jones, Director of the North Carolina Zoological Park (see **Exhibit D** for a copy of his speech). Dr. Jones mentioned that the zoo sees about 20 percent of all 2- to 12-year-old children living in North Carolina every year. The zoo plans a major center focusing on the young child, to give them a range of outdoor experiences in a safe setting. He said the zoo would request a $1.5 million capital appropriation for the $3 million cost of the center. One of the other points he stressed is that the zoo is a peculiar organization within state government, and many of the procedures for procurement, while helpful to most of state government, hinder their ability to make the kind of arrangements and purchases needed. He suggested it might be more appropriate to make the zoo a satellite operation, following state rules closely in terms of administrative processes, but under its own board of governance and reporting once a year on the way state granted funds were spent.

After a short break, Representative Gibson welcomed the members and audience to the formal meeting of the ERC. He recognized Mr. Givens for his comments. Mr. Givens reported that the planning meeting for this meeting was held on Thursday 2 March. He indicated to members there was a packet of reports at their tables. All reports refer to the meeting's agenda items (see **Exhibit E** and **E-1** through **E-4**). He referred to the scheduled working group meetings on the Agenda. He announced the next meeting of the ERC will be Tuesday 11 April and Wednesday 12 April in Room 544 of the Legislative Office Building. Among the agenda items will be responses to the report by Dr. Williams made on Wednesday 8 March about animal waste management, the Water 2030 Initiative, several reports on mercury drycleaning, litter, the EMC quarterly report, and the new Drinking Water Reservoir Act. Two agenda items were deleted from the notice for today's meeting: a report on agriculture development and farmland preservation, and a report on the Dorothea Dix campus.

Representative Gibson announced the events to be held following the formal meeting. There will be a nature walk in the Roy Maness Nature Preserve, a visit to Montgomery Community College, and dinner at the Blair House Bed and Breakfast. The tour of the zoo tomorrow morning will be special.

Representative Gibson recognized Mr. Lewis Ledford, Director, Division of Parks and Recreation, Department of Environment and Natural Resources (DENR) to give the annual report on allocations from the Parks and Recreation Trust Fund (see **Exhibit E-1**). Mr. Ledford reported that 13 million visitors come to State Parks in a year. There are over 185,000 acres of land in the park system. The Parks Authority is composed of an 11-member board, chaired by the former Secretary of DENR, Mr. Jonathan Howes.

Representative Hackney asked about the acquisition of the Summit Center. Mr. Ledford replied the Council of State had approved the acquisition. The facility was acquired to provide a place to conduct environmental education. The Center is a former Episcopal retreat center north of Brown Summit.

Representative Gibson recognized Ms. Lisa Riegel, Executive Director of the North Carolina Natural Heritage Trust Fund, DENR, to present the annual report on allocation from the Natural Heritage Trust Fund for the prior fiscal year (see **Exhibit E-2** for a copy of the annual report and **Exhibit F** for a copy of her PowerPoint presentation). The difference between the revenue of $21 million in income and the $28 million in occurred because of two factors. The first is that there were $2.8 million in grants from a previous year that were returned because the land sales were not completed, and the second is certificates of participation in the amount of $5.8 million were used on military buffer game land. The Fund partners with many different entities to expand the utility of the dollars in the fund.

Representative Gibson recognized Mr. William Holman, Executive Director of the Clean Water Management Trust Fund (CWMTF), to present the annual report on the implementation of the CWMTF and options for stewardship of permanent conservation easements acquired by the Fund (see **Exhibit G** for a copy of the Trust Fund's 2005 Annual Report, **Exhibit G-1** for a fact sheet on the CWMTF, **Exhibit G-2** for an annual report brochure, and **Exhibit H** for a copy of his PowerPoint presentation). Representative Gibson asked Mr. Holman to explain the coordination between the CWMTF and other trust funds. Mr. Holman replied that boards of trustees and staff of the three trust funds (Parks and Recreation, Natural Heritage, and Clean Water Management) and the Wildlife Commission and some of their partners had met on 2 and 3 March to look for ways to improve their communication, cooperation and coordination. There is a high degree of communication between the staffs of the three trust funds; however, they agreed it is important to involve the boards of trustees in that communication as well. They are planning another similar conference next year to keep the lines of communication working well.

In the 2005 session, House Bill 1095 was passed to set some common criteria for state investments in wastewater and stormwater projects. It abolished the old State Infrastructure Commission and created a new State Water Infrastructure Commission. The CWMTF board is requesting a one year postponement in implementation of the legislation as it applies to the CWMTF because of the timing of preparation of requests for funds. The information about applying for grant funds on the CWMTF website could not reflect the new legislation before time to prepare requests. Mr. Holman said he would be coming to the General Assembly in the 2006 session to request the postponement.

Mr. Holman told Commission members the CWMTF Board of Trustees had adopted a resolution endorsing the Land for Tomorrow initiative. Jean Crews-Klein, Vice President of the Rural Center, spoke to the CWMTF board of trustees about the Rural Center's Water 2030 project, which concerns the water/ wastewater/stormwater infrastructure in the State. Mr. Holman commented that the CWMTF has interests in both land conservation and water infrastructure. A final issue is with local government wastewater projects to get the benefits for the unit to have the power to require parties to connect to water or sewer sservice. Most municipalities have that power, but some do not. He said the CWMTF would like to work with the General Assembly and those municipalities to clarify their situations.

Mr. Holman also discussed the stewardship of conservation easements. He mentioned that Governor Easley has appointed Mr. Phil Baddour to the CWMTF board. Mr. Baddour is very interested in the military protection issue, and has also taken an interest in the stewardship of conservation easements. In acquiring a conservation easement, a private land owner earns a fee, and although they maintain some of their rights over the property, they sell their development or timber rights to the State. That area is then used to become a riparian buffer for water quality purposes. The private land trusts bring projects to the CWMTF, but it is the land trust that has the relationship with the landowner to acquire easements on behalf of the State. The land trust assumes a perpetual responsibility to assure the property is maintained as required by the easement. The question is what is the best way to pay for the maintenance? In the past, the CWMTF process has been to require the easement to provide a lump sum to the land trust to be put in a permanent account and to use the interest from the account to pay for the monitoring. The CWMTF, after wrestling with the issue for two years, has developed six strategies, listed

on page 10 of Exhibit G. At the January meeting, the Board decided they would prefer to continue to pay for stewardship at closing. The Board also wants to be sure the land trust does not have control of the money so some third party would be available if the land trust failed to live up to its responsibility.

Representative Gibson reminded presenters to have any legislative proposals they wanted discussed in the short session to staff before the beginning of May for staff to prepare drafts for consideration at a meeting prior to the beginning of session.

Mr. Givens asked if HB 1095 applied to the Rural Center as well as the CWMTF. Mr. Holman replied it applied to DENR and CWMTF, but not to the Rural Center. The money appropriated for the Rural Center is for economic development. The money that is similar to CWMTF's and DENR's funds is in supplemental accounts. Mr. Givens also asked if other programs have the same issues with stewardship programs. Mr. Holman replied that others do, naming specifically the One North Carolina Naturally program.

Representative Gibson recognized Mr. Richard Rogers, Director, Office of Conservation and Community Affairs, DENR, to present the annual report on implementation of the Conservation Easements Program and inventory of all conservation easements held by DENR (see **Rchibit E**-3 for the Million Acre Report, **Exhibit E**-4 for the Conservation Easement Report, Exhibit **I** for a copy of his PowerPoint presentation and **Exhibit J** for a brochure about the program). Mr. Rogers told the Commission members the one of the responsibilities of the Office is to develop an innovative coordinated conservation plan for North Carolina. Their main effort has been to develop a conservation map to enable a look at all focused conservation efforts and funding possibilities across the State. Focus areas are determined from the resource agencies such as Wildlife Resources Commission, the Natural Heritage Program, the Parks and Recreation Program, and the Forestry Department. Members of his staff have also spoken with people in several regions in the state about their interest in the type of conservation they want: agricultural land, park land, trails or greenways. The information has been digitized and placed on a map. There is also an interactive map on the Office of Conservation and Community Affairs website at http://www.onencnaturally.org/pages/mapviewer.html for use by regional and local government planners.

The Conservation Grant Fund was given $1 million through Senate Bill 1117 for the protection of military encroachment areas around military bases, not to purchase land itself, but can to facilitate the acquisition of land by paying for transaction costs, surveys, and the like, the costs of which might be barriers to making acquisition deals.

Mr. Rogers reiterated the point made previously by Mr. Holman that there needs to be a program implemented to manage the easements the State has acquired. Other programs that could be combined into an easement management program include the Conservation Reserve Enhancement Program (CREP), the Conservation Tax Credit Program (CTCP), and Ecosystem Enhancement Program (EEP).

Senator Albertson asked if the program has any funds for easement maintenance and enforcement at this time. Mr. Rogers replied his Office has set up a memorandum of agreement (MOA) with EEP Fund's 67 properties in which they set aside $17,000 per property for management of the property in perpetuity. The Office will invest that money and use 5 percent from the investment for management.

Mr. Rogers asked to have Senate Bill 521 passed during the 2006 session and requests that the ERC endorse the bill. The provision for pass-through entities for corporate donations is scheduled to sunset at $250,000 for each individual in an S corporation or partnership in January of 2007. The Office requests the amount be changed to a cap of $500,000 per entity. He would like to expand the corporate incentive to donate by expanding it from income tax to include franchise tax as well. He commented that many people who would like to participate by giving land for conservation do not have the tax liability to utilize a tax credit; therefore they would like the tax credit to be refunded to them in cash.

Senator Forrester asked how Florida is doing on their million acre plan. Mr. Holman said that Florida invests about $300 million a year. They have met their first million acre goal and are starting on the second.

Mr. Rogers commented there are many pressures on farmers to leave farming, including the tobacco buyout and the aging of the farmers. He said the Farm Bureau is working on a farm land transition program. Mr. Rogers added that his office has a working lands program, the focus of which is to look at programs to help farmers sustain themselves and stay on the land—such as the Agriculture Cost Share Program, expansion of the CREP Program, and the Forest Development Program. He said the State will not have to match the development programs 100 percent, because the farmers want to stay on the land if the State can give them a reasonable opportunity to take advantage of the programs.

Representative Hackney commented that he is concerned about the request for refundability, particularly if it is not accompanied by more selective criteria. Mr. Rogers replied that the property is reviewed by the Tax Credit Program to see if it meets the criteria of the Program, so the State will not be buying land that does not fit the criteria. He added that the donors would have six years to utilize the tax credit which is 25 percent of the value of the land. In the last three years the 50 percent of the unused credit of 25 percent of the land's value would be refunded.

Representative Wiley (visitor) asked if North Carolina is giving tax incentives to developers to make conservation neighborhoods. Mr. Rogers said the conservation tax credit could apply to that situation. Senator Bingham (visitor) asked about the match of the corporate income tax deductions with the individual deductions. Mr. Rogers replied that there is a pass through entity established for S Corporations and partnerships in which each partner could take the maximum individual deduction. He added that there is legislation in place that will limit that to $250,000 per partnership or S Corporation. He believes it is more appropriate to give the $500,000 deduction to each entity, no matter how many partners involved in the business. Senator Bingham asked if that approximates what other states are doing. Mr. Rogers replied that North Carolina's tax credit program is out in front of other statesand our program is used as a model for other states.

Mr. Givens asked how many different state programs are in the business of acquiring permanent easements for conservation. Mr. Rogers replied that all the resource management agencies have the authority to acquire them (Forest Service, Wildlife Resources, Soil and Water, CREP, and the CTCP). Mr. Givens asked Mr. Rogers if anyone is looking at a centralized mechanism to enforce easements. Mr. Rogers replied his office is trying to build a program that can expand to include other State programs, so all the easements will be managed from one location. He said the State Property Office gets to see all the easements the state acquires because they are involved in the process, and they have a database to track them. The Office of Conservation and Community Affairs is working with the State Property Office to assure they have all the information they would need to manage all the State's easements..

Representative Gibson recognized Mr. Abdul Sm Rasheed, Chief Officer, NC Community Development Initiative, and Steering Committee Member, Land for Tomorrow, to discuss how land conservation and historic preservation can support economic and community development (see **Exhibit K** for a copy of his PowerPoint presentation, **Exhibit L** for a sheet describing the mission and program of Land for Tomorrow, **Exhibit M** for an executive summary of the five-year plan for investing in North Carolina's land, water, history and future, and **Exhibit N** for a brochure, entitled "Saving the Goodliest Land." He reported that the coalition of Land for Tomorrow advocates giving the public a chance to vote for additional state funding of $200 million per year for five years to protect the places that matter to North Carolina's citizens and communities.

Mr. Rasheed highlighted a new initiative called "Landing Jobs", and asked to have Dr. Nancy Gottovi, Executive Director of the Yadkin-Pee Dee Lakes Project, a partnering organization in Land for Tomorrow, speak about a program the Landing Jobs initiative could support called the Central Park of North Carolina (see **Exhibit O** for a brochure of FAQ's, **Exhibit P** for a brochure on the Uwharrie Lakes Byway in the proposed Central Park, **Exhibit Q** for a strategy flow chart for the Central Park Strategy, **Exhibit R** for an information sheet on the Central Park, and **Exhibit S** for the Yadkin Pee-Dee Lakes

Project annual report for 2005). Dr. Gottovi said rural economic development is closely tied to the national economic structure, but ultimately the work of rural economic development is a local issue. Strategies for developing rural areas have included incentives to entice new industry and small business incubators. Newer ideas in rural economic development have focused on cluster business development, businesses that produce similar kinds of products and share a common market. More recently, economic development has been focusing on the development of small business entrepreneurs. Businesses that have 10 or fewer employees create more jobs across the United States than any other kind of business. The successful strategies focus more on long term solutions rather than just the number of jobs created. They take into account the quality of the area's environment, the sustainability to keep productive working lands working, and even social equity, rather than just numbers of jobs created within a given time period. Studies of rural business sector development have shown there is no single formula for success. What works is having a well thought out strategy.

The Yadkin-Pee Dee Lakes Project has created such an innovative strategy. The Project is working with the University of North Carolina at Charlotte's Belk School of Business and Appalachian State's Tourism and Outdoor Recreation Program to develop North Carolina's Central Park. The seven counties comprising the park include Anson, Montgomery, Davidson, Richmond, Rowan, Randolph and Stanly. The project will develop a rural green area of farmland, mountains, rivers and lakes within an easy drive of nearly 5 million urban residents of the State. It will create a new economy based on the natural and cultural resources of the area. The UNC-Charlotte Belk School of Business said that if the creation of the park is a success, by the year 2025, 25,000 new jobs will have been created above the number that would be expected to be created. The economic impact would be $2 billion annually. It means not bringing any more tourists to the region; it means making it possible and desirable for the tourists who are coming already to spend the night in the region.

Dr. Gottovi told the members there is a funding bill for the Central Park, House Bill 1577, sponsored by Representatives Melanie Goodwin, Arlie Culp and Pryor Gibson. She asked for Commission members to support their funding request.

Representative Gibson recognized Mr. David Knight, from the Nature Conservancy, one of the members of the Steering Committee of Land for Tomorrow to explain the legislative request of Lane for Tomorrow. Because of the great need for funds to protect the environment through the various programs discussed during the meeting, Land for Tomorrow supports the requested legislation that would put a bond referendum on the ballot this November to provide funds in the amount of $1 billion ($200 million a year for five years) for "saving the goodliest land."

Representative Hackney asked about how Land for Tomorrow would see the State paying for service on the bonds. Mr. Knight said they recommend having a line item for debt service in the budget as has been done for education and transportation bonds in the past. However, they are open to working with the General Assembly to figure out how to do it if there is another way they prefer.

Representative Gibson recognized Mr. Reid Wilson, Executive Director, Conservation Trust of North Carolina, to comment on open space preservation needs and opportunities for the 23 land trust across the state (see **Exhibit T** for a copy of his PowerPoint presentation). The land trusts have worked with willing landowners to protect over 200,000 acres of forests, wetlands, farms, streams, scenic views, and more. The Conservation Trust is a resource center to the local land trusts to enable them to protect more land in the communities they serve. The land trusts in North Carolina are very sophisticated and well thought of nationally. The money made available to the trusts by the General Assembly is well spent. The EEP is managed by the Conservation Trust. It was created two years ago to help the Department of Transportation (DOT) obtain mitigation credits for damage done to streams and wetlands during road construction. North Carolina uses the preservation of high quality areas to compensate for road construction damage. Most other states use only the restoration of other damaged places to compensate for road construction damages. In less than two years, the land trusts have protected properties that border 190 miles of streams and include 2,000 acres of wetlands. He pointed out **Exhibit U**, a report on the preservation partnership between the State and the land trusts.

A number of land trusts have applied to the Natural Heritage Trust Fund through different State agencies. The Farmland Preservation Trust Fund is currently not funded, although over a four to five year period, the fund spent a little over $2.5 million to put conservation easements on 33 farms in North Carolina, totaling over 4400 acres. That process leveraged $26 million either in funding from other government programs or in value of donated conservation easements on those farms. The Tobacco Trust Fund Commission has become more involved in conservation efforts by funding the purchase of easements and by funding ten land trusts to provide outreach to tobacco buyout participants.

When there is an easement on property, it is usually co-held by CMWTF and the local land trust. The land trusts take their responsibility to monitor the properties every year very seriously to be sure the conservation value is intact. They are also serious about taking enforcement steps if easements are violated. They are pleased to be working with Mr. Rogers and others at DENR to put together a stewardship enforcement management program for all the easements they have. It is also important to know that the National Land Trust Alliance is conducting an accreditation process for all land trusts. An important piece of the accreditation is being sure the land trusts are monitoring and enforcing easements.

The highest priority of the land trusts this year is passage of legislation to put the Land for Tomorrow bond referendum on the ballot in November of this year. There is a great need for land protection funding and the land trusts believe bonds are the best way to get it. The longer it takes to raise the money, the more expensive the land will be. The land trusts are very involved at the local level organizing a grass roots campaign for the bonds. Their second priority is full funding of the existing trust funds.

The land trusts appreciate the General Assembly's efforts two years ago to fend off attempts to alter with the funding mechanism for the Natural Heritage Trust Fund and the Parks and Recreation Trust Fund. Mr. Wilson thanked Representative Harrison for her leadership in securing funding for starting up a new advisory committee for the Farmland Preservation Trust Fund. He commented that providing some conservation options for farmers may be a way to help them hold onto their farm.

The third legislative priority concerns present use value. The land trusts support House Bill 1722, introduced by Representatives Hackney, Brubaker, Gibson and Harrison. The purpose of the present use value tax program is to allow landowners to put a conservation easement on their property to remain in the present use value tax program. However, because the Department of Revenue has determined in order for someone to be eligible for the present use value tax program, 100 percent of the easement must be donated. Mr. Reid said that was never the intent of the authorizing legislation, so the land trusts are trying to get the issue clarified such that eligibility for an easement begins with 25 percent. The land trusts also want to set up a new category of present use value for wildlife and conservation purposes. Finally, they want to maintain the property tax exemption for land trusts on conservation properties they own. They have found that some local governments exempt properties for science and research, but not other benefits such as conservation.

Their fourth priority concerns conservation tax credits. The first would authorize some limited refundability as described by Mr. Rogers and establish the maximum tax credit taken by a pass through entity to be $500,000, again as Mr. Rogers described above. Mr. Reid said he would get the proposal to staff before the last ERC meeting prior to session.

Senator Albertson commented he would like to have a discussion about finding ways to better coordinate the land trusts.

Representative Gibson recognized Mr. Derb Carter, Director of the Carolinas Office, Southern Environmental Law Center, and congratulated him on his new appointment as Director. Mr. Carter discussed the proposed sale by the U. S. Forest Service of lands in the National Forest System as part of the Secure Rural Schools Forest Service FY 2007 initiative, including the proposed sale of 9,828 acres of Forest Service lands in North Carolina.

The program originated almost 100 years ago when Congress passed a law to provide payments to counties with national forests. The payment was 25 percent of the timber receipts and it was to be used for rural schools and roads. The idea arose because the national forests do not pay local taxes, and this was the federal government's way of replacing that source of revenue. The program remained in its current form until 2000. In the 1980s and 1990s, timber sales from national forests fluctuated greatly, raising a concern about the unsteady source of income for schools. In 2000, Congress passed the Secure Rural Schools Program to provide for a guaranteed amount of income to those counties based on the highest three-year average from the preceding 15 years trying to stabilize funding for rural schools and roads.

The new budget proposal put out by the Bush Administration a few weeks ago, proposes to phase out the guaranteed payment program over five years. The proposal is to sell a third of a million acres of national forest land to create money to fund the phase-out. It would mean a sale totaling almost 10,000 acres in North Carolina from in each of our four national forests (see **Exhibit V** for maps of North Carolina showing the parcels of land that would be sold, along with some general information about editorial response to the idea and a list of states, acres for sale, and 2006 allocations (in millions of dollars). There is strong opposition to the program from both political parties. The amount to be paid to North Carolina is miniscule in comparison with what other states would get. The Nantahala National Forest would lose 3835 acres, the Pisgah National Forest would lose 2780 acres, the Uwharrie National Forest would lose 2317 acres, and the Croatan National Forest would lose 895 acres.

When national forests were created, the land in North Carolina was not withdrawn in its entirety from the public domain as occurred in the West where there were large contiguous blocks of land. In the East, boundaries of the national forests were drawn and the federal government has spent decades buying land to build the forest to the boundaries. Page 2 of Exhibit V has a report of the acres proposed to be sold in each state, and the amount of money to be allocated to each state. A comparison with Oregon shows Oregon has just over 10,000 acres to be sold; North Carolina has just under 10,000 acres to be sold. In return, North Carolina would get $1, 010,791; Oregon would get $162, 825,661. Not only would that set back the effort to protect land and build on the national forest base in North Carolina, but North Carolina is getting short-changed significantly in terms of the money that would be generated once the land is sold.

Representative Gibson recognized Mary Joan Pugh, Chief of Staff, North Carolina Zoological Park, DENR, and Member, Greater Uwharrie Conservation Partnership, also to speak on the proposed sale by the U. S. Forest Service of lands in our national forest, specifically in Uwharrie National Forest (see **Exhibit W** for a copy of her speech). Randolph County gets $12,500 in fees in lieu of taxes from the national forest and about $12,500 for rural schools. Montgomery County gets about $100,000 total. Even the staff of the Forest Service from Asheville had no idea about sale of the forest lands. Part of the Uwharrie National Forest was part of the Piedmont Ecoregion, an area from Maryland to Alabama developed by The Nature Conservancy. The North Carolina portion of the ecoregion is the heart of it because of the high biodiversity on the land. Ms. Pugh said it is hard to manage widely scattered parts of the forest, but instead of selling some of it off, land should continue to be purchased.

Senator Forrester moved that the Commission send a letter to North Carolina's congressional delegation, the President, and the Secretarys of the Interior and Agriculture in opposition to the proposal. Senator Albertson seconded the motion. The motion carried. Senator Dorsett suggested the letter include information about the uniqueness of each of the forests.

The formal meeting adjourned at 4:00 p.m. At the conclusion of the formal meeting, Commission members and staff boarded buses for a trip to Troy in Montgomery County to walk along a path following the Denson Creek. The creekside land has been preserved for several miles. A series of dams on the creek has created the water supply for the town of Troy. The walk ended in an area to be developed as the Roy Maness Nature Park. We then boarded the buses to drive to Montgomery Community College where we learned about pottery making from Mr. Mike Ferree and some of his pottery students. Some threw pots; the rest decorated and glazed pots using the Raku technique. We boarded the buses again and drove to Troy to the Blair House Bed and Breakfast for a delicious catered dinner in a beautiful

setting. After dinner, we returned to the College, watched some of the pots coming out of the kiln, picked up our pot or pots and cleaned the ashes from them. We were then driven back to the Zoo parking lot, and left for our hotels.

The next morning at 8:30, we gathered once again at the Zoo for a behind the scenes tour (see **Exhibit X** for a briefing document on zoo plans). We visited the picnic area (developed ecologically to meet zoo needs), the temporary Australian exhibit that will be removed the end of this year and replaced with an exhibit for children to discover nature and play, experienced the 4-D Simex Theatre called "Deep Sea", examined the Carousel, had a snack at a food stop, visited the workshops where exhibits are created and repaired, visited the old rhinoceros and elephant house and the construction of the new elephant habitat, all the while looking at the animals along the way. The tour and our Commission site visit ended shortly before noon.

See **Exhibit Y** for a pictorial and short written report of our visit to Montgomery County from the 22 March 2006 edition of the *Montgomery Herald.*

Senator Charlie Albertson, Co-Chair

Representative Pryor Gibson, Co-Chair
Presiding

Senator Daniel Clodfelter, Co-Chair

Dot Waugaman, Commission Assistant

LIST OF EXHIBITS

Exhibit A Notice of Meeting dated 17 February 2006

Exhibit B Agenda of Meeting

Exhibit C List of Attendees

Exhibit D Speech by Dr. David M. Jones, Director of the North Carolina Zoological Park

Exhibit E Memorandum dated 14 March re Reports to the Commission, with attachments as noted

- **E-1** *Annual Report of the North Carolina Parks and Recreation Trust Fund for 2004-2005*
- **E-2** *Natural Heritage Trust Fund 2004-2005 Fiscal Year Report and Fall 2005 Grant Award List*
- **E-3** *Million Acre Report*
- **E-4** *Conservation Easements Report*

Exhibit F PowerPoint presentation by Ms. Lisa D. Riegel, Executive Director, NC Natural Heritage Trust Funds, DENR

Exhibit G Annual Report of Clean Water Management Trust Fund for 2005

- **G-1** *Fact Sheet on North Carolina's Clean Water Management Trust Fund*
- **G-2** *Brochure: Annual Report of North Carolina Clean Water Management Trust Fund*

Exhibit H PowerPoint presentation by Mr. William Holman, Executive Director, Clean Water Management Trust Fund

Exhibit I PowerPoint presentation by Mr. Richard Rogers, Director, Office of Conservation & Community Affairs, DENR

Exhibit J Brochure from One North Carolina Naturally: North Carolina's Natural Network--Conservation Tools & Resources

Exhibit K PowerPoint presentation by Mr. Abdul Sm Rasheed, Steering Committee Member, Land for Tomorrow

Exhibit L Land for Tomorrow, explanation of mission and program of the organization

Exhibit M Executive Summary—Saving the Goodliest Lane: A Five Year Plan for Investing in North Carolina's Land, Water, History and Future

Exhibit N Brochure: Saving the Goodliest Land

Exhibit O Brochure: Creating North Carolina's Central Park, A strategy for a Sustainable Future

Exhibit P Brochure: Uwharrie Lakes Byway in North Carolina's Central Park

Exhibit Q Strategy Flow Chart: The Central Park Strategy

Exhibit R Information Sheet: The Central Park of North Carolina

Exhibit S Annual Report for 2005: The Yadkin-Pee Dee Lakes Project

LIST OF EXHIBITS

Exhibit T PowerPoint presentation by Mr. Reid Wilson, Executive Director, Conservation Trust of North Carolina

Exhibit U Brochure: Protecting North Carolina's Threatened Land and Waterways

Exhibit V Editorial Excerpts from North Carolina re Sale of Federal Land to Finance Schools and Attached Maps

Exhibit W Proposed Sale of Uwharrie Forest Lands Comments by Mary Joan Pugh, Chief of Staff, North Carolina Zoological Park, DENR; and Member, Greater Uwharries Conservation Partnership

Exhibit X Brochure from North Carolina Zoological Park Showing Expansion Goals

Exhibit Y News Articles from *Montgomery Herald*, Wednesday March 22, 2006, Reporting the Visit to Montgomery County

EXHIBIT A

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 733-2578
FAX: (919) 715-5460

SUSAN S. IDDINGS
ASSISTANT COMMISSION COUNSEL
401 LEGISLATIVE OFFICE BUILDING
(919) 733-6660

JENNIFER L. McGINNIS
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

DOT WAUGAMAN
COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 715-2525
FAX (919) 754-3232

JEFF W. HUDSON
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

TIMOTHY R. DODGE
COMMISSION ANALYST
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

17 February 2006

TO: Members of the Environmental Review Commission
Interested Parties

FROM: George F. Givens, Commission Counsel
Dot Waugaman, Commission Clerk

RE: **Commission Meetings**
Planning Meeting

COMMISSION MEETING – 8 March 2006

The Environmental Review Commission (Commission) will meet at 9:30 a.m. Wednesday 8 March 2006 in Room 544 of the Legislative Office Building in Raleigh. At the 8 March meeting, the Commission will hear a report on issues related to the evaluation of alternative animal waste management technologies to determine whether those technologies are environmentally superior and economically feasible, as well as reports from State agencies related to water quality and animal waste management. A formal meeting notice will be forthcoming.

COMMISSION MEETING – 14 and 15 March 2006

The Commission will meet at the North Carolina Zoological Park in Asheboro, North Carolina, on Tuesday 14 March and Wednesday 15 March 2006. This meeting will focus primarily on various matters related to parks and recreation, land conservation, and open space preservation and will be held in connection with a tour of the Zoological Park and other site visits in the area on those days. A formal meeting notice, including a detailed itinerary for the meeting and site visits will be forthcoming. For planning purposes, the Commission Clerk will be contacting members of the Commission over the next week to determine their availability for the meeting and site visits. Information on accommodations will also be forthcoming.

PLANNING MEETING:

To facilitate development of the agenda for the 8 March and the 14 and 15 March meetings of the Commission, to plan for subsequent meetings of the Commission, and to receive input from interested persons regarding the work of the Commission, the Commission Counsel will hold an informal planning meeting at **10:00 a.m. on Thursday 2 March 2006 in Room 605 of the Legislative Office Building**. Persons who wish to participate in the development of the agenda for meetings of the Commission, or who are interested in any matter before the Commission, are invited to attend.

ADDITIONAL INFORMATION:

If you have questions related to the Commission, please feel free to contact the Commission Counsel or other Commission staff at (919) 733-2578.

ENVIRONMENTAL REVIEW COMMISSION
NORTH CAROLINA ZOOLOGICAL PARK MEETING AND SITE VISITS
TUESDAY 14 AND WEDNESDAY 15 MARCH 2006

ITINERARY

Meeting location: The Multi-Purpose Conference Room at the North Carolina Zoological Park in Asheboro, North Carolina. Directions to the Multi-Purpose Conference Room are provided at the end of this document.

Tuesday 14 March 2006

Lunch in the Multi-Purpose Conference Room — **12:00 p.m. to 1:00 p.m.**
with Remarks by Dr. David M. Jones,
Director of the North Carolina Zoological Park
(General Assembly members and staff)
Hosted by the North Carolina Zoological Society

Commission business meeting – Multi-Purpose Conference Room — **1:00 p.m. to 4:00 p.m.**

Site Visit to Roy Maness Nature Preserve — **4:00 p.m. to 5:30 p.m.**
(General Assembly members and staff)
Hosted by Roy Maness, Mayor of Troy, NC
(Buses will be provided for transportation to the site
courtesy of Montgomery County Schools and
Robert Gilman, Executive Director Auxiliary/Student Support Services)

Field Trip to Montgomery Community College (MCC) — **5:30 p.m. to 6:30 p.m.**
for Earthenware Demonstration
(General Assembly members and staff)
Hosted by Gelynda T. Capel, Chairman, MCC Board of Trustees
Mike Ferree, Pottery Director

Dinner at the Blair House Bed and Breakfast — **6:30 p.m. to 8:00 p.m.**
(General Assembly members and staff)
Hosted by Roy Maness, Mayor,
Greg Zephir, Town Manager,
and others from Troy, NC

Return to MCC for Pottery Kiln Opening — **8:00 p.m. to 9:00 p.m.**
(General Assembly members and staff)
(Buses will be provided for transportation
to return to the Zoo Parking Lot
courtesy of Montgomery County Schools and Robert Gilman)

Wednesday 15 March 2006

Breakfast at Holiday Inn -- (General Assembly members and staff) — **7:30 a.m. to 8:30 a.m.**
(On your own)

Tour of Zoological Park -- (General Assembly members and staff) — **8:30 a.m. to 12:00 p.m.**

Other Information:

Dress for the Commission's business meeting, site visits, and dinner on 14 March will be casual.

Dress comfortably and wear comfortable shoes for the site visits on 14 March and the tour of the Zoological Park on 15 March. Also, remember to bring sunglasses and sunscreen.

Please notify Commission staff in advance if you will be accompanied by a spouse, companion, or children, and if you have any special dietary needs.

Directions to the Multi-Purpose Conference Room at the North Carolina Zoological Park:

The Multi-Purpose Conference Room is located within the W. David Stedman Education Center/Zoo Society and Offices at the North American Entrance to the Zoo.

Directions to the Holiday Inn Express Hotel & Suites, Asheboro:

From the Zoological Park, exit the Zoo and return to Interstate 64. At Interstate 64 (E. Dixie Drive) turn right and proceed approximately .4 miles.

Hotel Information:
Holiday Inn Express Hotel & Suites
1113 E. Dixie Drive, Asheboro, 27203
Toll-Free: 1-800-HOLIDAY
Tel: 1-336-636-5222

EXHIBIT B

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 733-2578
FAX: (919) 715-5460

SUSAN S. IDDINGS
ASSISTANT COMMISSION COUNSEL
401 LEGISLATIVE OFFICE BUILDING
(919) 733-6660

JENNIFER L. McGINNIS
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

DOROTHY M. WAUGAMAN
COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 715-2525
FAX: (919) 754-3232

JEFF W. HUDSON
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

TIMOTHY R. DODGE
COMMISSION ANALYST
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

AGENDA

1:00 p.m. Tuesday 14 March 2006
Multi- Purpose Conference Room
North Carolina Zoological Park
Asheboro, North Carolina

1. Call to order
   Representative Pryor A. Gibson, Presiding

2. Introductory remarks by Cochairs
   Representative Pryor A. Gibson
   Senator Charles W. Albertson
   Senator Daniel G. Clodfelter

3. Report to the Commission and explanation of agenda items
   George F. Givens, Commission Counsel

4. Annual report on allocations from the Parks and Recreation Trust Fund from the prior fiscal year (G.S. 113-44.15(c))
   Lewis R. Ledford, Director
   Division of Parks and Recreation, Department of Environment and Natural Resources (DENR)

5. Annual report on allocations from the Natural Heritage Trust Fund from the prior fiscal year (G.S. 113-77.9(e))
   Lisa D. Riegel, Executive Director
   North Carolina Natural Heritage Trust Funds, DENR

6. Annual Report on implementation of the Clean Water Management Trust Fund (G.S. 113-145.6A(a))
   William E. Holman, Executive Director
   Clean Water Management Trust Fund

7. Options for Stewardship of Permanent Conservation Easements Acquired by the Clean Water Management Trust Fund
   William E. Holman, Executive Director
   Clean Water Management Trust Fund

8. Report on the One North Carolina Naturally conservation initiative
   Annual report on implementation of the Conservation Easements Program and inventory of all conservation easements held by DENR (G.S. 113A-235(c))
   Richard E. Rogers, Jr., Director
   Office of Conservation & Community Affairs, DENR

   Annual report on progress towards attaining the State's goal of protecting one million acres of farmland, open space, and conservation lands (G.S. 113A-241(c))
   Richard E. Rogers, Jr., Director
   Office of Conservation & Community Affairs, DENR

9. Presentation by Land for Tomorrow on how land conservation and historic preservation can support economic and community development
   Abdul Sm Rasheed, Chief Executive Officer
   NC Community Development Initiative; Steering Committee Member, Land for Tomorrow

   Nancy C. Gottovi, Executive Director
   Yadkin-Pee Dee Lakes Project

10. Comments by the Conservation Trust of North Carolina on open space preservation needs and opportunities
    Reid Wilson, Executive Director
    Conservation Trust of North Carolina

11. Discussion of the proposed sale by the U.S. Forest Service of lands in the National Forest System as part of the Secure Rural Schools Forest Service FY 2007 Initiative, including the proposed sale of 9,828 acres of Forest Service lands in North Carolina
    Mary Joan Pugh, Chief of Staff
    North Carolina Zoological Park, DENR;
    Member, Greater Uwharries Conservation Partnership

    Derb S. Carter, Jr., Director, Carolinas Office
    Southern Environmental Law Center

12. Commission discussion and announcements

13. Adjourn

SCHEDULE OF FUTURE MEETINGS:

Below is a schedule of meetings of the Commission for March 2006 through May 2006. This schedule is tentative and subject to adjustment. To facilitate development of the agenda for meetings of the Commission and to receive input from interested persons regarding the future work of the Commission, the Commission Counsel holds informal planning meetings for staff and interested parties. The schedule of these public Commission staff planning meetings is also set out below.

Wednesday 15 March 2006 – Tour of Zoological Park
Time: 8:30 a.m.

Tuesday 11 April and Wednesday 12 April 2006
Location: 544 LOB / To be determined
Staff Planning Meeting: 2:00 p.m. Monday 3 April 2006 – 605 LOB

Wednesday 3 May 2006
Location: 544 LOB
Staff Planning Meeting: 10:00 a.m. Thursday 27 April 2006 – 605 LOB (This meeting will also serve as the Commission staff planning meeting for the Commission meeting scheduled for 8 May 2006.)

Monday 8 May 2006
Location: 544 LOB

OTHER MEETINGS:

The Commission Counsel will hold meetings of interested parties on specific topics as indicated below:

Phase II Stormwater Management Working Group
10:00 a.m. Friday 10 March 2006 – 605 Legislative Office Building
10:00 a.m. Wednesday 22 March 2006 – 605 Legislative Office Building
10:00 a.m. Monday 3 April 2006 – 605 Legislative Office Building

Risk-Based/Limit Liability for Environmental Cleanups Working Group (HB 1778/HB 1099/SB 1121)
2:00 p.m. Friday 17 March 2006 – 605 Legislative Office Building
2:00 p.m. Monday 10 April 2006 – 605 Legislative Office Building

ADDITIONAL INFORMATION:

Persons having questions about the Commission meeting or other matters related to the Commission may contact Commission Counsel or other Commission staff at (919) 733-2578.

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — March 14, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Lisa Schell	CCNMTF
D. Holman	CCNMTF
Laura Wiley	NC General Assembly
Kate Dixon	Land for Tomorrow
Marge Anderson Lindsay	Land for Tomorrow
David Knight	TNC
Johanna Reese	DENR
Linda Pearsall	"
Richard Rogers	"
Lisa Riegel	Natural Heritage Trust
Lewis LedFord	Div Parks & Recreation

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — March 14, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
LISA RIEGEL	NATURAL HERITAGE TRUST FUND
LEWIS LEDBETTER	DENR PARKS
MIKE WATERS	NCRPA
DERB CARTER	SELC
Reid Wilson	CTNC
Bill Holman	NC DENR

Presentation to the Environmental Resources Commission
March 14, 2006

Speech

Ladies and Gentlemen, a very warm welcome to the Zoo. We are pleased and honored that you are here. While recognizing that you have much on your agenda today, the meeting gives me an opportunity to tell you a little of what we are doing at the Zoo, some of our recent achievements and at the same time, tell you about some of the challenges that we face and how you can help us.

To an outside observer, the siting of the Zoo in Asheboro in the late 60s might have seemed an odd decision. After all most sizeable Zoos in the country reside in city center parks and often within half an hour's travel of several million people. However, if we look at the current growth patterns around the State- with a 50% rise in population predicted by the middle of the century, mainly in the 150-mile urban arc from Charlotte to Raleigh, you begin to see that this central rural position with 1500 acres was in fact a very wise move. Our relative remoteness is still something of an issue because of the travel drive times, but the Zoo is in a position where most people in the state can get to it now in under two hours. We see approximately 700,000 visitors a year, about a third from the Triad as you might expect, about a quarter from the Raleigh/Durham area, about 15% from Charlotte and its surroundings and about that same number from out of state.

Perhaps though the most important statistic that I need to remind you about is the fact that within 20 years at least three-quarters of our children will be growing up in these urban areas. What we are already seeing in children of all ages, is a detachment from their grandparental roots, a poor understanding of the importance of nature and especially a lack of knowledge of where their food comes from. This is something that has recently been described as "nature deficiency syndrome". If we look at the world economic picture, particularly that in relation to global food and energy production, it is very clear that North Carolina's agricultural and forestry industries are likely to rebound in terms of their economic importance to us. As more people urbanize, the greater the demand will also be to maintain our wild spaces for recreation and escape, but above all for the natural services that our rural areas provide, especially in terms of clean air, clean water and productive soils.

I mention all that to put the Zoo into clear context in relation to the state's key emerging issues. The sheer numbers of visitors we see and the potential impact we have on them puts this institution easily at the top of the list in relation to day-visitor natural science facilities. What is particularly important is that we see about 20% (1 in 5) of all 2 to 12 year-olds living in North Carolina every year, either in school groups or with their families.

Our next major project, after we have completed the Elephant and Rhino exhibit, which you will hear more about tomorrow, is a major center focusing entirely on the young child. The intent here is to give that age group of children, most of them coming from our

cities, a range of outdoor 'nature' experiences in a safe setting. This will have them turning over rocks in a creek, playing with natural materials, handling small critters, thinking about trees and food and hopefully stimulating that excitement that will then foster an understanding and an interest in the protection and stewardship of our natural world. Recent research shows clearly what I'm sure most of you already know intuitively and that is that the young child, up to 12 years old builds a sense of curiosity and excitement about the world around them through what they can see, feel, touch, smell, hear and experiment with. It's the sensory stimulation and emotional attachment of those early years that triggers an interest in and concern for the more detailed connections of clean air, clean water, agriculture and economics that we want them to understand in early adulthood. We are probably not going to have much impression on many of them in their teens and certainly the research bears that out, but if we give them the opportunity to take an interest in their early years, there is a good chance that that will be built on from the age of 18 onwards. It is on that basis that we at the Zoo look at what our role is and should be.

We have, of course, a major recreational as well as educational responsibility and indeed without that- the draw of the live animals, you are unlikely to get many people to pay attention to some of the deeper messages. At virtually every exhibit here today, either with written or graphic interpretives and through volunteers and staff, we try to relate the animals and plants that people are seeing to one or more of our key environmental stewardship needs. Approximately 100,000 children are coming in school groups and whether it is in that setting, or where children are coming with their families, our Education Department have a major presence in the Park interacting with them, particularly at the busier times of the year. There is an increasing demand for overnight Zoo Snoozes, birthday parties (of course with an animal theme) and for a range of other child-oriented activities. We also cater particularly for the needs of teacher training in environmental education. Outside the Park, we are very much involved in discussions about the region's future and especially the relationship between economic development and environmental stewardship in the Piedmont. I Chair the main non-Governmental rural development agency for the region and many of our staff are involved on the Boards of Land Trusts, regional environmental partnerships, City and County planning groups and statewide organizations such as Audubon and Environmental Defense. We play an active role in species conservation management, relating to plants and animals in the region, often working alongside our DENR colleagues and of course with university partners. The Zoo is very active with the American Zoo and Aquarium Association and we hold the national studbooks for animals such as Chimpanzee and Hamadryas Baboon. You are going to see a selection, not only representing our very best exhibits, but also some of the challenges that face us in terms of long-term maintenance, transportation around the Park and capital for new construction.

We are probably the most advanced zoo in the country in terms of our green practices and the ways we showcase those. The only zoo in the U.S. with ISO14001 certification (indeed the only institution in State Government with this), we use biofuels in our vehicles, recycle almost everything that is recyclable, save $100,000 a year through our composting unit and are about to build one of the State's largest solar generating units.

It may surprise you to know that despite the development work that we have been able to do in recent years, the Zoo has actually had no capital money from State Appropriations in 14 years. Everything that we have been able to do- improvements to the two entrances, a completely new chimp and lion exhibit, the temporary Australia exhibit and now the new Elephant and Rhino complex has been done almost entirely with private money, supplemented by funds from time to time when they were available from the State Repair and Renovation Fund. During the period when the Zoo was building first the Africa and then the North America continents, about three-quarters of all the capital funding came from State sources. I know only too well the current pressures on the Legislature in terms of funding. We are trying hard to earn more ourselves on a day to day basis and again you will see some examples of that, but also, through the Zoo Society, we have raised considerable capital monies for development. A place like this will only maintain its quality and level of visitation if it has something new to offer the visitor at regular intervals. I recognize that a three or four to one ratio of government money to private money that we have seen in the past is probably untenable, but I don't think it is possible for us to raise all the capital money that we need for that continued repair, improvement and expression of our full potential. We will drain the Society coffers fairly significantly with the ongoing elephant/rhino project. I would suggest that a realistic figure we should aim for for the future would be a 50/50 mix. In other words, for the new children's facility, which we estimate will cost around $3 million, I think it is possible for us to raise $1.5 million for that and expect appropriations of the same sum. That is for new development. However, when it comes to repair and infrastructure improvements, and we are going to show you some of the needs there, fundraising is much more difficult on a private basis. Thankfully the figures are not as high as they are for new exhibits, but in these cases, costs will have to be covered from State funds alone.

I would like to finish by just mentioning governance. The Zoo is a peculiar organization within State Government. It has to be both a serious educational facility and an organization that we try to run as a commercial business. Usually in business matters one has to be fairly 'fleet of foot' in making decisions swiftly and acting on them promptly. The pressure is on us, rightly, to try to generate as much income as possible. The principal way to do that is by satisfying our customers and getting them back again. Another way is to look for potential partnerships that can help you reach those business objectives. For example, our partnership with Sodexho in providing all our food services and increasingly our special events and evening catering is a good example. Because so many of the contracts and services that we get involved in are so peculiar to the Zoo- wheel chairs, strollers, a specialized wildlife pathologist on contract, purchase of the new Carousel, the catering contract just mentioned, the State, beyond these premises, has little experience of dealing with such things. The standard centralized process of purchase and contract may work well for 95% of State Government because of the commonality of those services and goods, but in our case, many of those contracts are unique and have more to do with maximum income generation than supply of goods or a standard service. Frequently there are only one or two suppliers in the country and most of the time we and only we are in the best position to judge what is most appropriate to our needs. All this to say that I think we ("we" being our Zoo team and you who are ultimately responsible for

us) need to look at whether it wouldn't be better to make the Zoo a satellite operation of State Government, pretty well independent in its functions, following State rules closely in terms of the administrative processes, but under its own board of governance and reporting back once a year as appropriate on the way that State granted funds are spent. I would go so far as to say that I think there are other organizations in the State, such as our museums and aquariums that would probably benefit from a similar sort of approach. Most of us have the human resources, financial controls and other administrative mechanisms to handle all of that on site. There is always going to be a need for some referral and advisory input from, in our case DENR and occasionally the State budget and human resources, but at the moment the process is very burdensome and limiting in where we might go with the Zoo. I have already mentioned this to some of our local Legislators and will continue to do the rounds there, but I float this today because in considering the future of the Zoo, as you go around and see some aspects of our work, it is something we need to bring to the table.

Once again, it is a delight to welcome you here. I think you have reason to be very proud of this facility. There is really nothing quite like it in the country and it is very much the envy of many communities elsewhere.

DMJ/jnh
03-14-06

EXHIBIT E

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 733-2578
FAX: (919) 715-5460

SUSAN S. IDDINGS
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401 LEGISLATIVE OFFICE BUILDING
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COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
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(919) 715-2525
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COMMISSION ANALYST
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(919) 733-2578

14 March 2006

MEMORANDUM

To: Members of the Environmental Review Commission
From: Tim Dodge, Commission Analyst
Re: Reports to the Commission

This memorandum lists reports that have been submitted to the Environmental Review Commission by State agencies since the last reports distribution on 8 March 2006.

A. REPORTS RELATED TO TODAY'S AGENDA

The following reports are attached to this memorandum. These reports may be referenced during the course of the 14 March 2006 Commission meeting.

Parks and Recreation / Land Conservation:

1. *Parks and Recreation Trust Fund Annual Report, Fiscal Year 2004-2005.* Division of Parks and Recreation, DENR. 1 October 2005. Statutory Authority: G.S. 113-44.15(c).

2. *North Carolina Natural Heritage Trust Fund Award Report, Calendar Year 2004.* Division of Parks and Recreation, DENR. 1 September 2005. Statutory Authority: G.S. 113-77.9(e).

3. *Annual report on progress towards attaining the State's goal of protecting one million acres of farmland, open space, and conservation lands.* DENR. 1 October 2005. Statutory Authority: G.S. 113A-241(c).

4. *Annual report on implementation of the Conservation Easements Program.* DENR. 1 November 2005. Statutory Authority: GS 113A-235(c).

Please contact George Givens, Jeff Hudson, Jennifer McGinnis, or Tim Dodge at (919) 733-2578 if you have any questions or comments.

EXHIBIT E-1

North Carolina
Parks & Recreation Trust Fund

Jonathan B. Howes, Chair
Timothy L. Aydlett
Lydia Boesch
M. Wendell Begley
Harriet L. Farrior
Eddie Holbrook
Walt Israel
Ron Kincaid
Kenneth M. Sadler
Cynthia Tart
Lisa Weston

October 1, 2005

RECEIVED
SEP 30 2005
RESEARCH DIVISION

The Honorable Michael F. Easley
Governor of North Carolina
State Capitol
116 West Jones Street
Raleigh, North Carolina 27603-8001

Dear Governor Easley:

The Parks and Recreation Trust Fund (PARTF) continues to be the most important funding source for park and recreation opportunities for the citizens of North Carolina. As chair of the North Carolina Parks and Recreation Authority, I am pleased to submit the 2004-2005 Parks and Recreation Trust Fund Annual Report.

We have accomplished much in the past year. Eighty-five local governments requested $24.9 million in PARTF assistance. The Authority awarded over $13 million in matching grants to 50 local governments for the acquisition, development and renovation of public recreation areas. Recreational programs, local parks, and open space are essential to the strength of our communities and families. PARTF grants will help communities give citizens safe and healthy places to play and to learn about the environment.

In addition, PARTF has allowed the state to address the tremendous needs in North Carolina's state parks system. This year, the Authority approved $28.9 million for land acquisitions, emergency repairs, renovations and capital improvement projects.

This has been an outstanding year for parks and recreation in the state of North Carolina. It is a legacy of which all North Carolinians can be proud.

Sincerely,

Jonathan B. Howes

Jonathan B. Howes, Chairman
Parks and Recreation Authority

Enclosure

cc: Senator David Weinstein, Chair, Senate Appropriations NER Committee
Rep. Howard Hunter, Co-Chair, House Appropriations NER Subcommittee

Rep. Edith Warren, Co-Chair, House Appropriations NER Subcommittee
Bill Ross, Secretary, DENR
Hawley Truax, Senior Policy Advisor, Office of the Governor
George Givens, Staff Attorney, Environmental Review Commission (ERC)
Lewis Ledford, Director, Division of Parks and Recreation
Johanna Reese, DENR Intergovernmental Liaison
Jeff Hudson, Staff Attorney, ERC
Tim Dodge, Research Analyst, ERC
Jennifer Haygood, Fiscal Research
Joy Hicks, Fiscal Research
Jennifer McGinnis, Fiscal Research

North Carolina
Parks & Recreation Trust Fund

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Lisa Weston

October 1, 2005

The Honorable Marc Basnight
North Carolina Senate
Room 2007
Raleigh, North Carolina 27601-2808

Dear Senator Basnight:

The Parks and Recreation Trust Fund (PARTF) continues to be the most important funding source for park and recreation opportunities for the citizens of North Carolina. As chair of the North Carolina Parks and Recreation Authority, I am pleased to submit the 2004-2005 Parks and Recreation Trust Fund Annual Report.

We have accomplished much in the past year. Eighty-five local governments requested $24.9 million in PARTF assistance. The Authority awarded over $13 million in matching grants to 50 local governments for the acquisition, development and renovation of public recreation areas. Recreational programs, local parks, and open space are essential to the strength of our communities and families. PARTF grants will help communities give citizens safe and healthy places to play and to learn about the environment.

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North Carolina
Parks & Recreation Trust Fund

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Kenneth M. Sadler
Cynthia Tart
Lisa Weston

October 1, 2005

The Honorable James Black
North Carolina House of Representatives
Room 2304
Raleigh, North Carolina 27601-2808

Dear Representative Black:

The Parks and Recreation Trust Fund (PARTF) continues to be the most important funding source for park and recreation opportunities for the citizens of North Carolina. As chair of the North Carolina Parks and Recreation Authority, I am pleased to submit the 2004-2005 Parks and Recreation Trust Fund Annual Report.

We have accomplished much in the past year. Eighty-five local governments requested $24.9 million in PARTF assistance. The Authority awarded over $13 million in matching grants to 50 local governments for the acquisition, development and renovation of public recreation areas. Recreational programs, local parks, and open space are essential to the strength of our communities and families. PARTF grants will help communities give citizens safe and healthy places to play and to learn about the environment.

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Parks and Recreation Authority

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Jennifer McGinnis, Fiscal Research

North Carolina
Parks and Recreation Trust Fund

2004–2005
ANNUAL REPORT

Division of Parks and Recreation
Department of Environment and Natural Resources
1615 MSC
Raleigh, NC 27699-1615

Michael F. Easley
Governor

William G. Ross Jr.
Secretary
Department of
Environment and Natural
Resources

Parks and Recreation Trust Fund
Annual Report 2004–2005

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1.0 Introduction

The North Carolina General Assembly established the North Carolina Parks and Recreation Trust Fund (PARTF) on July 16, 1994. The General Assembly made an initial appropriation of $1 million to PARTF to fund improvements in state parks, to fund grants for local governments and to increase public access to the state's beaches. In 1995, the General Assembly dedicated funds from the excise stamp tax to the trust fund starting in FY 1996-97. The Parks and Recreation Authority, an eleven-member board, was also created to allocate funds from PARTF to projects in state parks and to grants for local governments.

The excise tax is the primary funding source for PARTF. The tax is levied on each "deed, instrument, or writing by which interest in real property is conveyed to another person." The tax is levied at the rate of one dollar on each $500 of the interest or property conveyed. Each county remits one-half of the proceeds, less the county's allowance for administrative expenses, to the state. Effective July 1996, the General Assembly (G.S. 105-228.30) stipulated that part of the state's share would be allocated to PARTF. Of the funds remitted, the Department of Revenue credits 75% to the Parks and Recreation Trust Fund and 25% to the Natural Heritage Trust Fund.

Pursuant to G.S. 113-44.15, the money from the Parks and Recreation Trust Fund are to be allocated as follows:

(1) Sixty-five percent (65%) for the State Parks System for capital projects, repairs and renovations of facilities and to land acquire land.

(2) Thirty percent (30%) to provide grants to local governments on a dollar-for-dollar basis to create or improve parks and recreational projects.

(3) Five percent (5%) for the Coastal and Estuarine Water Beach Access Program.

(4) No more than three percent (3%) may be used by the Department of Environment and Natural Resources (DENR) for the operating expenses associated with managing capital improvements projects, acquiring land, and administering the grants program for local governments.

2.0 North Carolina Parks and Recreation Authority

The North Carolina Parks and Recreation Authority, an 11-member board that oversees the Parks and Recreation Trust Fund, was created by the General Assembly with the Authority's powers and duties becoming effective July 1, 1996. The Governor appoints three members, including the chairperson. The General Assembly appoints four members upon the recommendation of the President Pro Tempore of the Senate. The General Assembly appoints four members upon the recommendation of the Speaker of the House.

The Authority is charged with six powers and duties: to receive public and private donations and funds for deposit into the trust fund; to allocate funds for land acquisition; to allocate funds for capital projects; to solicit financial and material support; to develop effective support for parks and recreation; and to advise the Secretary of DENR on any matter he may refer to the body.

Members are appointed for three-year terms and may serve no more than two consecutive three-year terms. After serving two consecutive three-year terms, a member is not eligible for appointment to the Authority for at least one year after the expiration of the member's last term. The Parks and Recreation Authority held four meetings during fiscal year 2004-2005.

The 2004-2005 Parks and Recreation Authority members were:

Jonathan Howes
Chapel Hill

Wendell Begley
Black Mountain

Timothy L. Aydlett
Elizabeth City

Lydia Boesch
Pinehurst

Harriet L. Farrior
Wallace

Eddie Holbrook
Shelby

Walt Israel
Belmont

Ron Kincaid
Mount Gilead

Dr. Kenneth M. Sadler
Lewisville

Cynthia Tart
Oak Island

Lisa Weston
Belmont

3.0 Parks and Recreation Trust Fund Summary

The Parks and Recreation Trust Fund (PARTF) is housed within the Division of Parks and Recreation, which operates the North Carolina State Parks System. The Parks and Recreation Authority allocates PARTF to the state parks capital improvement and land acquisition projects. This board also selects the recipients of the grants to local governments to create or improve parks and recreational projects. The Division of Parks and Recreation, under Lewis Ledford, Division Director, develops priorities for the state parks system and recommends projects for the board's approval. Once the board has allocated the PARTF funds, the Division manages the projects for state parks and for the grants program.

The Division of Parks and Recreation transfers 5% of PARTF to the Division of Division of Coastal Management (DCM) for the Coastal and Estuarine Water Beach Access Program. The Division of Coastal Management, under the direction of Charles Jones, administers these funds and offers matching grants to local governments throughout the 20 coastal counties.

Table 3-1 shows the revenues received into the Parks and Recreation Trust Fund and the allocation of revenues by program for fiscal year 2004-2005.

Table 3-1
Parks and Recreation Trust Fund (PARTF)
Distribution of Revenues
Fiscal Year 2004-2005

Item	Amount
Public Beach and Coastal Waterfront Access Program	$2,256,866
Local Governments Matching Grants Program	$13,338,847
State Parks System	
Capital Improvements	$14,450,417
Land Acquisition	$14,450,417
Administrative Expenses	
Contract with NCSU Recreation Resources Service	$198,193
Division of Parks & Recreation staff and Authority members	$442,588
2004-2005 PARTF Revenues	**$45,137,328**

4.0 Grants Program for Local Governments

4.1 Program Description

The Parks and Recreation Trust Fund (PARTF) program provides dollar-for-dollar grants to local governments. All counties, incorporated municipalities and public authorities (as defined in N.C.G.S. 159-7) are eligible for funding. Two or more local governments may apply jointly. Recipients can acquire land to use for public recreation or to protect the natural or scenic resources of the property. Recipients can also use a grant to build or renovate recreational and support facilities. All facilities must serve the general public.

In September, the Division of Parks and Recreation (DPR) mails a description of the PARTF program and a schedule to local governmental officials and parks and recreation directors. A local government can request a maximum grant amount of $500,000 in PARTF assistance with its grant application. The approved value of land that is donated to a local governmental unit or public authority may be applied to the 50% matching requirement.

The DPR provides assistance to local governments in several ways. In October, the PARTF staff conducts a workshop where local governments can learn about the program and how to complete an application. The workshop is presented simultaneously at University of North Carolina video conference sites. The DPR has a contract with Recreation Resources Service (RRS) at North Carolina State University. The staff of RRS can provide technical assistance to local governments who request help in planning projects and preparing grant applications. RRS has six consultants in regional offices across the state.

The members of the Parks and Recreation Authority select which applicants will receive a grant. The factors considered by the Authority as it selects recipients include, but are not limited to, the criteria contained in the PARTF scoring system, the population of the applicant, the geographic distribution of projects across the state, the presence or absence of other funding sources and compliance with prior grant agreements.

Applications are due January 31. The Parks and Recreation Authority meets in May to select recipients from PARTF revenues received for the first three-quarters of the fiscal year. The Authority meets in early July to select grant recipients from PARTF revenues received during the fourth quarter of the fiscal year.

4.2 Description of Applications and Grants

The PARTF revenues for fiscal year 2004-2005 were $13,338,847. Eighty-five units of local government submitted PARTF applications requesting a total of $24.9 million in PARTF assistance. The Authority awarded 50 grants for $13,950,359. The difference between the amount awarded and the fiscal year revenues is $611,512. The additional funds are: $249,650 returned from the Town of Erwin; $206,501 returned from Anson County; $9,244 from the Town of Marion that completed its project under budget; $189,485 from fiscal year 2003-04 unspent administrative funds; $244 other funds returned from grantees. Table 4-1 on the following page is a list of the projects approved for fiscal year 2004-2005. The table is organized alphabetically by recipient.

There is a balance of $43,612 in unspent funds for fiscal year 2004-2005. The Parks and Recreation Authority will allocate these funds in the future.

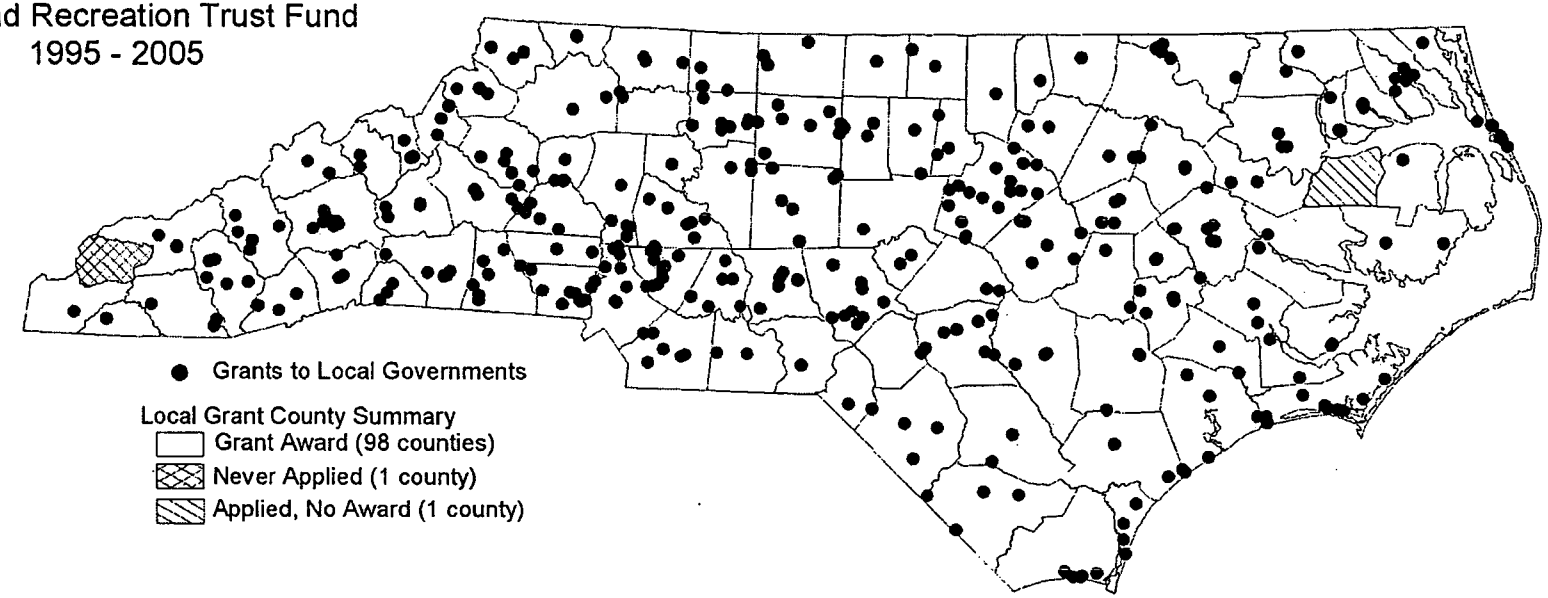
4.3 Geographic Distribution of Grants

The members of the Parks and Recreation Authority consider the geographic distribution of funds across the state as one of the factors used in selecting grant recipients. After nine funding cycles, the Authority has awarded over $73 million in PARTF grants to 432 projects in 98 counties across North Carolina.

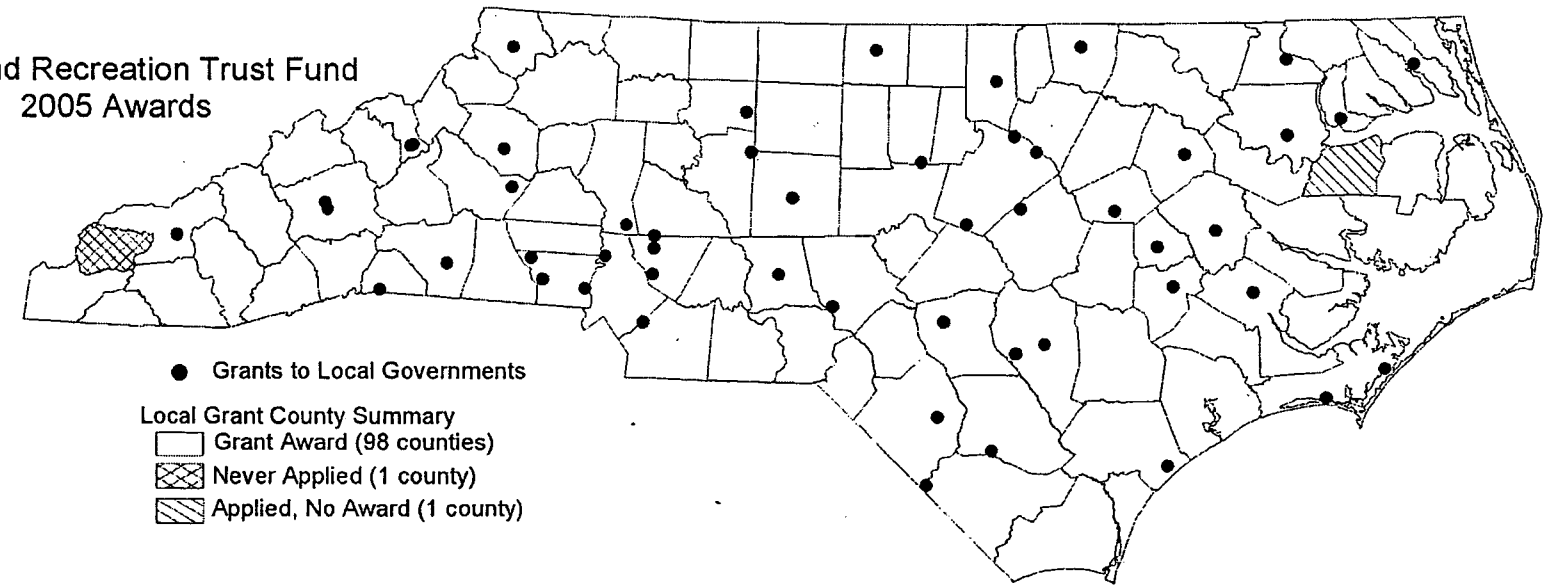
Figure 4-1 (page 7) is a map showing the distribution of PARTF grants by county across North Carolina from 1995-2005.

Table 4-1 N.C. Parks and Recreation Trust Fund Grants Awarded in Fiscal Year 2004-05			
Applicant	**Project**	**County**	**Grant**
Bessemer City	City Pool Expansion and Renovation	Gaston	$500,000
Burke County	Spring Park Phase II - Land Acquisition	Burke	$47,900
Cabarrus County	North Cabarrus Park	Cabarrus	$300,000
Camden County	Camden Community Park	Camden	$300,000
Carteret County	Mariners Park Land Acquisition	Carteret	$20,042
Chowan County	D.F. Walker Community Center	Chowan	$59,800
City of Asheboro	Asheboro Skate Park	Randolph	$100,000
City of Asheville	Aston Park Renovation	Buncombe	$260,000
City of Belmont	Stowe Park Renovation	Gaston	$235,894
City of Cherryville	Ballard Park Expansion	Gaston	$375,000
City of Clinton	Clinton Soccer Complex	Sampson	$65,146
City of Fayetteville	Bonnie Doone Park	Cumberland	$249,895
City of Kannapolis	Village Park Phase II	Cabarrus	$500,000
City of Kinston	Fairfield Park	Lenoir	$110,000
City of Lenoir	Mulberry Recreation Center	Caldwell	$175,075
City of Lumberton	Northeast Park	Robeson	$499,985
City of Thomasville	Finch Field Expansion	Davidson	$500,000
Craven County	West Craven Park	Craven	$65,625
Foxfire Village	Foxfire Village Green Acquisition and Phase I	Moore	$246,183
Granville County	Granville Athletic Park Expansion	Granville	$500,000
Greene County	Recreational Complex	Greene	$340,837
Morehead City	Community Center Renovation and Develop.	Carteret	$468,325
Pender County	Hampstead Kiwanis Park - Phase II	Pender	$395,233
Pitt County	Pitt County District Park	Pitt	$500,000
Sampson County	Western District Community Park	Sampson	$500,000
Swain County	Recreation Park Improvement Project	Swain	$187,500
Town of Black Creek	Town Park Redevelopment	Wilson	$66,060
Town of Chapel Hill	Southern Community Park	Orange	$500,000
Town of Clarkton	Dixie Baseball Complex Improvements	Bladen	$172,302
Town of Clayton	Clayton Community Park Phase II	Johnston	$500,000
Town of Cofield	Municipal Park Project	Hertford	$75,000
Town of Fair Bluff	Riverwalk Park	Columbus	$179,405
Town of Fuquay Varina	Fuquay-Varina Community Center Expansion	Wake	$500,000
Town of Harrisburg	Stallings Road Park	Cabarrus	$500,000
Town of Huntersville	Canipe Athletic Fields Complex Phase II	Mecklenburg	$491,662
Town of Kernersville	Century Lake Park	Forsyth	$500,000
Town of Mooresville	Bellingham Park, Phase II	Iredell	$500,000
Town of Mount Gilead	Stanback Park Renovations	Montgomery	$82,494
Town of Spruce Pine	Brad Ragan Park Improvements	Mitchell	$8,857
Town of Spruce Pine	Riverside Park Playground and Renovations	Mitchell	$29,167
Town of Stallings	Stallings Municipal Park	Union	$34,300
Town of Tarboro	Clark Park Playground	Edgecombe	$36,666
Town of Tryon	Harmon Field Expansion	Polk	$499,810
Town of Wake Forest	Joyner Park	Wake	$500,000
Town of West Jefferson	Bowie-Seagraves Park Enhancements	Ashe	$56,670
Town of Woodfin	South Woodfin Park	Buncombe	$35,000
Town of Yanceyville	Maud F. Gatewood Park	Caswell	$125,200
Town of Forest City	James F Crowe Park	Rutherford	$150,000
Wake County	Surry Roberts Property Acquisition	Wake	$405,326
Warren County	Recreation Complex	Warren	$500,000
		Total	**$13,950,359**

Parks and Recreation Trust Fund
1995 - 2005



Parks and Recreation Trust Fund
2005 Awards



5.0 State Parks Program

5.1 Land Acquisition

For fiscal year 2004-2005, the Parks and Recreation Authority approved $14,450,417 for land acquisition projects in the state parks system (Table 5-1). These projects will help address the need for additional acreage at 16 state parks. However, it will cost an estimated $176 million to purchase the 43,752 acres needed to complete all of the current state park units. Additionally, through its "New Parks for a New Century" initiative, the Division of Parks and Recreation has identified over 40 sites across the state that could be added as potential state park units. These areas are some of the most treasured and threatened natural resources in North Carolina and have been identified as high priority acquisitions to the state parks system. To purchase these new units will require an estimated $454 million to acquire 113,625 acres.

Table 5-1
North Carolina Parks and Recreation Trust Fund
Land Acquisition Projects Approved for FY 2004 – 2005

Unit	Acres	Description	Amount
Crowders Mountain State Park	35	Property along the state line to increase the width of the connection between the state park and the parks in South Carolina.	$140,000
Elk Knob State Natural Area	433	Property on the slopes of Elk Knob and at an ecologically important area known as the Peak.	$1,000,000
Gorges State Park	13	Property, with structures that will be used as ranger residences, on a tributary to Frozen Creek.	$350,000
Hanging Rock State Park	60	Property on the slopes of Hanging Rock Ridge to protect the view from Hanging Rock and the natural communities on the slopes.	$360,000
Haw River State Park	210	Purchase of The Summit Center - a conference center to be used as an environmental education facility and acquisition of multiple tracts along the Haw River for the establishment of this recently authorized state park.	$2,742,353
Hickory Nut Gorge State Park	110	Acquisition of initial tracts for this new park authorized by the General Assembly in 2005. The projects are located in the Rumbling Bald and World's Edge areas.	$1,123,064
Lake James State Park	2,915	To assist in the major expansion of the state park on the north side of Lake James. The total cost of the acquisition was $18.3 million with major funding from Certificates of Participation and the CWMTF.	$450,000
Lake Norman State Park	39	Property to provide additional land for trails within the state park.	$785,000

Table 5-1 North Carolina Parks and Recreation Trust Fund Land Acquisition Projects Approved for FY 2004 – 2005			
Unit	**Acres**	**Description**	**Amount**
Lake Waccamaw State Park	3,333	The upland portions of multiple tracts for the protection of natural communities and water quality.	$850,000
Lumber River State Park	945	The upland portion of land for the protection of natural communities and water quality and to provide land for the development of access facilities near the Town of Fair Bluff.	$400,000
Mayo River State Park	902	Multiple tracts along the Mayo River for the establishment of this newly authorized state park.	$2,555,000
New River State Park	57	Multiple tracts along the State and National Scenic River for the protection of water quality and natural communities.	$350,000
Pettigrew State Park	146	Tracts along the Scuppernong River for scenic and natural resource protection. The Division will seek CWMTF assistance for the wetland portions of these tracts.	$275,000
South Mountains State Park	135	One tract in the Henry Fork watershed and one tract in the Jacobs Fork watershed for resource and water quality protection.	$600,000
Stone Mountain State Park	50	One tract on Big Sandy Creek, which flows into the park and over Stone Mountain Falls.	$320,000
William B. Umstead State Park	40	A tract on the northwest side of the park to protect the existing forest natural communities. Other funding from Clean Water Management Trust Fund and Wake County.	$2,150,000
Total	**9,423**		**$14,450,417**

5.1.1 Special Financing for Projects in State Parks

The General Assembly passed House Bill 1264 in July 2004. Governor Easley signed the bill on August 5, 2004. The law authorizes the State to use special indebtedness, commonly referred to as "certificates of participation" or COPS, to finance land acquisitions for conservation purposes. The law also authorized the use of COPS to finance health and education projects in the University of North Carolina system and for youth development centers.

Specifically, the law authorizes the State to issue or incur special indebtedness to finance the acquisition of property for three programs:

- The **Parks and Recreation Trust Fund** - to buy land and build park facilities for the State Parks System;

- The **Natural Heritage Trust Fund** - to acquire land that represents the ecological diversity of the state and land for state parks, wildlife areas, and similar public purposes;

- The **Clean Water Management Trust Fund** - to acquire buffers that help to conserve surface water and drinking water supplies as well as to restore wetlands.

The law authorizes the governing body of each fund to allocate a portion of its stream of income for debt service on debt incurred to acquire property. The three trust funds must work together to keep the total debt below the maximum dollar amounts for the authorized projects. The authorization is limited to a total of $45 million as follows:

- $20 million to acquire up to 17,000 acres near North Carolina military bases in order to prevent encroachment by incompatible development.

- $25 million to acquire up to 6,000 acres to expand an existing state park, provide game lands to help protect North Carolina's rivers, provide two new state parks along North Carolina's rivers and to provide capital improvements to an existing state park as part of its expansion.

The Parks and Recreation Authority may allocate up to 50% of the portion of the Parks and Recreation Trust Fund dedicated for projects in state parks to repay the debt. The PARTF revenue designated for grants to local governments cannot be used to repay debt.

5.1.2 Expansion of Lake James State Park

Using the special financing tools approved in House Bill 1264, the governing boards for the Parks and Recreation and the Clean Water Management trust funds approved financing towards the acquisition of 2,909 acres on the northern shore of Lake James to expand Lake James State Park. Crescent Resources, Inc., agreed to sell the property for $18.3 million – 40% below the appraised value of $30.6 million. At a ceremony in August 2004, Governor Mike Easley announced the agreement for the Lake James sale, the culmination of years of negotiations among officials from the state parks system, Burke County and Crescent Resources.

At their October 25, 2004 meeting, the members of the Parks and Recreation Authority approved a resolution to support the purchase of the 2,909-acre tract of land at Lake James and authorized borrowing up to $11.5 million for the purchase the property to be financed using COPS. The project has closed and the total PARTF amount needed for the purchase is $11,381,000. Payment for debt service on $11,381,000 borrowed as COPS will be approximately $895,000 per year.

Lake James State Park is located in Burke and McDowell Counties. At 605 acres, the park was one of the smallest in the state, yet attracted more than 250,000 visitors a year. The acquisition not only expanded the park, but also protected more than 30 miles of the lake's shoreline and the water supply for nearly a million people.

5.0 State Parks Program

5.2 Construction and Renovation: During fiscal year 2004-2005, the Parks and Recreation Authority approved state park construction and renovation projects totaling $14,450,417 (Table 5-2). With PARTF funds, the Division continues to address a lengthy backlog of construction and renovation projects in the state parks system. However, approximately $334.5 million is required to meet all of the needs for new construction and renovation for state parks.

Table 5-2
North Carolina Parks and Recreation Trust Fund
Capital Improvement Projects for Fiscal Year 2004-2005

Park	Project	Amount
Dismal Swamp State Park*	Visitor's Center	$624,716
Elk Knob State Natural Area	Interim Development and Facilities	$313,000
Gorges State Park	Phase I -Roads, Parking lots, Underground utilities along roadways	$2,960,500
Hanging Rock State Park	Moore's Knob Trail Renovations	$281,083
Kerr Lake State Recreation Area	Nutbush Fee Stations (2)	$405,000
Kerr Lake State Recreation Area	Nutbush Boat Ramp (Design Only)	$240,000
Lake James State Park	Master Plan and Aerial Topographic Services	$145,000
Lake Norman State Park	Boat Ramp Repair	$150,000
Mayo River State Park	Interim Development and Facilities Design and Partial Construction	$568,000
Merchants Millpond State Park	Visitor's Center	$3,131,742
Pilot Mountain State Park	Ledge Springs Trail Improvements	$1,200,000
Raven Rock State Park	Campbell Creek Pedestrian Bridge	$177,984
Stone Mountain State Park	Design for Loop/Big Sandy Trail	$150,000
Stone Mountain State Park	Loop /Big Sandy Trail Project	$623,064
Park System	Major Maintenance Funds	$1,200,000
Park System	Trail Maintenance Funds	$500,000
Park System	Demolition Fund	$150,000
Park System	Exhibit Repair Fund	$85,000
Park System	Emergency Dam Repairs	$800,000
	Construction Reserve	$745,328
	Total	**$14,450,417**

* At the March 2005 meeting, the Parks and Recreation Authority approved $1,476,589 for the Dismal Swamp Visitor's Center. The board allocated $851,873 to the visitor's center from projects approved in earlier fiscal years that have been completed under budget and from projects that have been postponed as follows: FY03-04 Falls Lake State Recreation Area ($76,873) - delayed Sandling Beach Floating Dock; FY1999-2000 Kerr Lake State Recreation Area ($450,000) - project completed under budget; Umstead State Park ($325,000) Whispering Pines Shower Houses - rescheduled the start of the project.

6.0 Public Beach and Coastal Waterfront Program

6.1 Program Description

North Carolina's Public Beach and Coastal Waterfront Access Program was established by the General Assembly in 1981. In fiscal year 1996-97, the program began receiving 5% of the revenues from the Parks and Recreation Trust Fund. The programs enabling legislation (GS 113A-134.1) states that public purpose would be served by providing increased access to coastal waters, public parking facilities, or other related public uses.

The program provides matching grants to local governments for low-cost capital projects designed to improve pedestrian access to the state's beaches and waterways. The program, administered by the Division of Coastal Management (DCM), offers matching grant funds to local governments throughout the 20 coastal counties. Since 1981, over 300 public access sites have been constructed at a cost of over $24 million ($14 million state/federal and $10 million local funds). Local governments are responsible for construction, operation and long-term maintenance of the facilities. While most of the early projects were located along the oceanfront, more and more projects are now designed to improve access to estuarine shorelines, coastal rivers, and urban waterfronts.

The Division of Coastal Management sends requests for proposals to local governments in the 20 coastal counties in March of each year. The division uses criteria developed by the Coastal Resources Commission to select grant recipients. Local governments are required to match at least 25% of the project costs. Recipients are usually selected in July and contracts are awarded in between September and January. Grant recipients have one year to complete their projects. However, extensions are granted for un-foreseen events and delays such as hurricanes.

6.2 Types of Projects Funded

Communities can apply for five different types of water access sites: local, neighborhood, regional, multi-regional and urban waterfront redevelopment projects.

- Local access sites include public access points, which offer minimal, or no facilities. Pedestrians who reside within a few hundred yards of the site primarily use them. Generally, these access ways are a minimum of ten feet in width and provide only a dune crossover or pier, if needed, litter receptacles and public access signs. Vehicle parking is generally not available at these access sites. However, bicycle racks may be provided.

- Neighborhood access sites are public access areas offering parking, usually for five to twenty-five vehicles, a dune crossover or pier, litter receptacles and public access signs. Such accesses are typically 40 to 60 feet in width and are primarily used by individuals within the immediate subdivision or vicinity of the site. Restroom facilities may be installed.

- Regional access sites serve the public throughout an island or community including day visitors. These sites normally provide parking for 25 to 80 vehicles, restrooms, a dune crossover, pier, foot showers, litter receptacles and public access signs. Where possible, one-half acre of open space in addition to all required setback areas should be provided for buffering, day use, nature study or similar purposes.

- Multi-regional access sites are generally larger than regional accessways but smaller than state parks. Multi-regional facilities provide parking for 80 to 200 cars, restrooms with indoor showers and changing rooms, and concession.

- Urban waterfront redevelopment projects improve public access to utilized urban waterfronts. Such projects include the establishment or rehabilitation of boardwalk areas, shoreline stabilization measures such as the installation or rehabilitation of bulkheads, and the placement or removal of pilings for the purpose of public safety and/or increased access and use of the urban waterfront.

6.3 PARTF Revenues and Grants Awards Based On Fiscal Year 2004-2005

The beach access program grants are funded on a calendar year cycle. Historically, DCM has solicited pre-application proposals from coastal communities in March of every year. Invited final applicants proposals are usually due in June and prioritized requests are awarded contracts to begin sometime between October and the end of January. Annually, DCM pre-determines funds available, by using PARTF revenues from the last quarter of the previous fiscal year (2003-04), and the first three quarters of the more current (2004-05) fiscal year. The actual amount transferred from the PARTF fund to DCM during fiscal year 2004-2005 was $2,256,866, however only the first three quarters of these funds ($1,739,059) are considered available plus the last quarter of previous 2003-2004 fiscal years deposit ($442,688). Additionally, any monies from the previous year, due to cancelled projects or projects that came under budget, are also incorporated into the available budget for grant awards. For this fiscal years' report the total funds available was $2,902,559. (see Table 6-1).

DCM has prioritized $1,505,500 for grant contracts to begin in January of 2006 for the local governments listed in Table 6-2. The balance of $1,163,605 will be reserved for fiscal year 2005-2006. The large reserve balance will allow DCM to move up both the application and the actual

award date by six (6) months to more closely parallel funds received during the 2005-2006 fiscal year.

The DCM received 30 pre-applications from 17 local governments requesting $1,646,825. DCM reviewed 21 final applications from 15 local governments with the requests originally totaling $1,317,653. Table 6-2 is the list of local governments prioritized to receive funding. It can be noted that intended awarded funding amounts are greater for some communities than originally requested based on adjustments determined necessary due to significant material costs resulting from hurricane Katrina.

Table 6-1
Division of Coastal Management
Distribution of PARTF Revenues for Fiscal Year 2004-2005

Item	Amount
PARTF revenues received in first three quarters of fiscal year 2004-2005	$1,739,054
Fiscal year 2003-04 (4th quarter PARTF revenues) and a reserve from canceled projects and projects completed under budget	$442,688 $720,917 $1,163,605
Total available for fiscal year 2004-2005 grants	$2,902,659
Grants Prioritized fiscal year 2004-05	**$1,505,500**
Reserve and carryover for grants to be awarded in fiscal year 2005- 2006	$1,397,159
PARTIF 4th quarter 2004-2005 received and reserved for 2005-06 fiscal year. *	$517,812
Minimum funds available for next 2005-2006 fiscal year:	$1,914,971

* Annual funding cycle is based on PARTF revenues for the first three quarters of fiscal year 2004-2005 and any reserve from the previous fiscal years including the fourth quarter revenues. The balance of $1,397,159 will be added to upcoming PARTF deposits and used to fund projects based on the fiscal year 2005-06 funds. Beginning in 2006, DCM will be moving up both the application and award cycle to more closely parallel the fiscal cycle.

Table 6-2 Public Beach and Coastal Waterfront Access Program Grant Priorities Based on Fiscal Year 2004-05 PARTF Funds			
Local Government	**Project Description**	**Projected Grant**	**Total Cost w/Match**
Ahoskie	Ahoskie Creek Access – gravel parking for 20-25 vehicles, restrooms, benches, landscaping	$45,000	$60,000
Carteret County	Parking & walkway improvements to Radio Island Access	$37,500	$50,000
Caswell Beach	601 Caswell Beach Rd. beach access walkway replacement	$27,500	$36,500
Caswell Beach	203 Caswell Beach Rd. beach access walkway replacement	$22,000	$28,000
Emerald Isle	Viewing platform improvements to Eastern Access	$54,000	$71,500
Emerald Isle	Viewing platform (500 sq. ft.) improvements to Western Access	$67,000	$89,500
Holden Beach	Jordan Blvd. Project – fishing pier, dock, covered deck	$103,000	$159,500
Hyde County	Swan Quarter Waterfront Access Park – picnic shelter, overlook, boardwalk, parking, benches	$95,500	$141,000
Kill Devil Hills	East Ocean Bay Blvd Regional Bathhouse – w/restrooms & showers & dune crossover	$122,500	$162,000
Kitty Hawk	East Lillian St. Neighborhood Access – pave traffic aisle for 20 parking spaces; also foot & shower tower	$80,500	$106,500
Kure Beach	Regional Access – restrooms and public parking improvements	$50,500	$66,500
Nags Head	Albatross Street Neighborhood Access – replace existing walkway and stairs	$21,000	$41,000
Nags Head	Baltic Street Neighborhood Access – reconstruct parking lot & provide walkway to top of dune w/stairs to beach	$75,000	$140,000
Nags Head	Barnes Street Neighborhood Access – replace existing walkway and stairs	$11,000	$22,000
Navassa	Davis Creek Access – replace existing boardwalk, pier & gazebo; w/kayak access	$99,500	$126,000
New Hanover Co.	Middle Sound Park –10 parking spaces, trail improvements& pier	$73,000	$97,000
New Hanover Co.	Spike Property Land Acquisition – w/parking on waterfront parcel	$75,000	$100,000
North Topsail Beach	212 Topsail Road Access – 5 gravel parking spaces, dune crossover & trash receptacles	$27,500	$36,500
North Topsail Beach	Carver Street Access Parking – 19 paved parking spaces	$12,500	$16,500
Pine Knoll Shores	Lease and improvements @ Knollwood Ave. – lease agreement, dune crossover, w/parking	$31,000	$43,000
Topsail Beach	Topsail Sound Access Land Acquisition of existing private site w/boardwalk, dock, parking	$375,000	$2,090,500
	TOTAL	**$1,505,500**	**$3,723,500**

* These projects are prioritized for funding base on revenues from the 4th quarter of 2003-2004 and the first 3 quarters of fiscal year 2004-2005. Though prioritized for funding, they are not expected to be under State contract until mid January 2006. Typical contract cycles are based on the calendar year and not the fiscal year. Figures are projections due to formal contracts yet to be finalized which will recognize increases in materials costs due to recent hurricanes.

EXHIBIT E-2

NCDENR

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

February 22, 2006

MEMORANDUM

TO: Representative Howard Hunter, Jr., Representative Edith Warren, Senator David Weinstein

FROM: William G. Ross, Secretary, Department of Environment and Natural Resources

SUBJECT: Natural Heritage Trust Fund 2004-2005 Fiscal Year Report and Fall 2005 Grant Award List

As required by G.S. 113-77.9(e), we are pleased to present to the Appropriations Subcommittee on Natural and Economic Resources the fiscal year 2004-2005 grant award report for the N.C. Natural Heritage Trust Fund. During the fiscal year, the Board of Trustees for the Natural Heritage Trust Fund awarded $19,184,013 in grants to 23 projects to help preserve 23,775 acres of land with outstanding natural and/or cultural heritage value.

In addition, we have included the list of grant awards from the most recent cycle (Fall 2005.)

If you have any questions, please feel free to contact the Natural Heritage Trust Fund's Executive Director, Lisa Riegel, at (919) 715-8014.

Attachment

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One NorthCarolina Naturally

NORTH CAROLINA

NATURAL HERITAGE TRUST FUND

AWARD REPORT

Fiscal Year 2004/05

A Report to the Governor and General Assembly



William G. Ross, Jr., Secretary
N.C. Department of Environment
and Natural Resources

J. Robert Gordon, Chairman
Board of Trustees
NC Natural Heritage Trust Fund

NORTH CAROLINA
NATURAL HERITAGE TRUST FUND
AWARD REPORT
Fiscal Year 2004/05

Origins and Mission

The North Carolina Natural Heritage Trust Fund (NHTF) was established by the 1987 General Assembly (G.S. 113-77, effective July 1, 1987) as a supplemental funding source for state agencies to acquire lands and to pay for the inventory of natural areas by the North Carolina Natural Heritage Program. A twelve-member board of trustees administers the Trust Fund.

Board of Trustees

NHTF is delegated the authority to grant funds to eligible state agencies pursuant to applications which meet statutory criteria and board guidelines. The governing authority for the Trust Fund is a 12 member board of Trustees. This number was increased from nine members during the 2001 legislative session. Four members are appointed by the Governor who also designates the chairman. Eight members are appointed by the General Assembly with four recommended by the President Pro-Tempore of the Senate and four recommended by the Speaker of the House. Appointments are made effective January 1 and are for staggered six year terms. Persons appointed are to be knowledgeable in the acquisition and management of natural areas.

2005 Board of Trustees

Governor Appointees	Senate Appointees	House Appointees
Charles E. Clement Watauga County 2002-2008	J. Robert Gordon, Chairman Scotland County 2002-2007	Alan D. Briggs Wake County 2000-2005
Thomas D. "Bud" Hunter Henderson County 2004-2009	*George Richards Wake County 1998-2003	William Joslin Wake County 2002-2007
R. Michael Leonard Forsyth County 2000-2005	**James E. Sponenberg, III Caldwell County 2000-2005	Henry L. Kitchin Richmond County 2002-2007
Elizabeth D. Taft, Ph.D. Pitt County 2002-2007	Dewey E. Wells Avery County 2002-2007	Thomas W. Reese Catawba County 2004-2010

*Replaced by Lois McIver Winstead effective September 2005
**To be replaced by Portia Hawes effective January 2006

Natural Heritage Trust Fund Staff

The Board is now supported by an Executive Director, effective September 30, 2005:

Lisa D. Riegel, Executive Director
521 N. Salisbury St., MSC 1601
Raleigh, NC 27699-1601
(919) 715-8014
lisa.riegel@ncmail.net

Funding Sources

Since 1987, and as of June 30, 2005, NHTF has received $139 million dollars including an initial appropriation of $275,000 (Table 1). The Trust Fund acquired a continuing source of funding in 1989 when a part of the receipts from the sale of personalized license plates was designated as income. The General Assembly in 1991 increased the state's deed stamp tax to $2 per $1000 value and set aside 15% of the state's share of this additional money as income for the Trust Fund. The 1995 General Assembly increased the Trust Fund's portion of the deed stamp tax from 15% to 25% effective July, 1996. Monies not expended remain in the interest-accumulating Natural Heritage Trust Fund account and do not revert to the General Fund. The 2003 General Assembly increased the fee for special license plates by $10, with $5 of the additional fee designated for the Natural Heritage Trust Fund. In the fiscal year July 1, 2004 – June 30, 2005, approximately $19 million was received from all funding sources (Table 1).

In 2004 the General Assembly authorized NHTF to allocate up to 50% of the annual receipts for debt service, referred to as Certificates of Participation (COPs), on debt incurred to acquire property. COPs can be used for projects to expand or provide capital improvements for existing state parks, to purchase or expand game lands which protect North Carolina rivers, or to create two (2) new state parks along North Carolina rivers. In the fall of 2004, $2,019,000 was awarded to the Linville River/Lake James project using COPs funding (Table 2).

Projects and Agencies

Grants are awarded for the purposes of acquiring lands that represent the state's ecological diversity to ensure their preservation and conservation for recreation, scientific, education, cultural and aesthetic purposes; for additions to the system of parks, state trails, aesthetic forests, wild and scenic rivers, fish and wildlife management areas; to develop a balanced state program of historic properties; and for other beneficial use and enjoyment of the public. Funds are also allocated to the N.C. Natural Heritage Program for natural area inventories and conservation and protection planning of natural areas. State agencies authorized to apply for grant awards are the Department of Environment and Natural Resources, the Wildlife Resources Commission, the Department of Cultural Resources and the Department of Agriculture and Consumer Services. Priority consideration is given to protection of land having outstanding natural or cultural heritage values. Land with outstanding natural heritage values is land that is

identified by the N.C. Natural Heritage Program as having state or national significance. Land with outstanding cultural heritage value is land that is identified, inventories or evaluated by the Department of Cultural Resources. Since 1987, and as of June 30, 2005, NHTF has contributed to the protection of over 217,000 acres (Table 3).

During Fiscal Year 2004/05, NHTF awarded 23 grants totaling $19,184,013 which contributed to the protection of 23,775 acres (Table 4). Due to insufficient funds, the NHTF Board was unable to fund an additional $19,180,964 in requests (about 50% of the requests) from eligible applicants for high quality projects. Detailed summaries of the Fall 2004 grant awards and the Spring 2005 grant awards are included as Tables 5 and 6 respectively. Project locations are shown in Figure 1 (Fall 2004 projects) and Figure 2 (Spring 2005 projects).

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Fall 2004 Grant Awards Summary .....Table 5

Map of Fall 2004 Project Locations ..... Figure 1

Spring 2005 Grant Awards Summary .....Table 6

Map of Spring 2005 Project Locations..... Figure 2

Table 1
Natural Heritage Trust Fund
Income by Fiscal Year
As of June 30, 2005

Fiscal Year	Personalized License Plates	Transfer Tax	Interest	TOTAL INCOME
Original Appropriation				$275,000
1987-88	$0	$0	$15,546	$15,546
1988-89	$0	$0	$24,316	$24,316
1989-90	$1,073,165	$0	$53,766	$1,126,931
1990-91	$1,761,140	$0	$144,662	$1,905,802
1991-92	$1,627,304	$1,326,848	$232,156	$3,186,308
1992-93	$1,661,943	$2,012,107	$309,750	$3,983,800
1993-94	$1,713,091	$2,089,776	$326,920	$4,129,787
1994-95	$1,787,029	$3,579,453	$393,892	$5,760,374
1995-96	$1,856,167	$3,134,801	$335,131	$5,326,099
1996-97	$1,914,104	$6,019,264	$616,282	$8,549,650
1997-98	$1,745,519	$5,302,094	$968,107	$8,015,720
1998-99	$2,004,740	$8,148,689	$1,396,073	$11,549,502
1999-2000	$2,189,995	$8,599,107	$1,925,497	$12,714,599
2000-01	$2,386,509	$8,412,962	$1,845,783	$12,645,254
2001-02	$4,622,580	$6,570,386	$1,183,199	$12,376,165
2002-03	$2,550,269	$9,494,785	$508,397	$12,553,451
2003-04	$3,067,375	$12,365,476	$405,251	$15,838,102
2004-05	$5,028,710	$13,810,698	$492,612	**$19,332,020**
Total Income	**$36,989,640**	**$90,866,446**	**$11,177,340**	**$139,308,426**

Table 2
Natural Heritage Trust Fund
Funds Available for Fiscal 2004-2005

	Income	Certificates of Participation (COPs)	Total
Fiscal Year 2004-2005	$19,332,020	$2,019,000	*$21,351,020

*reflects some income accrual since last Board meeting/award cycle, through June 2005

Table 3
Natural Heritage Trust Fund
Grant Awards Summary to Date (since 1987)

Total Awarded to Date (since 1987)	**$136,420,559**
Returned Funds (Applicant unable to acquire land; award money returned to NHTF)	$9,485,615
Total Transferred (spent)	$114,498,168
Total Obligated	$12,436,777
Acres Protected	217,568 acres
Requests Unable to Fill	$187,097,785

Table 4
Natural Heritage Trust Fund
Grant Award Totals by Agency
Fiscal Year 2004-2005

Agency	Acres	Grant Total
Department of Agriculture & Consumer Services	1,428	$1,290,000
Department of Cultural Resources	8	$195,000
Department of Environment and Natural Resources *Division of Forest Resources*	57	$587,500
Department of Environment and Natural Resources *Division of Parks and Recreation*	6,630	$8,107,000
Department of Environment and Natural Resources *Natural Heritage Program*	N/A	$627,000
Wildlife Resources Commission	15,652	$8,377,513
Total	23,775	$19,184,013

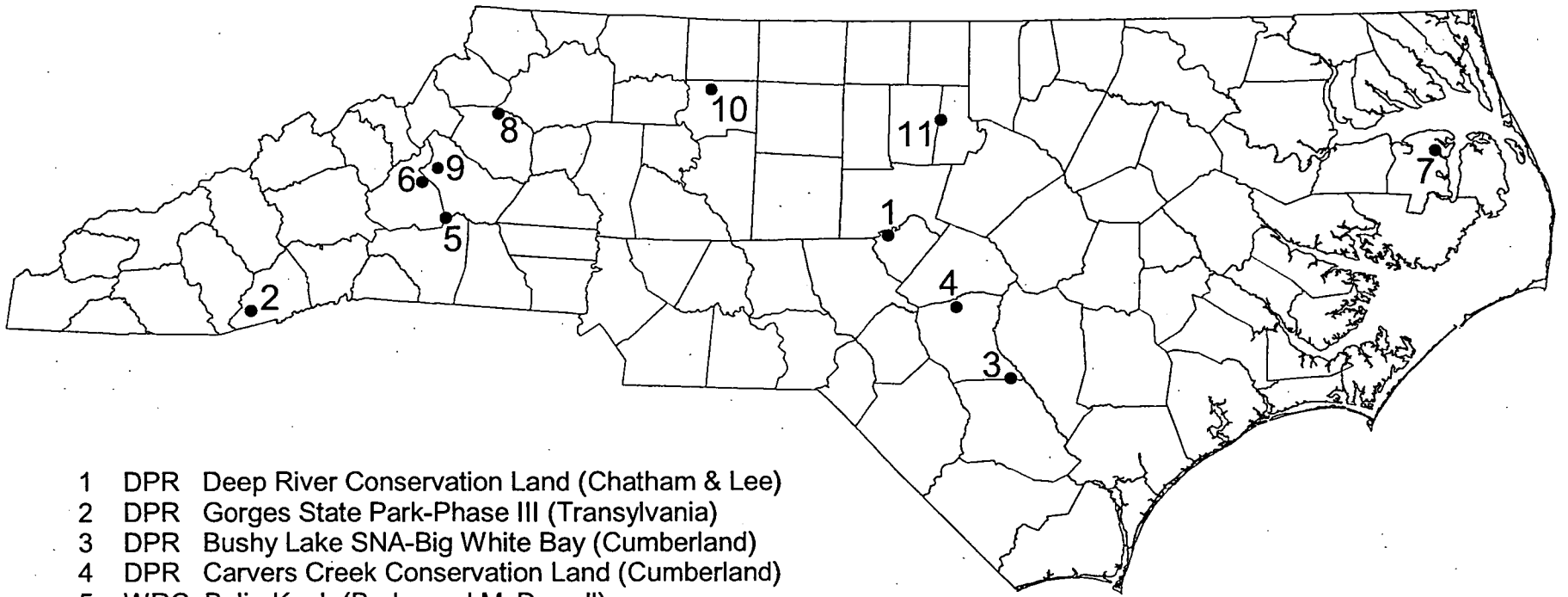
Table 5
NHTF Grant Awards
Fall 2004

NHTF- Natural Heritage Trust Fund
DAg - Department of Agriculture & Consumer Services
DCR - Department of Cultural Resources
DENR - Department of Environment & Natural Services
DPR – Division of Parks & Recreation
WRC - Wildlife Resources Commission

Dept.	Project Name	County	Acres	Award	Description
DAg	Penny's Bend/ Eno River Diabase Sill: Phase II (Stevens and Harrelson Tracts)	Durham	79	$630,000	The Harrelson tract supports the largest unprotected population of Smooth Coneflower in NC. The Stevens tract is the largest remaining undivided tract within the project area.
DCR	Historic Bethania's Land Protection Initiative: Phase 4–Old Apple Orchard II and the African American School lot	Forsyth	8	$195,000	Addition to the Bethania National Historic Landmark Area, the only remaining example of a European style "open field" agricultural village in North Carolina. More than 50% of the cost of the school lot was provided by private donations.
DENR/ DPR	Deep River Conservation Land	Chatham Lee	1,641	$810,000	The project area is adjacent to the nationally significant Rocky River/Lower Deep River aquatic habitat. The Deep River is identified as a potential new state park on the "New Parks for a New Century" list.
DENR/ DPR	Gorges State Park Land Acquisition: Phase III	Transylvania	69	$860,000	Addition to Gorges State Park. Acquisition would aid in preserving two identified Significant Natural Heritage Areas and a rare temperate rainforest ecosystem.
DENR/ DPR	Bushy Lake State Natural Area – Big White Bay Project II	Cumberland	1,312	$525,000	Addition to Bushy Lake State Natural Area. Acquisition would aid in preserving an identified Significant Natural Heritage Area and a rare Carolina Bay ecosystem.

Dept.	Project Name	County	Acres	Award	Description
DENR/ DPR	Carvers Creek Conservation Land	Cumberland	797	$2,200,000	Project area is one of the largest sites of contiguous relatively undisturbed matrix of Sandhills natural communities that remains in private ownership in the Fayetteville area. Project area contains habitat for Red-cockaded woodpecker.
WRC	Bolin Knob Tract	Burke McDowell	468	$356,600	Tract borders South Mountain Game Land and is part of the total management project in the area.
WRC	Wallace Gray Tract	McDowell	820	$500,000	Tract borders Pisgah Game Land and will help ensure ecosystem integrity of this area. Part of the conservation effort being carried out in the Lake James area. Private funds providing $800,000 of the cost of the land. The tract also contains a key portion of the National Historic Over-the-Mountain-Victory Trail by which frontier patriots marched to the Battle of Kings Mountain in 1780.
WRC	GMS Tract	Tyrell	8,476	$1,000,000	Tract is within the Alligator River watershed. Tributaries of the Alligator River are identified as anadromous fish spawning areas and are designated as inland primary nursery sites. Will be managed as part of the Game Land Program.
WRC	Long Ridge Tract	Caldwell	592	$1,157,150	Tract classifies as a quality wild brown trout fishery. Acquisition would increase opportunities for management of the resources, recreation and would provide for stewardship of the resources.
WRC	Linville River Tract	Burke	1,425	$2,019,000	Tract borders Pisgah Game Land and southern end of Linville Gorge Wilderness Area. The tract will provide a key access trail for the Mountains-to-the-Sea Trail. The tract is part of the Lake James conservation area.
		TOTALS	**15,687**	**$10,252,750**	

Figure 1
Natural Heritage Trust Fund
Fall 2004 Grant Awards
Project Locations



1 DPR Deep River Conservation Land (Chatham & Lee)
2 DPR Gorges State Park-Phase III (Transylvania)
3 DPR Bushy Lake SNA-Big White Bay (Cumberland)
4 DPR Carvers Creek Conservation Land (Cumberland)
5 WRC Bolin Knob (Burke and McDowell)
6 WRC Wallace Gray (McDowell)
7 WRC GMS Tract (Tyrell)
8 WRC Long Ridge Tract (Caldwell)
9 WRC Linville River Tract (Burke)
10 DCR Historic Bethania Phase 4 (Forsyth)
11 DOA Penny's Bend/Eno River Diabase (Durham)

Table 6
NHTF Grant Awards
Spring 2005

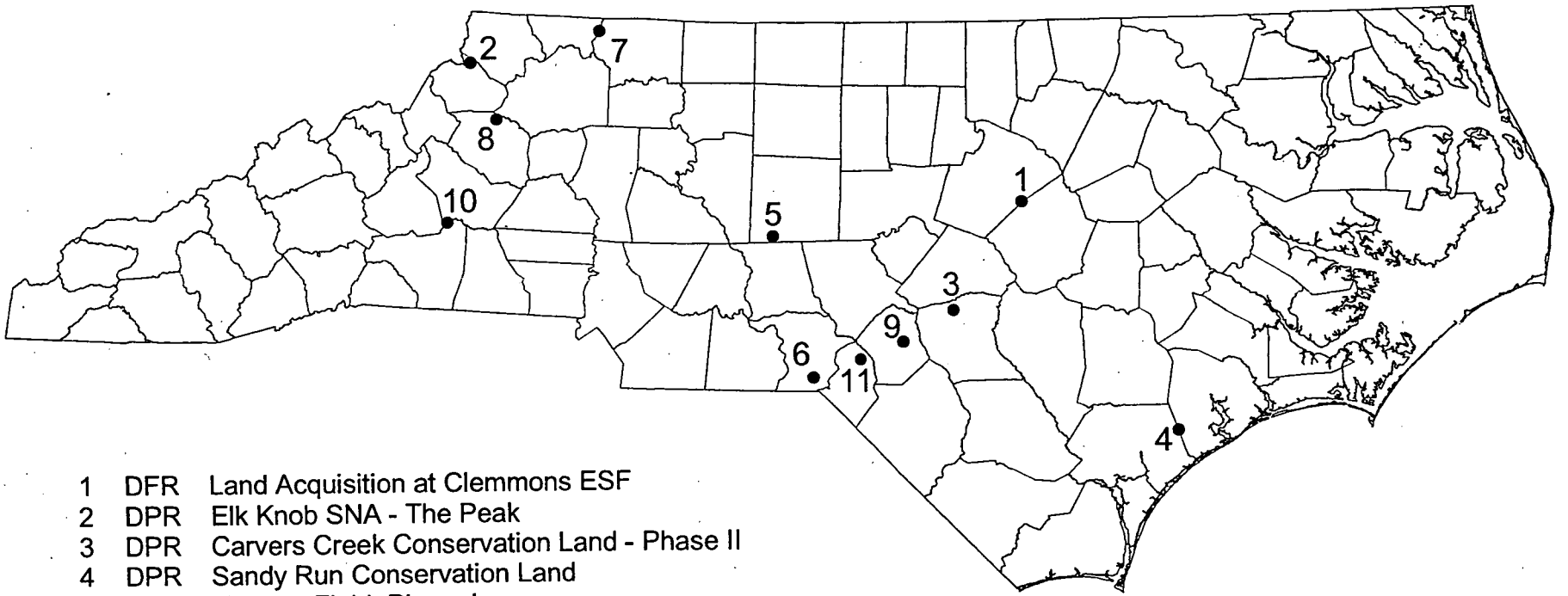
Dept.	Project Name	County	Acres	Award	Description
DAg	Harvest Field Phase I	Randolph	31	$160,000	Acquisition of project area would protect Schweinitz's Sunflower, a federally and state endangered plant species. The tract also falls within the area of interest for the Uwharrie Forest Partnership.
DAg	Marks Creek	Richmond	1,318	$500,000	Project area includes a concentration of floristically rich streambed seeps with a major concentration of rare plants. The site would constitute the best population of Sandhills Lily in conservation ownership in North Carolina.
DENR/ DFR	Riparian Land Acquisition at Clemmons Educational State Forest	Wake	57	$587,500	Acquisition would expand the educational outreach mission of the existing Clemmons ESF and would support the mission of the funded NPS Training and Education Center. The City of Raleigh has pledged 50% of the purchase price to acquire the open fields on the north end of the tract.
DENR/ DPR	Elk Knob State Natural Area Land Acquisition: The Peak	Watauga	862	$1,372,000	Addition of The Peak, the highest point in Ashe County, to Elk Knob State Natural Area. The Peak is part of the Amphibolite Mountain Complex. Six high quality natural communities have been identified in the project area. CWMTF funds awarded to protect an adjoining 566 acres. TNC to donate 201 acres purchased with $451,800 in private funds. An adjoining private landowner has committed to donate a 115 acre easement.

Dept.	Project Name	County	Acres	Award	Description
DENR/ DPR	Carvers Creek Conservation Land – Phase II	Cumberland	856	$1,840,000	Project area is one of the largest sites of contiguous relatively undisturbed matrix of Sandhills natural communities that remains in private ownership in the Fayetteville area. Project area contains habitat for Red-cockaded woodpecker.
DENR/ DPR	Sandy Run Conservation Lands – Lejeune Buffer Tract	Pender Onslow	1,093	$500,000	Sandy Run lies within one of the largest, nearly contiguous natural areas in NC that lies between Camp LeJeune and Holly Shelter Game Land. Acquisition would serve to protect water quality in the Cape Fear River basin, conserve unique coastal plain habitats, and buffer Camp Lejeune.
DENR/ NHP	Continuation of County Natural Area Inventories	N/A	N/A	$627,000	Funding to continue the county natural area inventories. Funds will be used to support existing NHP staff during 2006-07, or to implement contracts with local partners.
WRC	Saddle Mountain Tract	Alleghany	252	$552,040	Addition to Game Lands. Purchase of this tract will protect views along the Blue Ridge Parkway and will protect the core/highest point in a 2,000-acre area from development. Private funds will cover $553,000 (50%) of the cost of this tract. The Piedmont Land Conservancy will donate adjoining 212-acre Wolf Creek Preserve.
WRC	Long Ridge Tract - Addition	Caldwell	373	$288,090	Tract classifies as a quality wild brown trout fishery. Acquisition would increase opportunities for resources management and recreation.
WRC	Upchurch Tract-Addition to Sandhills Game Land	Hoke	1,027	$1,217,133	Project area contains the Redwing Seeps Significant Natural Heritage Area, which supports 2 rare plants and 6 rare animal species. Provides needed buffer along Fort Bragg's southern boundary.

Dept.	Project Name	County	Acres	Award	Description
WRC	Marion Carter Tract	Burke	1,800	$1,000,000	Addition to South Mountains Game Land. Acquisition would allow for public recreational opportunity including two new access points to the game land.
WRC	Ritch Tract – Addition to Sandhills Game Land	Scotland	419	$287,500	Addition to the Sandhills Game Land which will protect and enhance foraging and expansion habitat for the Red-cockaded woodpecker. Will increase public recreational opportunities.
		TOTALS	**8,088**	**$8,931,263**	

NHTF- **Natural Heritage Trust Fund**
DAg - **Department of Agriculture & Consumer Services**
DENR - **Department of Environment & Natural Services**
DFR – Division of Forest Resources
DPR – Division of Parks & Recreation
NHP – Natural Heritage Program
WRC - **Wildlife Resources Commission**

Figure 2
Natural Heritage Trust Fund
Spring 2005 Grant Awards
Project Locations



1	DFR	Land Acquisition at Clemmons ESF
2	DPR	Elk Knob SNA - The Peak
3	DPR	Carvers Creek Conservation Land - Phase II
4	DPR	Sandy Run Conservation Land
5	DOA	Harvest Field, Phase I
6	DOA	Marks Creek
7	WRC	Saddle Mountain Tract
8	WRC	Long Ridge Tract
9	WRC	Upchurch Tract
10	WRC	Marion Carter Tract
11	WRC	Ritch Tract

Report prepared by: Lisa D. Riegel, Executive Director
NC Natural Heritage Trust Fund
521 N. Salisbury St., MSC 1601
Raleigh, NC 27699-1601

For additional copies: (919) 715-8014
nc.nhtf@ncmail.net

NORTH CAROLINA
NATURAL HERITAGE TRUST FUND
FALL 2005
GRANT AWARDS

N.C. NATURAL HERITAGE TRUST FUND
FALL 2005 AWARDS

Agency	Project Name	Significance	County	Request	Award	Acres	Description
DCR	Farmstead Park on Roanoke Island	Not Ranked	Dare	$881,000.00	$881,000.00	4.0	Tract of open land will provide buffer and maintain natural setting for the 18th century Etheridge family farm.
DCR	Bentonville Preservation Project	(A) National	Johnston	$500,000.00	$500,000.00	231.0	Expand historically significant Civil War battlefield.
				Total DCR	**$1,381,000.00**	**235.0**	
DENR/OCCA NHP	Wilson Creek Visitor Center Connector Property	Not Ranked	Caldwell	$17,150.00	$17,150.00	3.5	Tract will support construction of a connector trail from Wilson Creek Visitor Center to the Mountains-To-Sea Trail.
				Total NHP	**$17,150.00**	**3.5**	
DENR/DPR	Deep River Conservation Land	(A) National Tract - (D) Local	Chatham	$1,568,000.00	$1,448,000.00	459.0	Tract will protect endangered aquatic species, including the Cape Fear Shiner. Award was for 2 most urgent tract acquisitions.
DENR/DPR	Hickorynut Gorge State Park Land Acquisition	(A) National	Rutherford	$5,300,000.00	$3,900,000.00	520.0	Tract will provide lands for the newly authorized Hickorynut Gorge State Park and protect area from development.
DENR/DPR Totals				**Total DPR**	**$5,348,000.00**	**979.0**	
DAg	Penny's Bend/Eno River Diabase Sill: Phase III	(A) National	Durham	$1,033,312.00	$750,000.00	89.0	Tract will be used as a Plant Conservation Preserve and has been recognized by the NHP and PCP as one of the 43 most important site protection priorities for rare plants in North Carolina. Portion of request withdrawn.
DAg	Tater Hill Plant Conservation Preserve - Hodges Tract	(C) Regional	Watauga	$181,185.00	$181,185.00	32.9	This tract within the Harmon Knob SNHA will increase the Tater Hill Plant Conservation Preserve
DAg	Big Pond Bay Plant Conservation Preserve	(A) National	Cumberland	$115,650.00	$115,650.00	54.3	Tract will protect a clay-based Carolina Bay wetland, including one of only 3 known federally endangered populations of Pondberry.
DAg Totals				**Total Dag**	**$1,046,835.00**	**176.2**	
WRC	City of Kannapolis Tract	(C) Regional	Rowan	$1,697,560.00	$1,697,560.00	887.0	This project will establish a new game land, protect part of the Oak Mountain Quartzite Ridge SNHA , a water supply watershed and a HQW stream.
WRC	Marion Carter Tract	B (State)	Burke	$1,055,045.00	$1,055,045.00	1788.0	This tract is in addition to South Mountains Game Land and will help to ensure ecosystem integrity and protect 580 acres of regionally significant Brindletown Forest Natural Area.
WRC	Wallace Gray Tract	B (State)	McDowell	$476,000.00	$467,000.00	871.0	Acquisition would protect the state signigicant Bear Creek Shortia site and enhance stewardship of the Western North Carolina game lands. Meant to award $10K more, error in Board motion.
WRC	Carrington Tract	D (Local)	Scotland	$1,656,250.00	$1,656,250.00	725.0	This tract will expand the Sandhills Game Land and protect the habitat of the Red-Cockaded Woodpecker.
WRC	Angola Bay Tract: Phase IV	B (State)	Pender	$2,000,000.00	$3,000,000 - COPs	1429.0	This acquistion will contribute to linking the Angola Bay Game Land to Holly Shelter Game Land.

N.C. NATURAL HERITAGE TRUST FUND
FALL 2005 AWARDS

Agency	Project Name	Significance	County	Request	Award	Acres	Description
WRC	Forest Investment Associates (FIA) Tract	C (Regional)	Moore	$633,650.00	$633,650.00	329.0	This tract will protect habitat for the Red-Cockaded Woodpecker and 1.2 miles of Drowning Creek and the associated floodplain forest.
WRC	Upchurch Tract	(C) Regional	Hoke	$723,350.00	$723,350 - COPs	281.0	This tract buffers Fort Bragg, contains the Redwing Seeps SNHA and longleaf pine communities, and will provide fishing opportunities.
WRC	Corbett Tract	(A) National	Pender Onslow	$2,073,000.00	$2,073,000 - COPs	3677.0	Tract will expand nationally significant Holly Shelter Game Land.
WRC Totals				WRC w/out COPS	$5,509,505.00	4600.0	
				WRC COPs	$5,796,350.00	5387.0	
				WRC Total	**$11,305,855.00**	**9987.0**	
				Total Fall 2005 Award	**$13,302,490.00**	5993.7	
				Total COPs Award	**$5,796,350.00**	5387.0	
				FALL 2005 TOTAL	**$19,098,840.00**	**11380.7**	
Dag =	Dept. of Agriculture & Consumer Affairs						
DCR =	Dept. of Cultural Resources						
DENR =	Dept of Environment & Natural Resources						
NHP =	Natural Heritage Program						
WRC =	Wildlife Resources Commission						
PCP =	Plant Conservation Preserve						
SNHA =	Significant Natural Heritage Area						
COPs=	Certificates of Participation						

EXHIBIT E-3



North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

September 1, 2005

To: Sen. Dan Clodfelter
Sen. Charlie Albertson
Rep. Pryor Gibson

From: Secretary Bill Ross

Subject: Million Acre Report

G.S. 113A-241(c) requires the Department of Environment and Natural Resources annually to submit to the Environmental Review Commission a report on the state's progress toward attaining the goal of protecting one million acres. Attached is this year's report. If you have any questions, please contact Richard Rogers at 919-715-4152.

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2005 Annual Report
NC Million Acre Initiative

Presented to the Governor of North Carolina and the Environmental Review Commission of the North Carolina General Assembly

Sept. 1, 2005

By the North Carolina Department of Environment and Natural Resources
Office of Conservation and Community Affairs

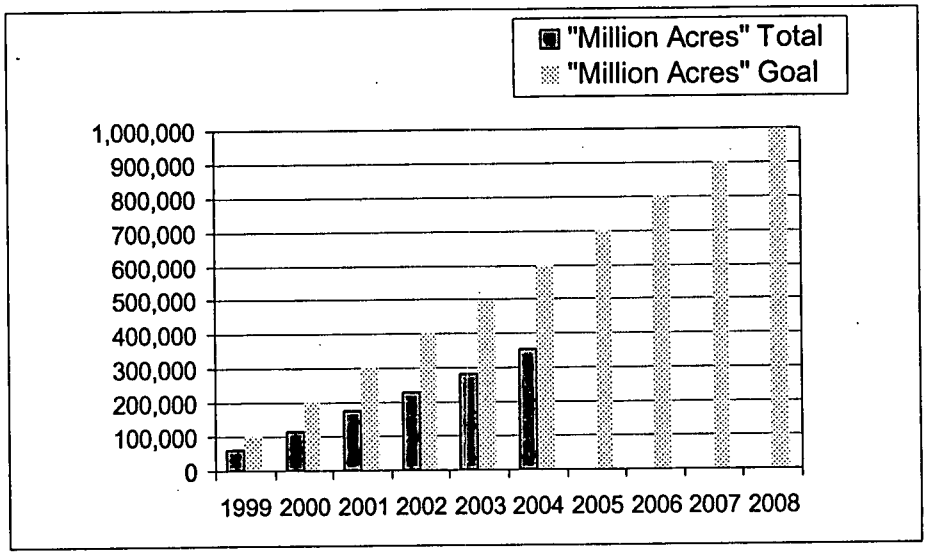
The Latest Numbers

At the end of the sixth full year of the North Carolina Million Acre Initiative (Jan. 1, 1999 – Dec. 31, 2004), private and public land protection partners across the state have permanently protected an additional **352,090** "Million Acre" acres. These partners reported adding **71,451** of those acres during the 2004 calendar year. This past year's activities represent an increase in the rate of land protection in North Carolina from the previous year. The Ecosystem Enhancement Program, begun in 2003, closed on 18,892 acres of permanently protected land, contributing significantly to the 2004 total. Because of the EEP emphasis on partnerships, many of those acres show up as part of other agencies' or land trusts' totals.

The table at the end of this report describes in detail the number of acres protected by sector (state government, local government, etc.), by program and by time period. Footnotes at the bottom of the page note special circumstances in some of the accounting. The end result is a conservative presentation of the totals. It is likely that the numbers presented here could be adjusted upward between 10,000 to 30,000 acres. To avoid frustration and embarrassment in the future, only official reports of new acquisitions (from surveys, interviews and questionnaires) make it into the final total. Estimations for non-respondents are not included.

It should be noted that, while our rate of land protection is encouraging, we have not yet reached an annual rate that will allow us to meet the goal of permanently protecting an additional million acres by Dec. 31, 2009 (G.S. 113A-240 and 241). The primary barrier is the availability of public and private funding for new protection projects. If we intend to meet the Million Acre goal by the end of 2009, more money for land protection must be found. The graphic below illustrates progress toward the Million Acre goal.

Table 1 Progress toward our goal of one million acres of permanently protected open space



The Program

In addition to working to increase the rate at which we are protecting land in North Carolina, the Million Acre Initiative continues to work towards making information about land protection tools and techniques more broadly available, and to encourage conservation planning. As noted in the 2004 report, because there are so many shared goals, the Million Acre Initiative has joined the One North Carolina Naturally effort. The Million Acre Initiative, in conjunction with One North Carolina Naturally and other partners, continues to slowly but steadily increase awareness among North Carolinians about the need for additional land conservation to protect our valuable natural ecosystems.

The Million Acre Initiative has identified potential focus areas for reaching the goal in a manner that maximizes benefit to biodiversity conservation. Within the N.C. Natural Heritage Program 'Macrosites' are approximately 3 million acres of unprotected land – areas that contribute to ecosystem function for clusters of natural areas and/or managed lands. These areas include undeveloped and little-degraded lands as well as farmland and revenue-generating forests that buffer natural areas. This approach helps focus protection of open space, without specifically targeting one million acres of private land. While the Million Acre Initiative has been working to identify targeted areas for conservation, other planning efforts are underway, including the

One North Carolina Naturally initiative, the Comprehensive Wildlife Conservation Strategy, and the Land for Tomorrow Coalition five-year plan.

Notable among these, the One North Carolina Naturally effort followed up on the forums held across the State and the 14 local and regional open space planning efforts encompassing 92 counties across North Carolina by compiling data and maps on existing open space resources, and highlighting regional and state priorities. These local and regional efforts also informed the update of the One North Carolina Naturally statewide conservation plan. The updated map was released at the statewide "Value$ of Conservation" conference in March. Data from each of these regional plans is incorporated into the Web-based N.C. Conservation Land Map Viewer where the data are continually updated. One NC Naturally hopes to catalyze a regional focus and provide information that provides an effective forum for decision-making about conservation in our communities. This online decision support tool can provide key information vital to successful planning efforts. Using this interactive map viewer, local and regional planners, conservation organizations and others will be able to zoom in on specific areas of their community. Selected geospatial layers reveal critical features such as habitats, water bodies and infrastructure. Future versions of our conservation map will include statewide greenway and trail data as well as canoe trails and boat access points.

The "Value$ of Conservation" conference also focused on ways we are protecting some of North Carolina's most critical economies - tourism, farm and forest lands, seafood, military bases - through conservation. Many outstanding presenters shared their perspectives on the critical relationship between conservation and a healthy North Carolina economy, of which approximately 25 percent is derived from industries and business that directly rely on our state's natural resources. Conference speakers included: former Gov. James B. Hunt Jr., Senate President Pro Tempore Marc Basnight and House of Representatives Majority Leader Joe Hackney; Secretary Carmen Hooker-Odom of the Department of Health and Human Services and Commerce Secretary Jim Fain clarified how intact natural systems support public health, economic development and tourism; William Schlesinger, dean of Duke University's Nicholas School of the Environment, spoke of the need to find economic solutions to environmental problems; Bill Medlin, executive director of the Yadkin-Pee Dee Lakes Project, an innovative

citizen-based regional strategic planning initiative for the Uwharrie Lakes Region in central North Carolina, spoke of the initiative's challenges and economic benefits; and, Dr. David Jones of the N.C. Zoo talked of the choices we need to start making now to ensure that North Carolina will be sustainable for the 22nd century.

Looking Ahead

The 71,451 acres permanently protected in 2004 was a great step forward, and it is anticipated that 2005 will also be a good year for new land protection projects. A major reason for the 2004 increase in protected acreage is the establishment of the Ecosystem Enhancement Program. In two years of the program, July 2003 - July 2005, EEP and its partners have protected more than 30,000 acres, preserving 126 miles of stream and 6,984 acres of wetlands. Acquisitions for an additional 134 miles of stream and 1,931 acres of wetlands are in progress. EEP funding contributed to the purchase of portions of large protected areas that will be open to the public and managed as state parks or game lands, including the Needmore Game Land, Buffalo Cove Game Land, Mitchell River Game Land, Haw Slopes State Natural Area and three tracts that were added to Eno River State Park. Another protected area acquired by EEP adjoins Blue Ridge Parkway lands – providing water quality and habitat benefits and protecting the view. Obviously, the EEP efforts to use preservation as a mitigation tool have provided a number of benefits, and the Million Acre Initiative would encourage North Carolina to continue this innovative and successful approach to mitigation.

The gaps in North Carolina's conservation funding remain a challenge. The FY 06/07 $17.2 billion state budget approved by the North Carolina General Assembly includes $100 million for the North Carolina Clean Water Management Trust Fund, marking the first time CWMTF has received its full level of funding. However, new applications totaled more than $ 90 million in requests for the 2005B grant cycle alone (a six-month period).

It will be difficult to meet the Million Acres goal without a working lands component that helps to maintain local production of agriculture and forest products. Of particular interest would be a dedicated source of funding for conservation of North Carolina's farms and forest lands. There

have been numerous suggestions for ways to generate funding, and it is time to examine some of these suggestions more closely.

2004 and the past several years have not shown significant federal land protection efforts. The Million Acre Initiative endorses increased spending in all programs (e.g. Wetland Reserve Program for private lands; U.S. Forest Service acquisition to fill in gaps in Uwharrie National Forest and connect recreation trails; increased money to fund U.S. Fish and Wildlife Service national wildlife refuges and conserve additional habitat for public trust wildlife; additional funding for Farm and Ranch Lands Protection Program and Forest Legacy).

On the private conservation side, Ducks Unlimited Sound CARE program is a comprehensive conservation initiative to protect, restore and enhance wetland habitat in North Carolina and the breeding areas that are most important to waterfowl wintering in North Carolina. The Sound CARE program has a five-year goal of 22,000 acres — 11,000 acres / $3 million for land protection; 3,000 acres / $3.5 million for work on public lands; and 8,000 acres / $4.5 million for work on private lands.

The upcoming year offers a chance to respond to a number of opportunities, and to think big. Notification that one of North Carolina's largest landowners, International Paper, is considering the sale of all of its land in North Carolina (more than 600,000 acres) reminds us that we need funding in place to react to such opportunities. While the state would only be interested in acquiring a fraction of the International Paper properties, and has the plan in place to identify priority parcels, there is a lack of funding to conserve a significant portion of these lands as open space for future generations. Some places, such as the Waccamaw River/Juniper Creek area, present a window of opportunity with a number of ecologically significant parcels becoming available simultaneously that would protect biodiversity habitat and provide recreation opportunities at an impressive scale. State and federal agencies and private organizations can hopefully work together to at least conserve some of the most ecologically significant areas, and the Million Acre Initiative and One NC Naturally will assist as possible.

In the coming months the Million Acre Initiative and One NC Naturally will work to implement recommendations from local public input. The One North Carolina Naturally Program continues to work with regions to determine appropriate next steps and to develop implementation strategies for the various regional plans. Specific projects will vary depending on the needs within each region. These efforts make it possible to see how individual green spaces and working landscapes across North Carolina fit together into a network of essential green infrastructure. Understanding the interrelationships among those areas will help us target our protection efforts so that we maximize the cost effectiveness and the natural protection value of our investment, and improve North Carolina's quality of life. As tens of thousands of acres each year are permanently altered from their existing natural condition for new development, increased awareness about the importance of setting aside some portion of our critical and unique lands is essential, and providing information and conservation tools is part of our job. The partners listed in the attached summary table will no doubt continue their efforts, and the One North Carolina Naturally program will look for ways to expand land conservation efforts, and make the future greener for our state.

Acres Under Permanent Protection

(note: a blank cell means no data were collected. 0 means no land was protected)

State Agency	category	Acres Protected 1/99 - 12/02	Acres Protected 1/03 - 12/03	Sub-Total through 2003	Acres Protected 1/04 - 12/04	"Million Acre" Total
DENR - FOREST RESOURCES	state forest	5,074	642	5,716	1,117	6,833
DENR - SOIL AND WATER	conservation reserve enhancement program	1,411	459	1,870	376	2,246
	hog farm buyout	943	84	1,027	386	1,413
WILDLIFE RESOURCES	game lands	49,879	11,394	61,273	33,721	94,994
DENR - Ecosystem Enhancement Program(*)	wetlands & riparian mitigation	593	935	1,528	7,776	9,304
DENR - PARKS AND REC.	state park	19,896	1,437	21,333	2,218	23,551
	state natural area	366	2,032	2,398	2,831	5,229
	state rec area	0	2	2	0	2
DENR - COASTAL MNGMT.	coastal reserves	28,903	58	28,961	0	28,961
	public beach/access	0	0	0		0
	submerged lands	0	0	0		0
DoA&CS - PLANT INDUSTRY	state nature preserve	6,972	2,039	9,011	517	9,528
	other lands			0		0
DCR - HISTORIC SITES	state historic sites	477	66	543	23	566
STATE UNIVERSITY SYSTEM	university property					
SUBTOTALS		114,514	19,148	133,662	48,965	182,626
Local Governments						
CITY AND COUNTY GOVERNMENTS (**)	parks, greenways, watersheds, etc.	16,224	1,211	17,435	2,159	19,594
SUBTOTALS		16,224	1,211	17,435	2,159	19,594
Federal Agency						
US FISH AND WILDLIFE SERVICE	national wildlife refuge	6,761	3,489	10,250	2,429	12,679
USDA FOREST SERVICE(***)	national forests	5,045	1,398	6,443	336	6,779
USDA-NRCS WETLAND RESERVE PROGRAM	wetlands reserve	5,043	4,487	9,530	899	10,429
NATIONAL PARK SERVICE	national park	6,675	0	6,675	872	7,547
SUBTOTALS		23,524	9,374	32,898	4,536	37,434
Local Land Trusts						
NC LAND TRUSTS (****)	protected lands	47,657	16,495	64,152	10,149	74,301
SUBTOTALS		47,657	16,495	64,152	10,149	74,301
Other Conservation Groups						
THE NATURE CONSERVANCY(*****)	nature preserves	18,402	2,296	20,698	4,944	25,642
AUDUBON SOCIETY	nature preserves	0	0	0	0	0
AMERICAN FARMLAND TRUST	farmland	0	0	0	0	0
PRESERVATION NC	historic preservation	636		636		636
NC COASTAL FEDERATION	nature preserves	4,935	288	5,223	252	5,475
DUCKS UNLIMITED(******)	waterfowl habitat	2,597	3,338	5,935	446	6,381
SUBTOTALS		26,320	5,922	32,492	5,642	38,134
TOTALS		228,239	52,150	280,639	71,451	352,090

*Formerly Wetlands Restoration Program. EEP closed on 18,892 acres in 2004; 11,116 of those acres are held by other state agencies or land trusts.

**Local governments include LWCF projects closed, PARTF projects funded, CWMTF local projects closed, and counties that responded to information requests.

***National Forests in North Carolina reports on fiscal year.

****25 local land trusts that regularly partner with the Conservation Trust for North Carolina. Local land trusts also conveyed 7,011 acres to local, state, and federal government in 2004, and assisted in partnership or facilitated the purchase of 7,687 acres of protected lands.

*****The Nature Conservancy closed on 13,902 acres in 2004. TNC transferred 8,958 of those acres to the State of North Carolina.

******DU requested a correction of acreage figures from previous years, adjusting totals for Million Acres. Also assisted in transfer of Saltworks tract to NC WRC.

Prepared by NCDENR (SMP) 11/16/2005

EXHIBIT E-4

NCDENR

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

Nov. 1, 2005

To: Sen. Daniel Clodfelter
Sen. Charles Albertson
Rep. Pryor Gibson

From: Secretary Bill Ross

Subject: Conservation Easements Report

G.S. 113A-235 requires the Department of Environment and Natural Resources each year to submit to the Environmental Review Commission a report on the conservation easements program. Attached is this year's report. If you have any questions, please contact Bill Flournoy at 919-715-4191.

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One NorthCarolina Naturally

CONSERVATION EASEMENT PROGRAM
ANNUAL REPORT
November 1, 2005

Pursuant to NC G.S. 113A-235(c), the Department of Environment and Natural Resources reports to the Environmental Review Commission each year on the implementation of Article 16, the Conservation Easement Program. This Article, 113A-230 through 113A-235, also includes enabling legislation for a program for conservation tax credit promotion/education, and enabling legislation for a conservation grant fund. The following reports on these programs.

Conservation Easement Program 113A-230. Having been established in 1997, this program is administered as part of the NC Conservation Tax Credit Program (NCCTC). The Conservation Easement (CE) program is intended to use promotion and education to increase the use of conservation easements as a tool to accomplish conservation goals, such as the Million Acre Initiative. A graph (Attachment A) of NCCTC Program Statistics shows the increasing use of conservation easements through this program, due primarily to the growing acceptance of CEs within the farming and forestry communities. Further, CEs are a key element of the Clean Water Management Trust Fund, Ecosystem Enhancement Program, Conservation Reserve Enhancement Program as the mechanism for water quality protection in most transactions. Also, CEs are held by programs such as State Parks, Coastal Reserves and Forest Legacy as a tool for accomplishing their missions.

In 2005 the Department began taking the first steps toward funding conservation easement related activity. With the increasing number of CEs generated through the Clean Water Management Trust Fund, Ecosystem Enhancement Program, Conservation Reserve Enhancement Program, and other programs, comes a growing responsibility for monitoring and effective management of their conservation values. This will begin as a centralized receipts-based program supported by any agency prepared to make payments into the Conservation Grant Fund Endowment to cover administrative/management costs. The intent is to expand this Stewardship Program incrementally until all conservation easements held by the State are assured proper monitoring and management of their public purposes and values. This program is explained in more detail in (Attachment B).

To accomplish optimum use of conservation easements and their related economic advantages by private landowners, the program needs to provide more than superficial information and guidance. While a more substantial and in-depth outreach program could greatly increase the use of conservation easements, it will also require more attention to the costs and complexities of conservation easement drafting and stewardship. By combining the CE Program with the NCCTC Program, the Department has maintained a limited CE Program in the absence of staff or line item operating budget.

Conservation Tax Credit Program 113A-231. The State's Conservation Tax Credit was established in 1983 and this Department's role was passive, to respond to donor's applications for certification of their gifts of interests in real property for conservation purposes. In 1997 the Department received the authorization to begin a non-regulatory program of education/promotion to increase the use of conservation tax credits. Over the last ten months NCCTC/CE presentations were made at six workshops organized by other groups for landowners and land related professionals, and the NCCTC display was sent to three other workshops or conferences.

Graphs (Attachments C& D) of the NCCTC Program Statistics show the acreage and value of donations over the duration of the program. Cumulatively, more than 138,000 acres valued in excess of $505 million has been donated. A table (Attachment E) of donations by County shows that there have been donations in eighty-five of the State's counties.

Over the duration of Conservation Tax Credit use, it has leveraged the donation of $165 million of excess value that was above the amount that could be used to create the maximum credit allowed (Attachments F,G, & H).

Further, when used in conjunction with bargain sales, the conservation Tax Credit (Attachments I&J) can yield substantial savings for conservation trust funds, local governments, and nonprofit organizations purchasing land. For example, in 1998 & 1999 alone, the gift portion of bargain sales to the State that qualified for the Conservation Tax Credit allowed the acquisition of conservation lands by the state at a price $23 million below appraised market value. Over the duration of the program, all grantees have saved more than $79 million through bargain sales facilitated tax credit incentive.

The Department has the statutory responsibility to protect real property and interests in real property conserved in perpetuity by State incentive programs. Fulfillment of this responsibility will require monitoring of these properties to assure that their conservation purposes are not jeopardized. The current absence of permanent, full time staff and line item budget prohibit implementation of activities to protect the public's conservation assets.

The increasing benefits from the Conservation Tax Credit Program have been derived mostly from increases in the maximum tax credit allowed. Nevertheless, steadily increasing land values reduce the incentive offered by the Conservation Tax Credit over time. Therefore, the maximum credit allowed must increase periodically to retain its effectiveness.

The Conservation Tax Credit is currently applied against State income taxes. Yet, there are landowners that cannot use this conservation incentive because they are required to pay other types of taxes. Consideration might be directed toward broadening the types of taxes to which the credit can be applied.

A more substantial and in depth outreach program could greatly increase donations of real property for conservation purposes from the use of conservation tax credits. To date the Department has provided minimum support for this function while the Conservation Tax Credit Program has operated in a limited fashion in the absence of permanent, full time staff or line item operating budget. This is a continuing limitation on the program's potential success.

Conservation Grant Fund 113A-232. Established in 1997, it was intended to stimulate the use of conservation easements, to improve the capacity of private nonprofit land trusts and agencies to successfully accomplish conservation projects, to better equip real estate related professionals to pursue opportunities for conservation, to increase private landowner participation in land and water conservation, and to provide an opportunity to leverage private or other public monies for the stewardship of conservation easements. To date the Department has not received an appropriation to actualize the complete Conservation Grant Fund and address the structural weaknesses it was intended to correct.

In 2005, actions were taken to start up two of the Conservation Grant Fund's functions. (1) The General Assembly approved one-time funding for the transaction cost function. This will be directed to the conservation of land that buffers military bases and training areas. (2) The Department began the process of creating a centralized program that assures proper monitoring and management of the conservation easements held by its agencies, as part of the stewardship cost function. The Stewardship Program is explained in more detail in (Attachment B). Both of these functions will expend their first funds during 2006.

Results from 2005 Legislative Session. Two bills were before the Legislature.

(A) SB 521, An Act To Recodify The Credit For Certain Real Property Donations And To Increase The Credit For Certain Pass-Through Entities, was introduced in 2005 as a placeholder and it carried over to the Short Session. Although it was not ratified, the needs it sought to address are still pertinent enhancements of the incentives for conservation of interests in real property in North Carolina. A Committee Substitute is prepared that incorporates the following concepts.

(1) **NCCTC For Partnerships (Pass Through Entities).** A recent amendment to Department of Revenue (DOR) statutes, governing the way all pass through entities may claim tax credits, deferred its effect on the NCCTC until 1/1/2005 and that has since been extended until 1/1/2006. At that time, partnerships and other pass through entities will be limited to a maximum allowed credit of $250,000 for donations under the NCCTC, regardless of the value of the donated interests in real property. This has the potential to be a significant disincentive on the scale of donations and gift portion of bargain sales. In response to this pending change, DENR has coordinated with the DOR to seek an approach to meeting mutual public needs. An amendment to NCCTC statutes to allow pass through entities to claim the same maximum allowed credit ($500,000) as other corporations, with each pass through recipient limited too the maximum individual

NCCTC of ($250,000) or portion thereof, would partially address the loss of incentive to the NCCTC. The effective date of such amendment should be 1/1/2006.

(2) **Corporate Incentive To Donate**. Since its creation in 1983, the NCCTC has only been applied against income taxes. With the sunset provision for how corporate passthrough entities claim tax credit, some of the incentive for conservation donations will be eliminated. One approach for regaining the breadth of NCCTC applicability would be to allow the credit to be used against Franchise Tax and Gross Premium Tax, thereby appealing to corporate landowners that may be otherwise constrained from considering the donation of real property for conservation purposes.

(3) **NCCTC Refundability.** The NCCTC was created as an incentive for landowners to donate interests in real property for conservation purposes. While the concept has been very successful and has been emulated in other states, there is still a category of landowner that finds little incentive in the program. "Land-rich and cash-poor" landowners [typically owners of working landscapes such as farms and forests] receive disproportionately low response from their conservation donation for a tax credit. Several states with more recent conservation tax credit programs have addressed this issue by authorizing "transferability" for their tax credits, but this involves a considerable administrative workload. The issue could be addressed more simply through "refundability," where those donors with larger income tax liabilities will have the option of electing a credit, while those donors with lower income tax liabilities will have the option of electing a partial refund. As proposed, a 50% refund of any remaining credit amount would be authorized after the second year of carry forward (third year including the year of donation). In this way, land-rich and cash-poor landowners would have more incentive to donate interests in real property for conservation purposes. If enacted, it would be three years before any refunds were paid.

(B) SB 1117, An Act To Enact The 2005 Soldier, Sailor, Marine, Airmen, And Guardsmen Support Act, was ratified. Among its provisions was a $1,000,000 authorization to the Conservation Grant Fund to be used for "compatible land use and conservation easement type acquisitions of land adjacent to military bases and flyways". This one-time appropriation is the first funding provided to the Conservation Grant Fund. It is targeted to part of only one of the Fund's several conservation support functions. This activity will continue until the funds are expended.

Recommendations for Substantive Legislation. General speaking, activities under Article 16 are being carried out as well as can be expected, given the limited resource commitment to these programs. The principal constraint on the promotional and educational opportunities envisioned by Article 16 is the absence of staff and operating budgets. Likewise, the principle constraint on the capacity to execute transactions and conduct conservation stewardship is the absence of a continuing appropriation to the Conservation Grant Fund. These are considerable constraints that need to be addressed,

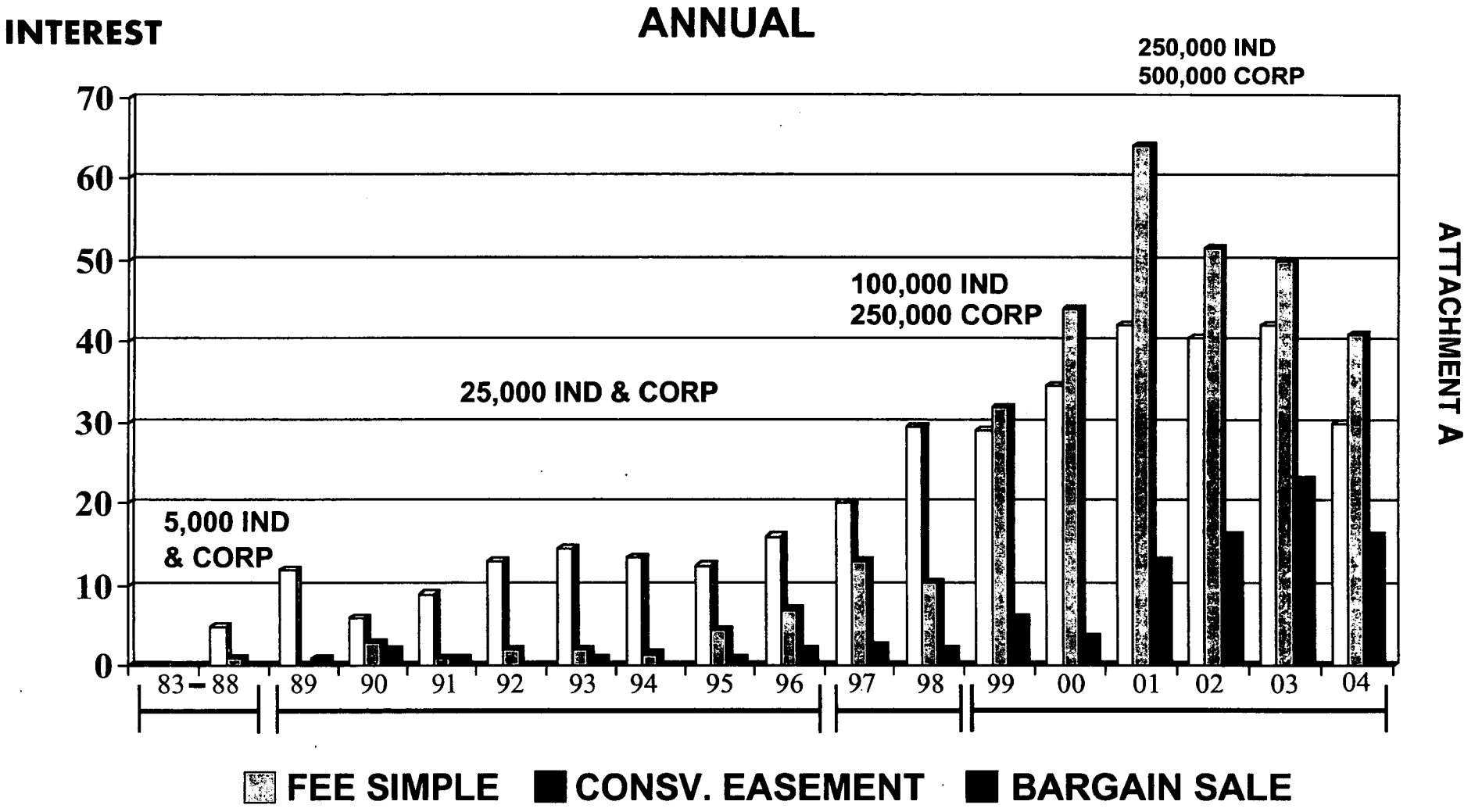
and there are additional items that may also be considered for substantive legislation to improve existing programs.

(A) **Recurring Appropriation**. From its enactment in 1997 through 2005, the three programs under Article 16 reported they have never had a line item operating budget or prominent, full time staff. While the Conservation Grant Fund will receive funds from two sources in 2006: (i) a non-recurring appropriation for compatible land use and conservation around military training areas, and (ii) receipts based stewardship of a small fraction of the State's conservation easements, this does not address the broader conservation purposes of these three programs. For example, the Conservation Tax Credit program alone has conserved about 800 properties and another 100 are added each year, with no capacity to fulfill its statutory responsibility to monitor and assure their ongoing conservation viability. To continue the initiative to buffer military training areas, and begin to build the capacity to both conserve and manage land for conservation purposes at a rate that may come close to reaching the State's Million Acre goal, a recurring appropriation will be required. An amount in the $2-3 million range is a reasonable start up figure.

(B) **Index Credit Cap.** Since its establishment in 1983, the maximum credit allowed for the NCCTC has been raised three times (1989, 1997, and 1999). Further requests for increases are inevitable as increasing property values decrease the incentive provided by the NCCTC. These dynamics can be addressed by indexing the credit cap. The incentive to donate would then be stabilized relative to land value, and repetitive legislated increases would be avoided. As proposed, an increase equal to 75% of the Consumer Price Index (CPI) would be calculated from the last year of credit cap increase, with the cap increasing incrementally in the year following a cumulative increase of $25,000 for individuals and $50,000 for corporations. If previously enacted: since the last credit cap increase occurred in 1999, the index threshold would have been passed in 2004, would have been announced in 2005, and 2006 would be the year an automatic indexed increase took effect. Thus, a credit cap increase is due, to avoid a loss of incentive for voluntary donations of real property for conservation purposes.

(C) **Charitable Purpose Flexibility.** To be eligible for a NCCTC, the donated land must yield one or more of the required public conservation purposes. Nevertheless, minor parts of donated tracts may not contribute to the conservation purpose and may not be allowed to be converted to another purpose without conflict with the tax credit statues. While it would be inappropriate to allow wholesale or unsupervised conversion of conservation properties to other uses, there may be justification to consider allowing small parts that do not contribute to conservation purposes to be converted to another charitable purpose under a specific process of checks and balances administered by the NCCTC Program. This flexibility would be consistent with the concept of providing incentives for community based charitable activity, while allowing the integration of diverse land uses, but without jeopardizing the public conservation benefits required by the NCCTC.

NCCTC PROGRAM STATISTICS



ATTACHMENT A

Effective Date 8/15/05

ATTACHMENT B

REPORT ON THE ESTABLISHMENT OF A CONSERVATION EASEMENT/FEE STEWARDSHIP PROGRAM IN THE OFFICE OF CONSERVATION AND COMMUNITY AFFAIRS, DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

February 7, 2006

I. INTRODUCTION AND BACKGROUND

The Department of Environment and Natural Resources ("Department" or "DENR") and several related agencies have multiple programs in place which have as a part of their mission, the acquisition of property and property interests to conserve, protect and enhance the natural resources of the State of North Carolina. These programs have grown and matured over the past several years, to the point it is widely recognized that an organizational unit within the Department must be established and charged with the responsibility for the facilitation and oversight of long-term stewardship of these lands.

A Stewardship Task Force was established on April 7, 2004 under the sponsorship of the Chief Deputy Secretary of Environment and Natural Resources, in accordance with a contractual agreement between two of the important partners involved in the conservation of lands effort (the Department's Ecosystem Enhancement Program and the Conservation Trust for North Carolina), to study the full set of issues surrounding the management of the protected properties.

The charter of the Stewardship Task Force included the following mission statement:

> The North Carolina Department of Environment and Natural Resources has convened this Task Force to evaluate monitoring fees and provide recommendations for long-term management and perpetual monitoring, and to provide recommendations to the Secretary for the most cost-effective mechanisms for ensuring protection and management of land interests associated with acquired or secured properties....

It was acknowledged and agreed that the Secretary would evaluate the recommendations and establish an appropriate management and monitoring procedure. The Stewardship Task Force submitted its report to the Department on September 5, 2004.

The Department has carefully considered the Stewardship Task Force Report, and has undertaken a review of existing organizational structures and legal authorities. It has determined that a Stewardship Program will be established within its existing Office of

Conservation and Community Affairs. Staffing levels of this office will be increased over time to administer and track long-term monitoring reports, review invoices and approve payments for contracted-out monitoring efforts. Legal services, particularly for any necessary deed restriction enforcement, will be coordinated with the Department of Justice; and a process will be put in place to coordinate legal defense actions with involved non-profit land trust organizations.

Funding for both the administration and management of the Stewardship Program and for the necessary monitoring activities and enforcement has been at the heart of all of the discussions of this issue. It is expected that involved agencies will provide a to-be-determined payment to the Stewardship Program which will be protected and preserved for long-term use through the use of a non-reverting account and a Treasurer-approved Endowment fund.

The Conservation Easements Program Act, NCGS 113A-230 et seq, authorizes the establishment of a comprehensive conservation easement program within the Department, and includes as a part of its enabling authorities the creation of the Conservation Grant Fund. Grants may be made from the Conservation Grant Fund for all of the elements required of a long-term land stewardship program management activities and support, including baseline inventories-planning and correction of minor easement breaches; monitoring compliance with conservation easements; landowner communications and program education; stewardship; and administrative costs. A significant aspect of the Act is its acknowledgement of the roles of land trusts in the conservation easement stewardship effort. It is the stated intent of the General Assembly in NCGS 113A-230 "to extend the ability of the Department of Environment and Natural Resources to achieve these purposes [a conservation easements program] and to strengthen the capability of private nonprofit land trusts to participate in land and water conservation."

The purpose of this report is to outline the steps the Department will take to activate and further develop this important endeavor, in order to reach the long-term goal of a fully implemented stewardship program. All State agencies which obtain lands for conservation will be invited to participate. The initial participant will be the Department's Ecosystem Enhancement Program, but other programs with stewardship responsibilities, such as the Natural Heritage Program, Division of Parks and Recreation, Division of Forest Resources, Division of Coastal Management and Division of Soil & Water Conservation may also be involved. Included within the department umbrella will be the Conservation Credit Tax Program. It is also expected that the benefits of the program can accommodate similar lands management needs in the Clean Water Management Trust Fund, other state agencies (e.g., Department of Agriculture), and programs administered by or through the State Property Office.

The Department would like to publicly thank the Stewardship Task Force for its work. The efforts that the Task Force expended have significantly advanced the Department's knowledge and basis for decision-making on this significant matter.

Without the necessity for further extended analyses, the establishment of the Stewardship Program is proceeding quickly.

II. STEWARDSHIP TASK FORCE RECOMMENDATIONS REPORT

The Stewardship Task Force was chaired by the Ecosystem Enhancement Program, and met eleven (11) times over a 5-month period. The member organization and agency participants were the Piedmont Land Conservancy, the Nature Conservancy, the Tar River Land Conservancy, the Conservation Trust for North Carolina, the Conservation Fund, the North Carolina Coastal Land Trust, the Clean Water Management Trust Fund, the Wildlife Resources Commission, and the departmental divisions and offices with land management roles. Additional contributors to the effort included representatives of the State Property Office and the Attorney General's Office.

In the memorandum transmitting its recommendations to the Chief Deputy Secretary, the Stewardship Task Force noted that the key points of its findings and recommendations were as follows:

- The exact amount of funding needed for perpetual protection of lands is impossible to predict.
- The protection of the state's interest in properties will require a perpetual management system.
- To ensure site protection, funds must be secure for monitoring, legal action (enforcement) and biological management.
- Stewardship and fund management systems apply to a number of state agencies and boards, therefore, an umbrella management system seems practicable.

The Stewardship Task Force also established a methodology for determining appropriate long-term monitoring fees and for baseline property documentation, and drafted forms for monitoring inspection and reports, which should prove useful to the Department. The September 2005 report is attached, for ready reference, as Attachment 1.

III. ORGANIZATION OF THE STEWARDSHIP PROGRAM

The Department's Office of Conservation and Community Affairs (OCCA) is a senior management level program. The mission of the OCCA includes the development and implementation of a comprehensive statewide conservation plan involving the public, governmental agencies, private organizations and landowners. Its conservation partners already include the agencies, divisions and organizations diligently working to protect and conserve our natural resources. The One NC *Naturally* program, the NC Million Acre Initiative, the Natural Heritage Program, the Albemarle-Pamlico National Estuarine Program and the Conservation Tax Credit Program are working components within the OCCA. It is the "natural" choice as the organizational entity within the Department to serve as the managing unit for the Stewardship Program.

It is expected that a Stewardship Program manager, with stewardship and monitoring skills, will be placed within the OCCA and report to the director. The duties of this position may be generally described as follows:

- Compile a data base of all state properties that require stewardship
- Implement the applicable stewardship Procedures and Guidelines
- Implement reimbursement formula, per above guidelines
- Contract with monitoring service providers
- Maintain an inventory of qualified sites
- Compile and analyze reimbursement data
- Receive, confirm and facilitate reimbursements
- Create and maintain reports, including those to the General Assembly
- Coordinate activities with Attorney General's Office, State Property Office, Treasurer's Office, Controller, etc.

It is also expected that administrative support and a biological monitoring position will be needed to complete the full staffing of the stewardship team. The Stewardship biological monitoring technician will perform the following duties:

- Implement the applicable stewardship Procedures and Guidelines
- Review Annual Monitoring Reports prior to payment of invoices
- Compile and analyze monitoring data
- Create and maintain reports, including those to the General Assembly
- Conduct site inspections
- Coordinate with conservation easement holders

Housing the Stewardship Program within the Department will allow the Department's existing infra-structure for contracting, budget and account management, and legal services to be used. Appropriate budget codes for expenditures under the Conservation Grand Fund will be established, and personnel will be administered through existing management systems.

IV. IMPLEMENTATION COMMITTEE

The Department has obtained the assistance and advice of its land conservation partners in establishing the Stewardship Program. A Stewardship Implementation Committee has worked directly with the OCCA to determine a) whether any supplemental tasks needed to be addressed as a follow-up to the work of the original Stewardship Task Force; b) any impediments to the establishment of the conservation easement/fee stewardship program as outlined herein; c) the initial group of agencies and entities to be involved; d) an appropriate budgeting framework for, and mission charge to, the OCCA; and e) the basic outline of the needed enforcement procedures, including consultation opportunities for state agencies and involved land trusts.

The Stewardship Implementation Committee has operated as an advisory "team" under the guidance of the director of the OCCA, and will continue to serve as a sounding board for the OCCA as the Stewardship Program progresses.

The Stewardship Implementation Committee may also be asked for its assistance in developing an initial inventory of state-held property and property interests for which the stewardship/management program should be applicable.

V. ELEMENTS OF STEWARDSHIP

The Stewardship Task Force provided the Department with a useful working definition of stewardship, which obviously has many significant elements. For purposes of this report and for the initial start-up of the Stewardship Program, the Department adopts the elements described below, largely taken from the Task Force Report, as the basics of its program. A schematic chart outlining the various elements of the Stewardship Program is provided in Attachment 2.

Stewardship is defined as the protection of the ecological integrity of conservation properties, and has three major components: monitoring, legal protection and defense, and biological management activities. Landowner outreach, education, and landowner relationship maintenance are important components of monitoring and management. Management activities are specific to individual sites, and, when applicable, should be linked to a site-management plan and to the conservation easement language.

Stewardship activities include:

- Inspection of sites and boundaries
- Production of periodic monitoring reports
- Scheduled and emergency response management activities
- Notification of the state property office and the funding agency if encroachment or management issues are identified during site visits

Initially, the OCCA priorities will be focused on monitoring activities. However, steps to address each of the three major components of stewardship will be planned and implemented incrementally, to reach the long-term goal of a comprehensive and effective stewardship program. As funding resources are identified and obtained, the program will move from its start-up phase to full implementation.

A. Monitoring:

Monitoring is defined as the conducting of property visits and issuance of reports of site integrity or of breaches of easement or dedication agreements. Monitoring activities include staff time, travel, materials and overhead associated with site visits and periodic boundary re-marking.

Each site must be monitored to assess the site conditions and check for breaches of the easement or other encroachments. The frequency of site monitoring may vary, and

it will be a significant task of the OCCA to determine the desired frequency, with annual activities being the presumed target initially. Since properties are either owned by the State or have conservation easements that are assigned to the State, legal assistance will be provided by the Department of Justice, Attorney General's Office.

B. Legal Protection and defense:

The State of North Carolina has ultimate responsibility for defense of state-held property and easements. When appropriate, responsibility of easement defense may be shared with partners holding other conservation interests in the real property. Costs of "major" violations are unpredictable, but it is clear that determinations must be made about the location of funds and the amount of funding required, and should be reviewed periodically. The Stewardship Task Force has also concluded that it is not possible to accurately predict costs that may be associated with legal action in perpetuity. Enforcement of major legal violations are expected to be the responsibility of the Department of Justice, Attorney General's Office; and steps will be taken to explore how the land trusts may be fully engaged in the enforcement process.

C. Management

Management includes affirmative activities or remedial actions necessary for maintaining conservation values of the property and may also include activities designed to enhance those values. A management plan should be developed that will address the conservation values for which the property was purchased. Remedial actions which can be obtained without the need for legal assistance are classified as "minor" and are expected to be resolvable by the Stewardship Program and its partners. It may prove useful to implement a cost cap on these management activities.

<u>Management Activities</u>

1. Exercising reserved rights: includes staff time, travel, materials. Reserved rights are identified in the easement (home site development, timbering, trail or dock construction, etc.) and are not usually applicable to Ecosystem Enhancement Program easements.

2. Implementing management plans: Costs of implementing the management plan should be predictable and estimates should be included in site-specific management plan document.

3. Unplanned affirmative activities and remedial actions may become necessary as time passes. While these are unpredictable, a contingency amount should be included in the endowment estimate to cover these activities.

These costs can be estimated at the time the endowment for stewardship of a site is deposited. The endowment would hopefully provide principal to produce the interest

needed to fund management activities, but a long-term management program will require a phased approach.

VI. ACCOUNTING MECHANISMS

The Stewardship Program will be administered through the Conservation Grant Program, and will incur costs in the following areas: transaction, management, stewardship, education and capacity building. Generally, OCCA expects its funds to be placed in the accounts described below. Stewardship activities will be paid through existing DENR purchasing, budgeting and controlling infrastructure.

1. The Conservation Grant Fund general fund center (not yet established) for appropriations to DENR/OCCA. This account would hold General Assembly appropriations provided to OCCA which are specifically related to operation of the Conservation Grant Fund. GS 113A-232(b) identifies these sources as "any monies appropriated to it [the Conservation Grant Fund] by the General Assembly...." Unless legislated otherwise, these funds will be monies that will revert at the end of a fiscal year. These funds will be used for any of the purposes described in the Conservation Easements Program legislation, or for any more limited purpose set out in the appropriation. Currently, there are no funds in this general fund center.

2. The Conservation Grant Fund non-reverting account (established as Fund 2410 in Budget Code 24300), for other sources of money to DENR/OCCA. Under GS 113A-232(b), this account would hold "any monies received [by the department] from public or private sources." The purposes for which these funds can be used are also those described in the Conservation Easements Program legislation, and may be generally described as: administrative costs for the Conservation Grant Fund; conservation grants made under GS 113A-233, including stewardship; and the establishment of the Stewardship Endowment account. These funds would include monies received from departmental or other state agencies in exchange for stewardship activities performed or managed by the OCCA, and these funds "shall not revert and shall remain available for expenditures in accordance with this Article."

3. The North Carolina Conservation Lands Stewardship Endowment account (established as Principal Fund 6704 and Interest Fund 6705 in Budget Code 64307), for moneys solely dedicated to stewardship activities. GS 113A-232(d)(3) is very specific as to the department's authority to establish an endowment account for any of the purposes set out in GS 113A-233(a). One such purpose is for the stewardship of land, and that would be the responsibility of OCCA under the new stewardship program. In addition, the State Treasurer may administer such an account under GS 147-69.2(18), which provides for the investment of monies in such a specially created Fund. Once the endowment is funded the interest it draws will be used for the stewardship activities for which it was established. It is expected the interest will be drawn down periodically as needed and placed in the non-reverting account for expenditures on stewardship activities.

The use of the word "endowment" indicates a stronger intent from the General Assembly than the standard non-reverting account language that these moneys be dedicated solely to the purposes of the Endowment account, which in this case is stewardship. An endowment is the

"transfer, generally as a gift, of money or property to an institution for a particular purpose such as a gift to a hospital for medical research.... [It is] the bestowment of money as a permanent fund, the income of which is supposed to be used in the administration of a proposed work" Black's Law Dictionary, Sixth Edition (1990). An endowment-creating document will be provided by the OCCA, in consultation with the Attorney General's Office and the State Treasurer.

The DENR/OCCA will be responsible for transferring or directing public and private monies to the Stewardship Endowment account, receiving periodic reports on its investment from the State Treasurer, and for making the expenditures of the interest received from the investments.

VII. MANAGEMENT PRINCIPLES

Throughout the Task Force discussions, the internal departmental review, and the dialogue with the Implementation Committee, several guiding principles have emerged which can significantly assist the OCCA in the further development of the Stewardship Program. This listing is not intended as exhaustive, but rather is included as a summation of current agency goals and objectives for the program.

1. The OCCA will need an initial inventory of lands and acreages, the existing baseline documentation for site conditions, and the existing stewardship and management plans. It should also identify which sites have previously received payments for stewardship endowments. The initial inventory can be developed into a catalog of properties with annual updates.
2. While the OCCA will serve as the management unit for the Stewardship Program, it is recognized that land trusts, soil and water districts and other regional / local entities may be best positioned for stewardship monitoring activities. These entities will generally be qualified to perform the needed stewardship activities and may be expected to have good working relationships with landowners and donors.
3. The Stewardship Program within the OCCA must be operated consistently with the remainder of the Conservation Easement Program Act provisions, which extend beyond stewardship.
4. Initially, and until sufficient funding is received to fill the needed OCCA positions, selected functions and responsibilities may be contracted for under the provisions of G.S. 113A-234(b). Contracts should be for terms that are commensurate with long-term management goals.

VIII. ENFORCEMENT

G.S. 113A-231 charges the Department with the responsibility to monitor and enforce conservation responsibilities that result from the State incentive, grant, and non-regulatory programs intended to protect land in perpetuity. The monitor/inspection

positions within the Stewardship Program will provide the first capacity and opportunity to carry out the responsibility in an organized and continuous fashion.

Funding constraints will probably lead to these new positions being filled incrementally, but their integration into the OCCA must be a consideration from the beginning in order to optimize effectiveness and efficiency.

The Attorney General's Office has roles to play, to a greater or lesser extent, in all of the Stewardship Program. Expertise in environmental, real property, and litigation will be required at various times. The Attorney General's Office must be an integral part of the Stewardship Program from the beginning, and ultimately receive funding for the level of services they provide.

Further, it is expected that the state's land trusts, through landowner contracts and their contracted monitoring and management activities, will also have roles to play in the defense of easements. Close cooperation and coordination between the state agencies and the land trust is vital.

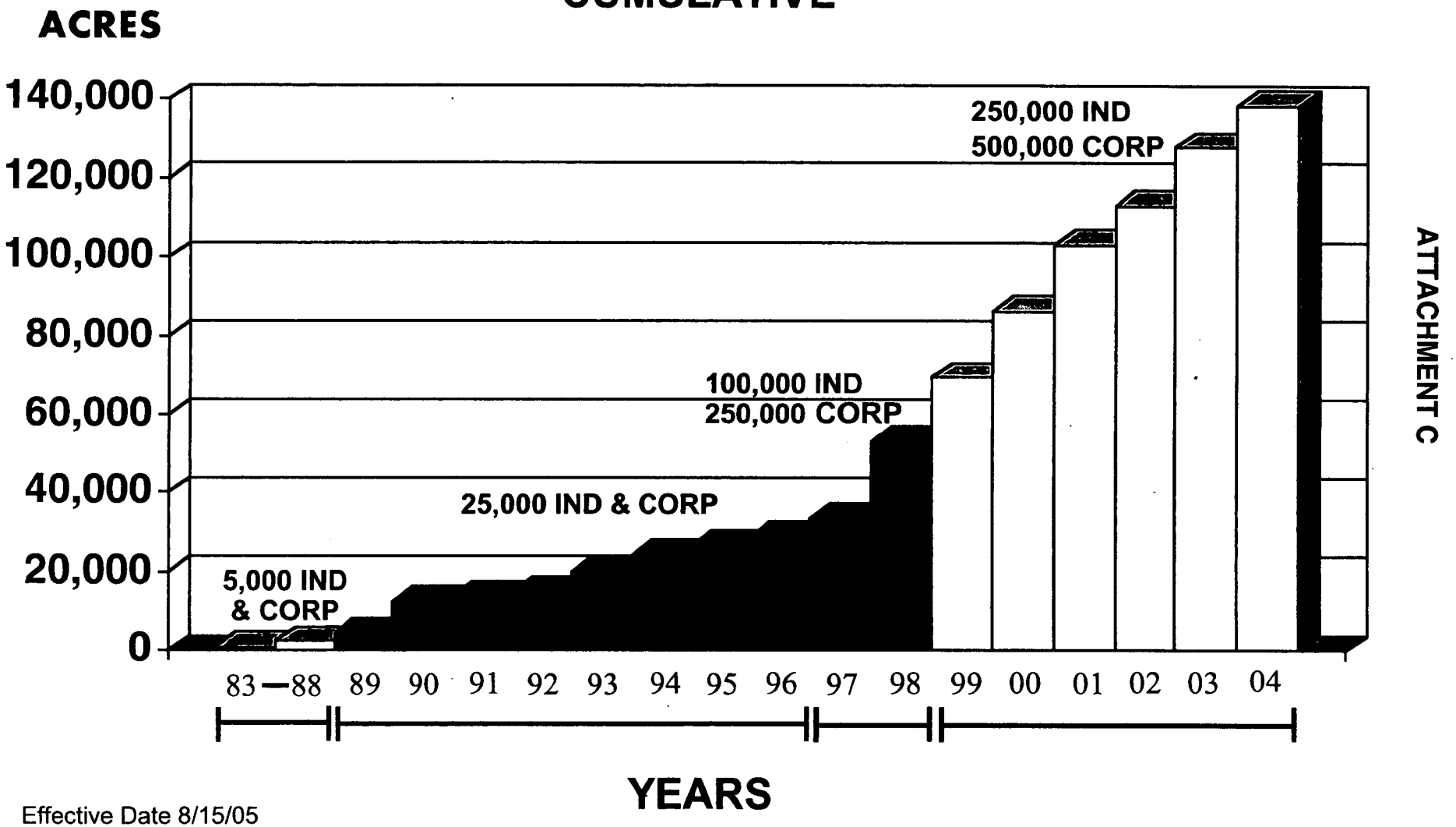
Conservation easements protect the public's interests in environmental/natural resources and services. Conceptually, the Attorney General's Office should have a role in defending/enforcing all conservation easements. Under G.S. 113A - 231, the Attorney General's Office has a defined role to provide legal services related to conservation easements that result from State programs. The unresolved question is the full extent of the Attorney General's Office involvement with conservation easements. The Attorney General's Office has been a partner in the establishment of the OCCA Stewardship Program, and a continuing dialog among the department, the conservation community and the Attorney General's Office is planned. As our experience increases in conservation easement defense, further mechanisms for enforcement will be developed and implemented.

_____

Richard Rogers, Director
Office of Conservation and Community Affairs

NCCTC PROGRAM STATISTICS

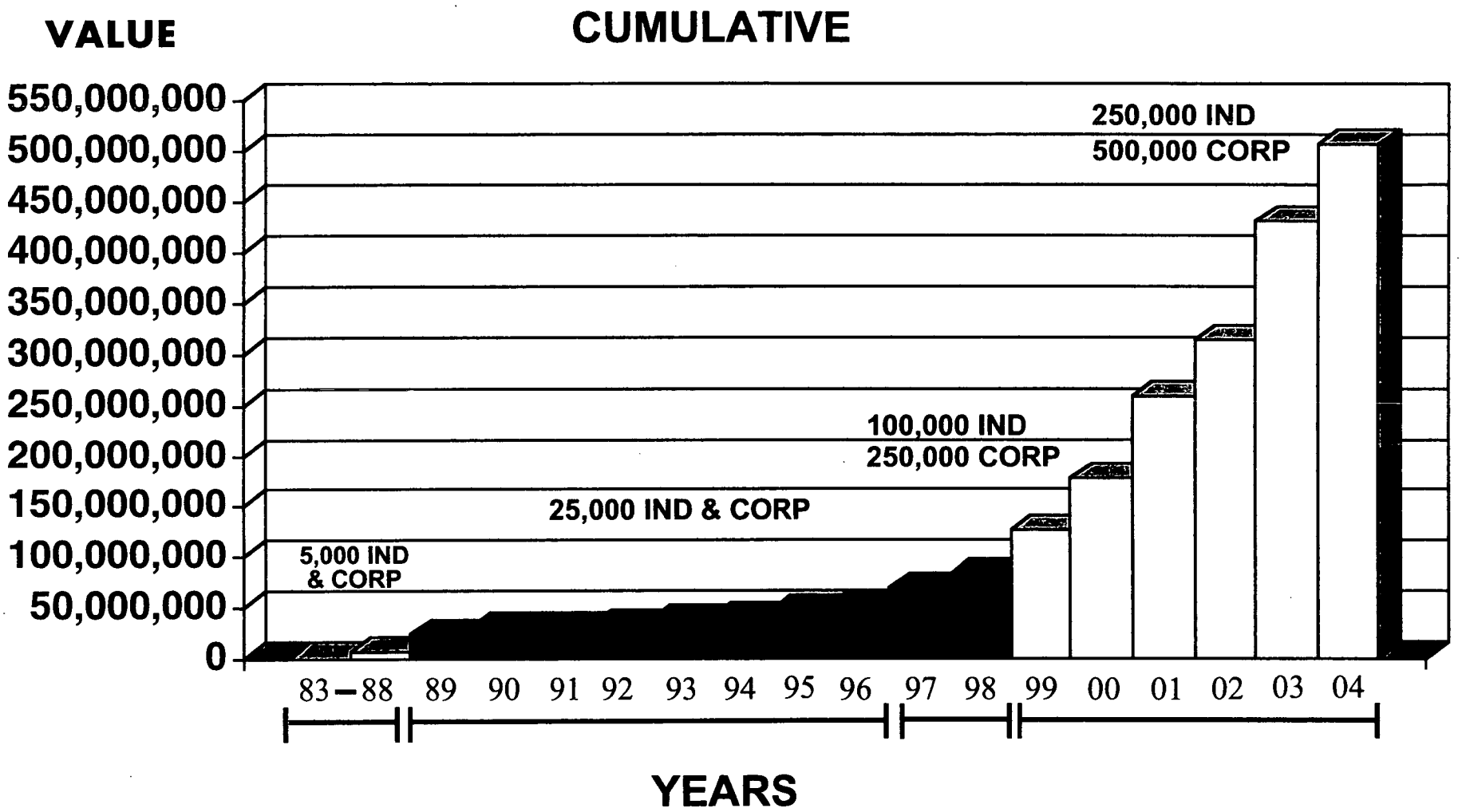
CUMULATIVE



ATTACHMENT C

Effective Date 8/15/05

NCCTC PROGRAM STATISTICS



ATTACHMENT D

Effective Date 8/15/05

ATTACHMENT E

North Carolina Department of Environment and Natural Resources

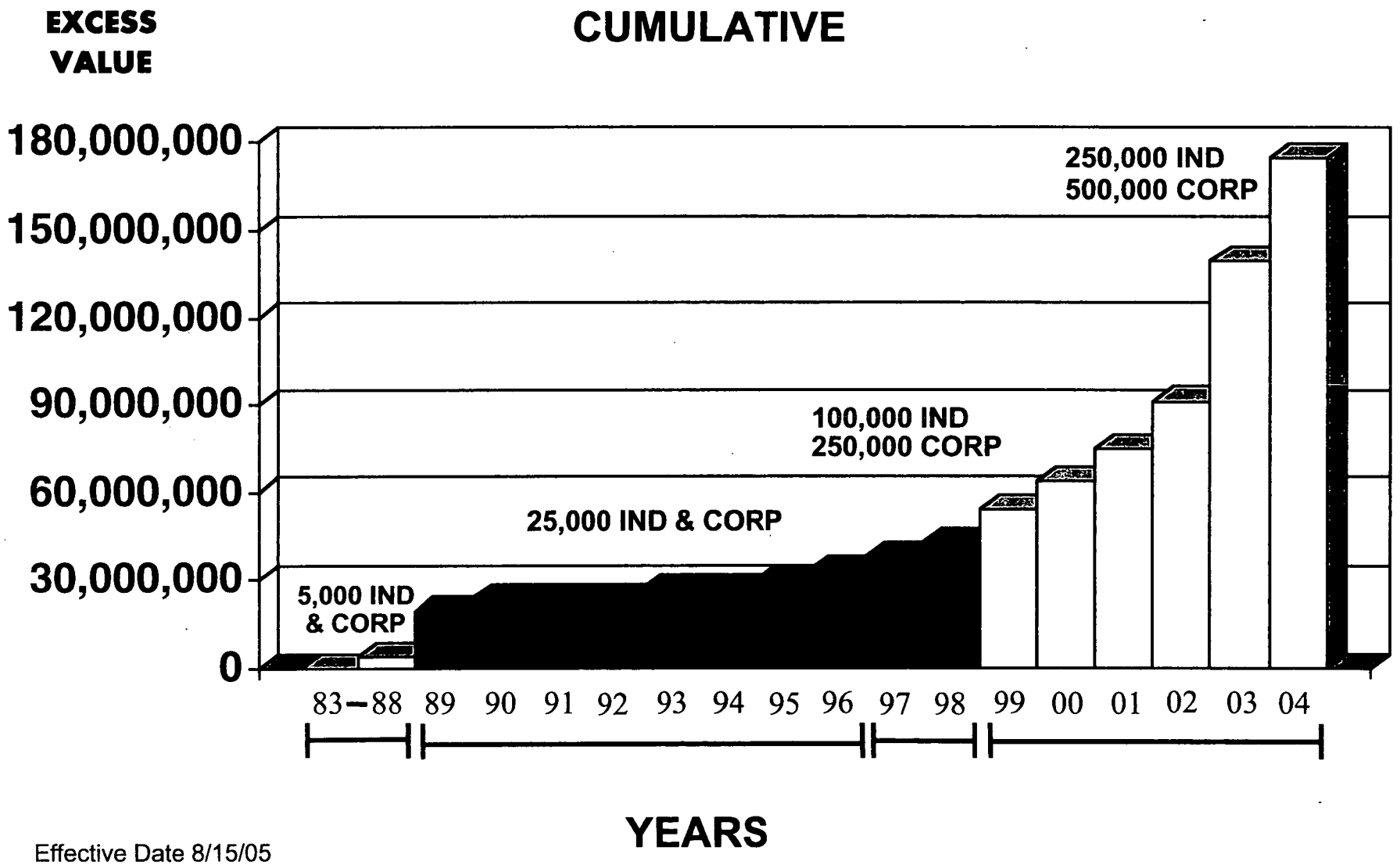
North Carolina Conservation Tax Credit Program

Donations by County 1983-2004

ALAMANCE	3	CUMBERLAND	7	JOHNSTON	8	RANDOLPH	6
ALEXANDER	1	CURRITUCK	4	JONES	1	RICHMOND	2
ALLEGHANY	4	DARE	8	LEE	2	ROBESON	28
ANSON	1	DAVIDSON	1	LENOIR	0	ROCKINGHAM	0
ASHE	19	DAVIE	2	LINCOLN	5	ROWAN	19
AVERY	14	DUPLIN	4	MACON	7	RUTHERFORD	5
BEAUFORT	5	DURHAM	14	MADISON	3	SAMPSON	2
BERTIE	0	EDGECOMBE	0	MARTIN	0	SCOTLAND	6
BLADEN	4	FORSYTH	14	MCDOWELL	2	STANLY	8
BRUNSWICK	43	FRANKLIN	8	MECKLENBURG	40	STOKES	8
BUNCOMBE	17	GASTON	17	MITCHELL	3	SURRY	5
BURKE	2	GATES	10	MONTGOMERY	4	SWAIN	1
CABARRUS	2	GRAHAM	2	MOORE	15	TRANSYLVANIA	23
CALDWELL	1	GRANVILLE	5	NASH	2	TYRRELL	6
CAMDEN	2	GREENE	0	NEW HANOVER	34	UNION	4
CARTARET	13	GUILFORD	14	NORTHAMPTON	0	VANCE	0
CASWELL	2	HALIFAX	2	ONSLOW	9	WAKE	53
CATAWBA	0	HARNETT	3	ORANGE	23	WARREN	2
CHATHAM	16	HAYWOOD	9	PAMLICO	4	WASHINGTON	4
CHEROKEE	0	HENDERSON	18	PASQUOTANK	3	WATAUGA	25
CHOWAN	2	HERTFORD	1	PENDER	15	WAYNE	7
CLAY	0	HOKE	4	PERQUIMANS	1	WILKES	4
CLEVELAND	1	HYDE	9	PERSON	0	WILSON	0
COLUMBUS	1	IREDELL	11	PITT	4	YADKIN	0
CRAVEN	6	JACKSON	13	POLK	3	YANCEY	3

Effective 8/15/05

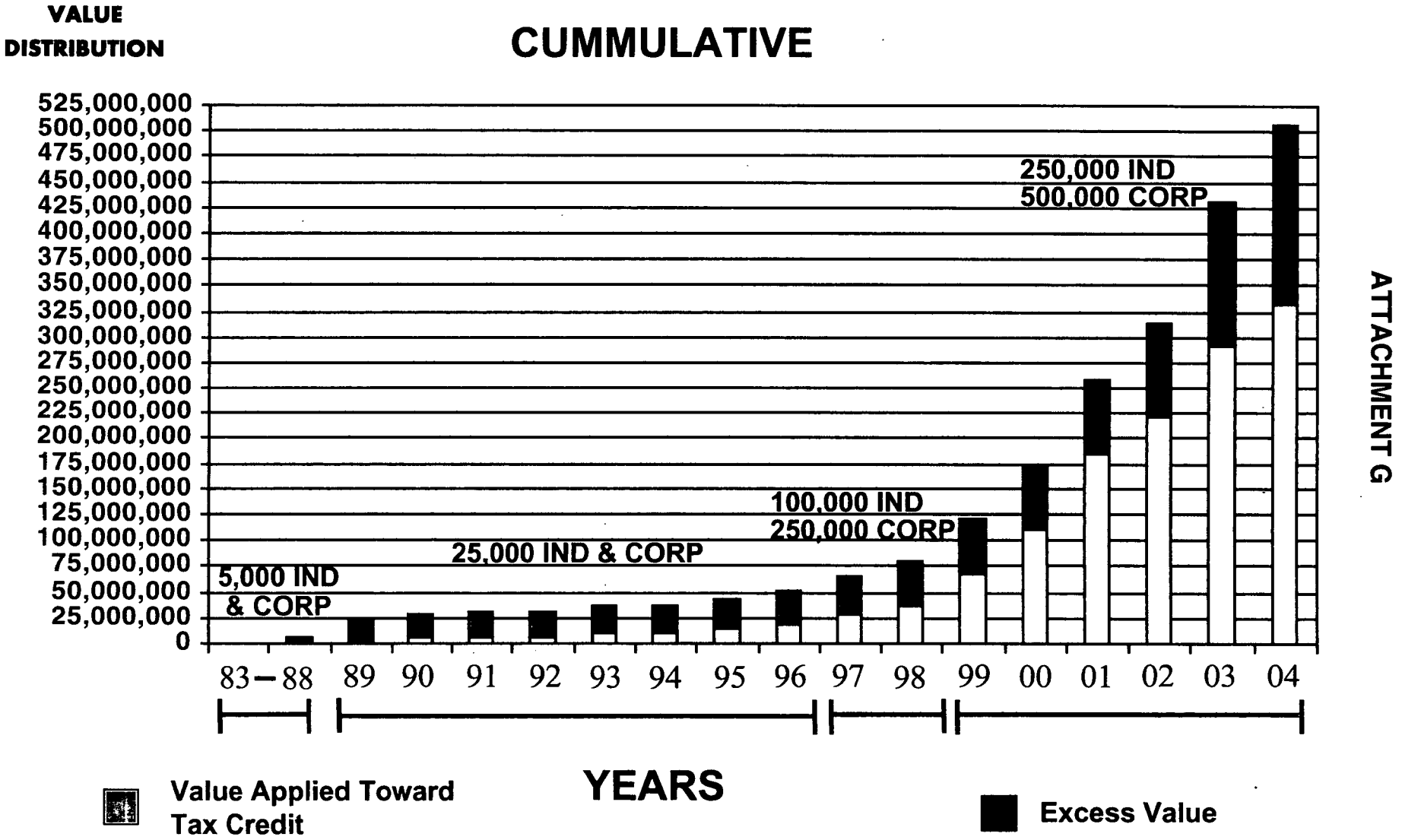
NCCTC PROGRAM STATISTICS



ATTACHMENT F

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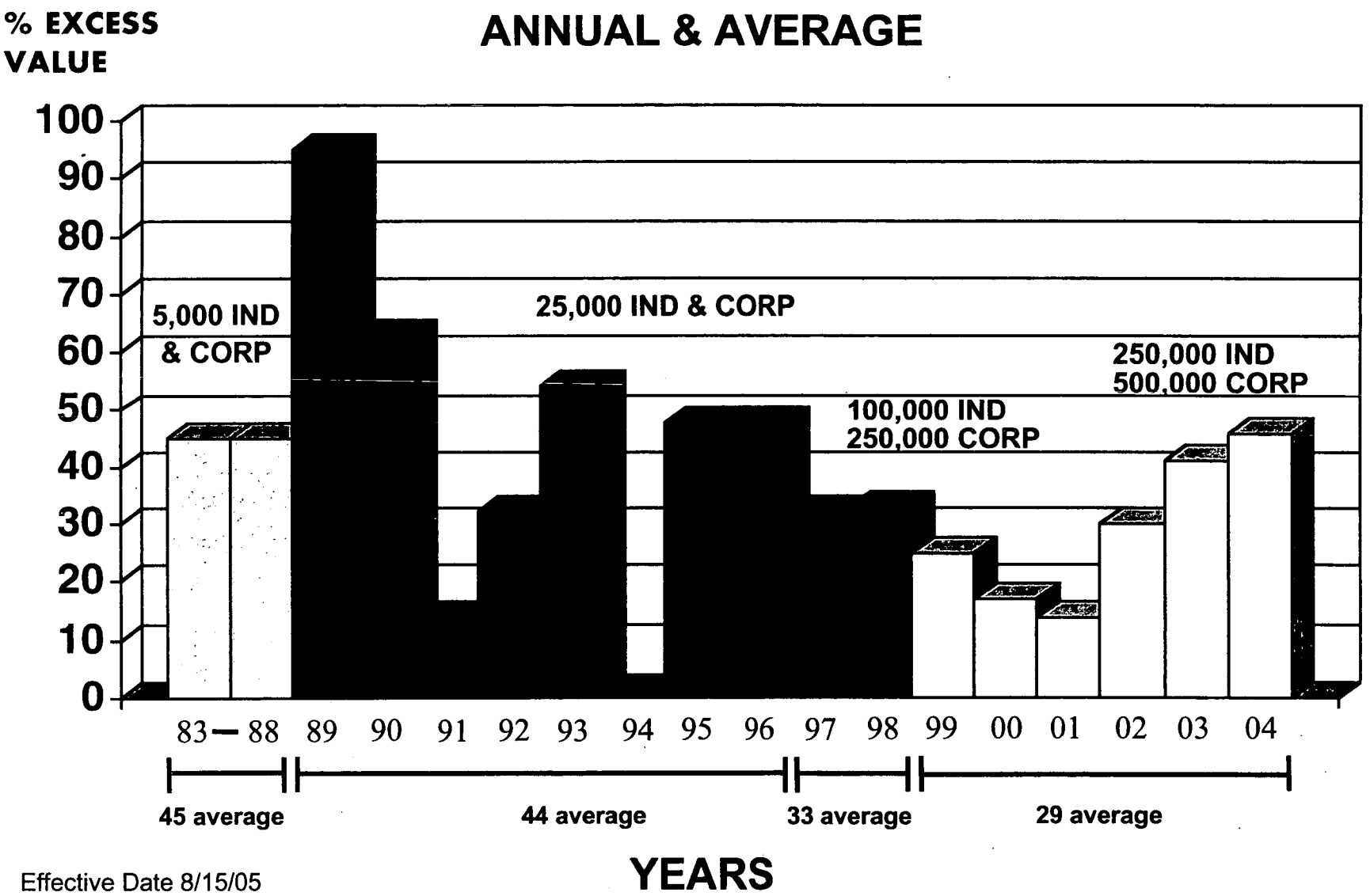
NCCTC PROGRAM STATISTICS



ATTACHMENT G

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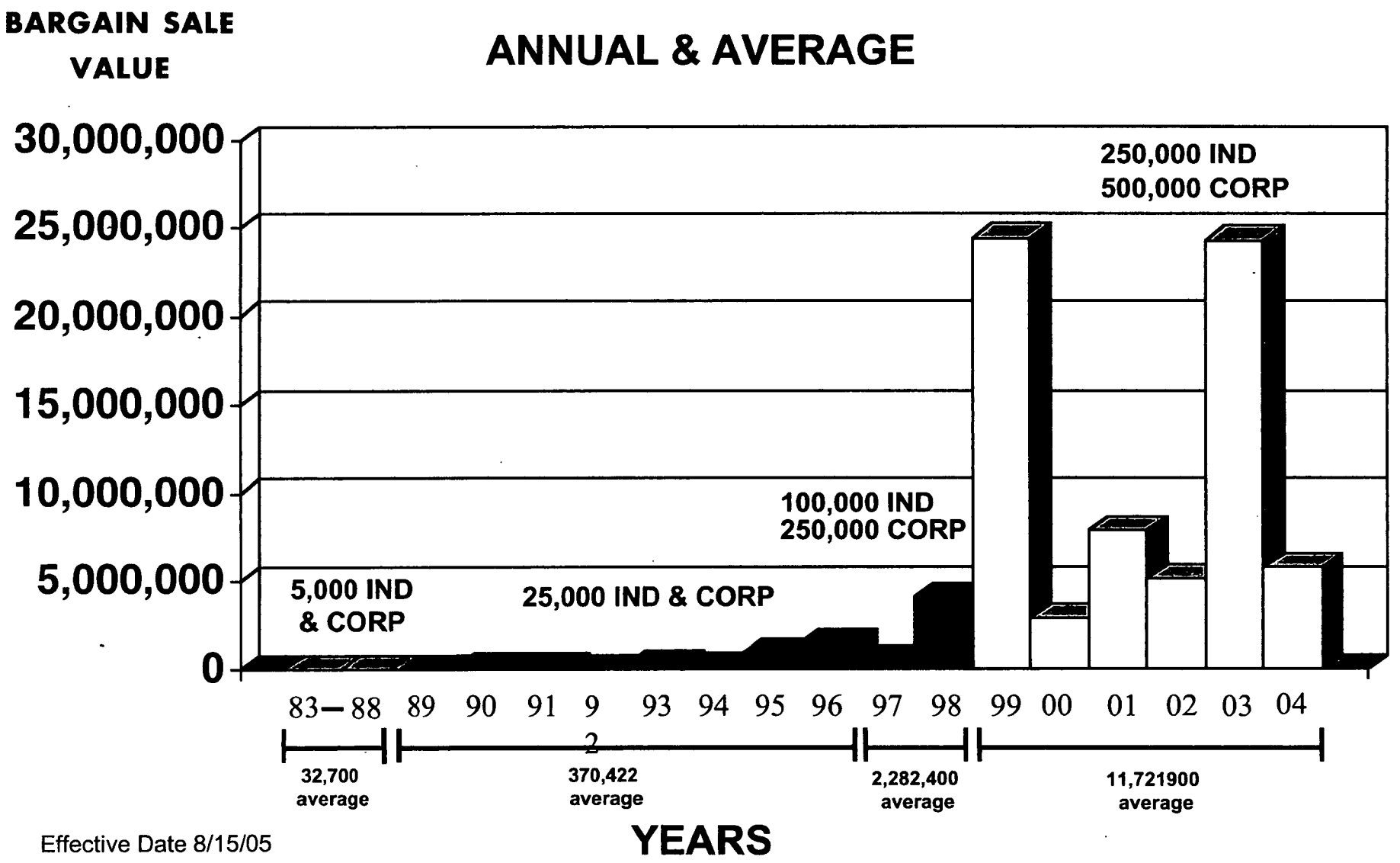
NCCTC PROGRAM STATISTICS



ATTACHMENT H

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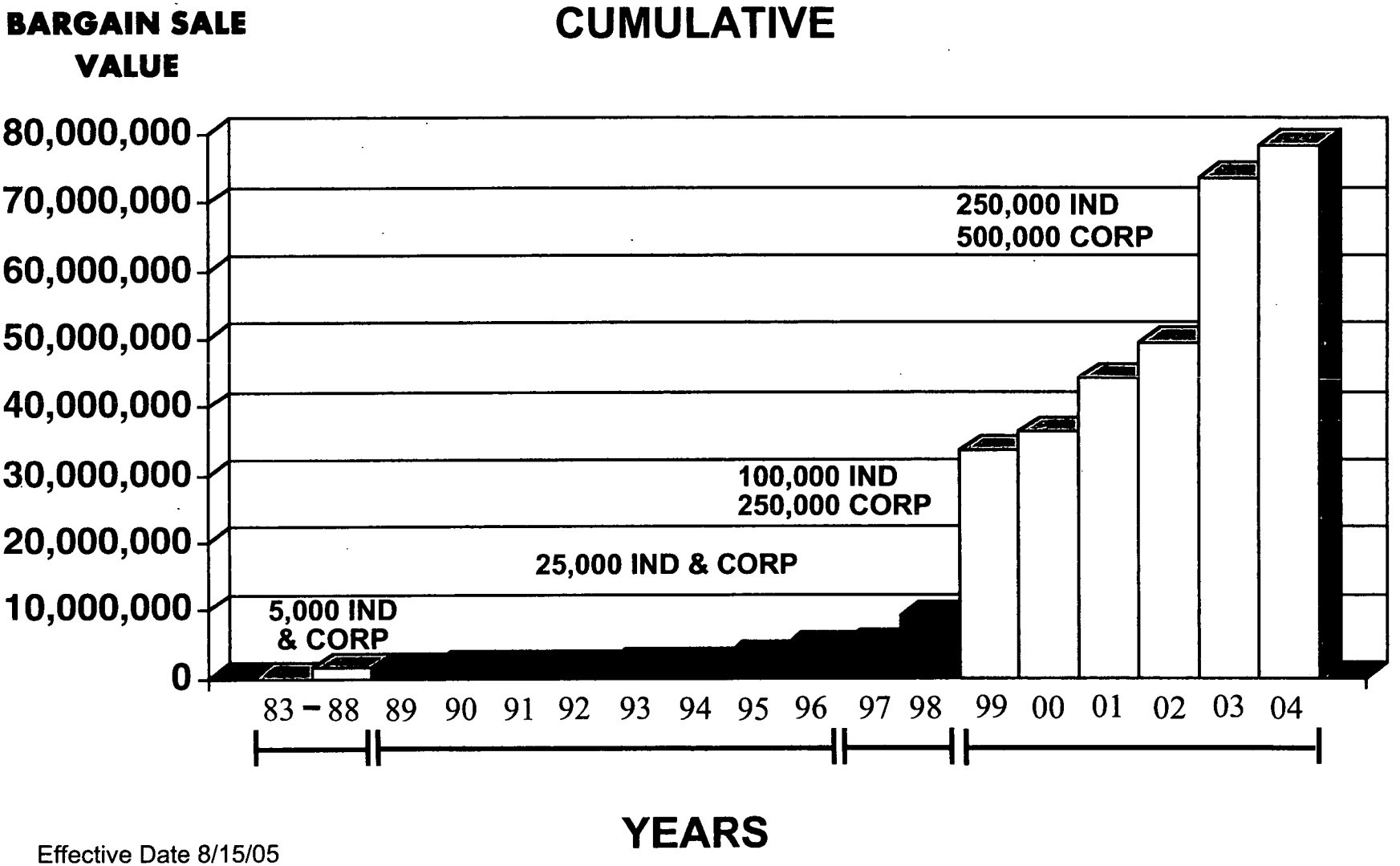
NCCTC PROGRAM STATISTICS



ATTACHMENT I

Effective Date 8/15/05

NCCTC PROGRAM STATISTICS



ATTACHMENT J

Effective Date 8/15/05

North Carolina Natural Heritage Trust Fund

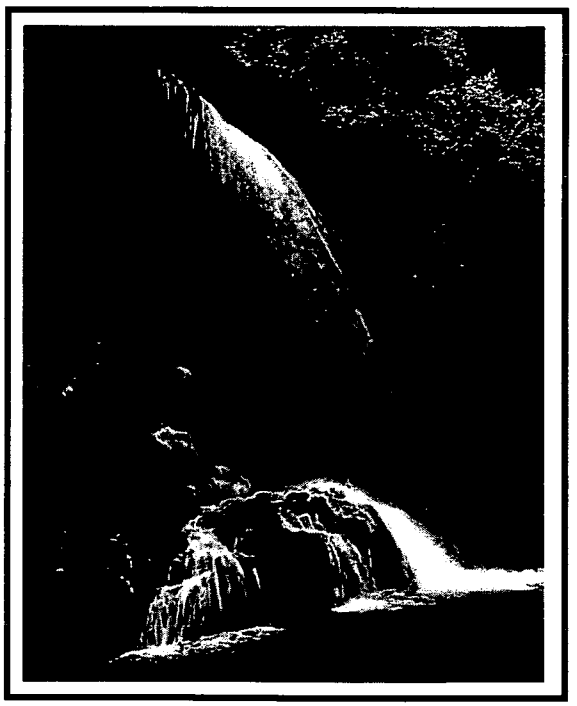
2005 Report

EXHIBIT F

Mission

- Provides grants for acquisition of sites with significant natural and cultural heritage value.
- Also funds inventory of significant natural areas.
- 12 member citizen board
- Accepts applications from

  4 state agencies: DENR, DoACS, DCR, WRC



Partnerships

- Project coordination with Clean Water Management Trust Fund, and Park & Recreation Trust Fund

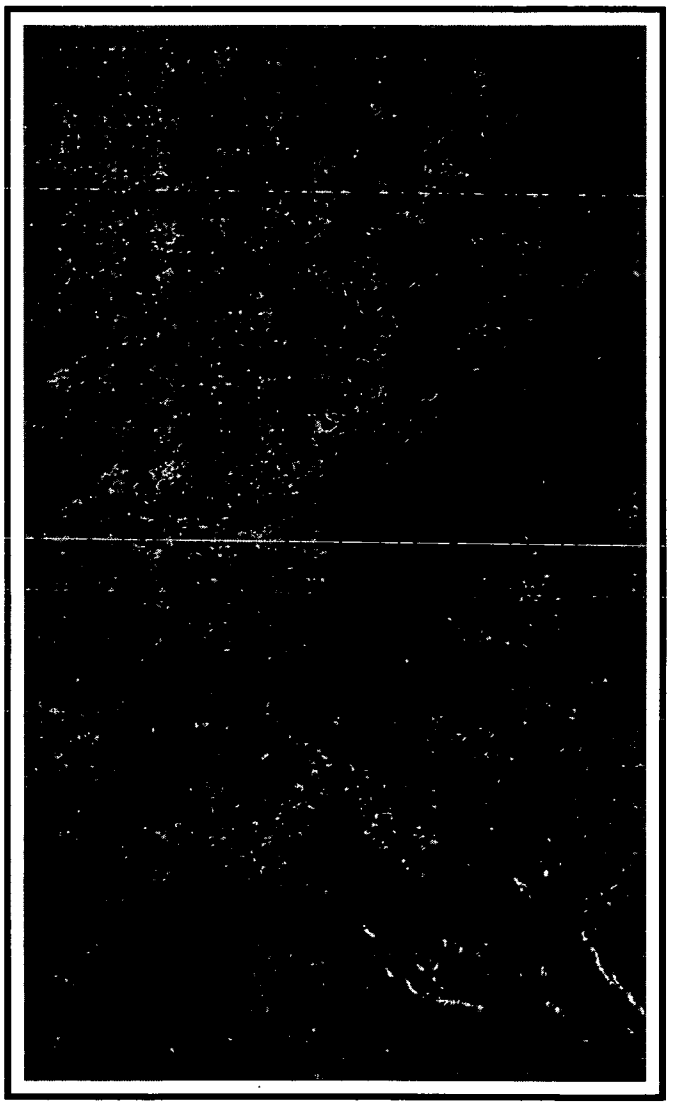
- Frequent coordination with applicant agencies and conservation groups

- Most projects have matching funds



2005 Awards

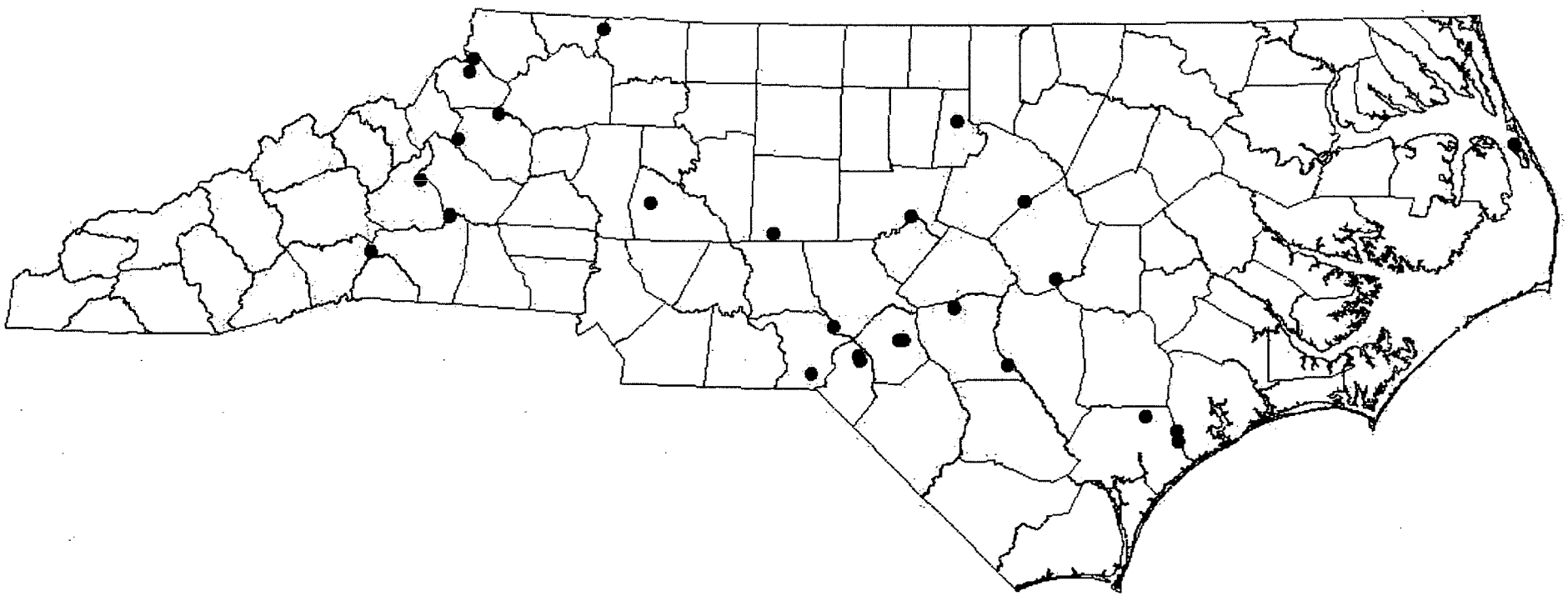
- 28 Projects
- 19,469 Acres
- $28,030,103



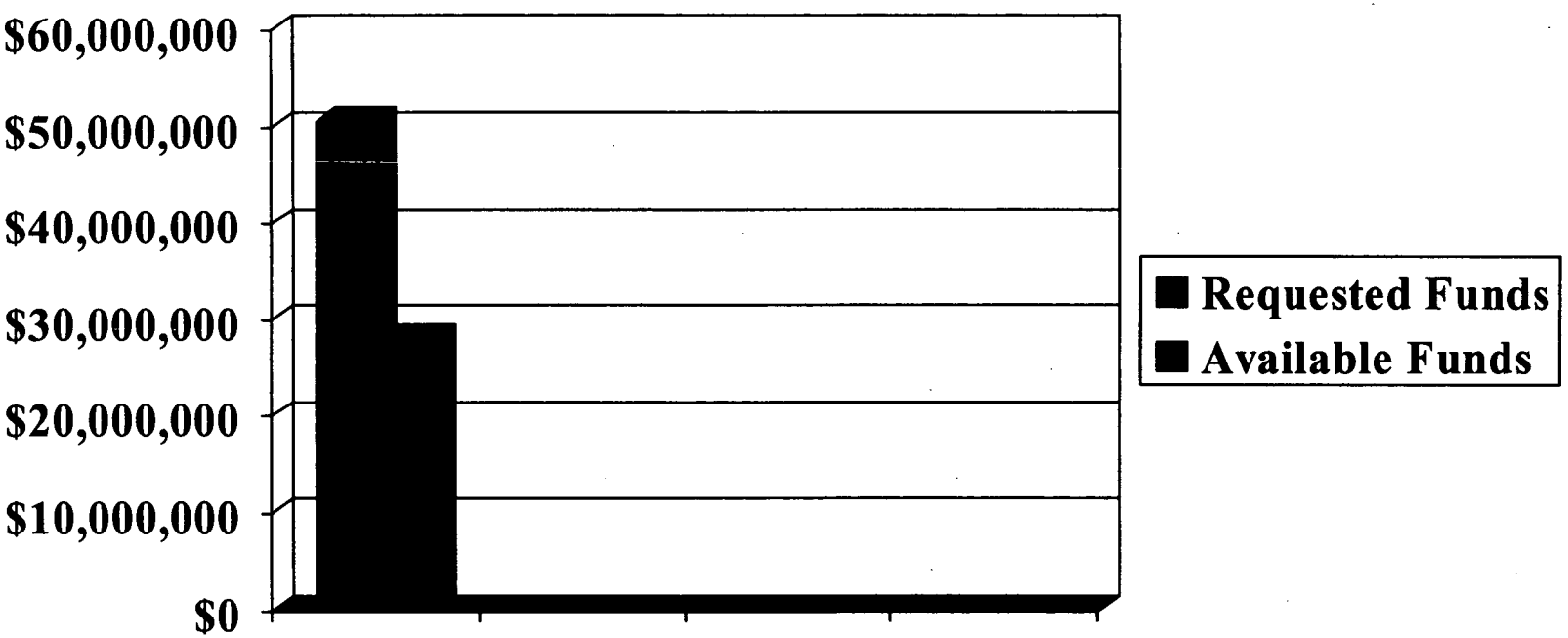
Income

Real Estate Tax	$15,937,416
License Plate Fee	$ 4,964,968
Interest	$ 662,851
Total	**$21,565,235**

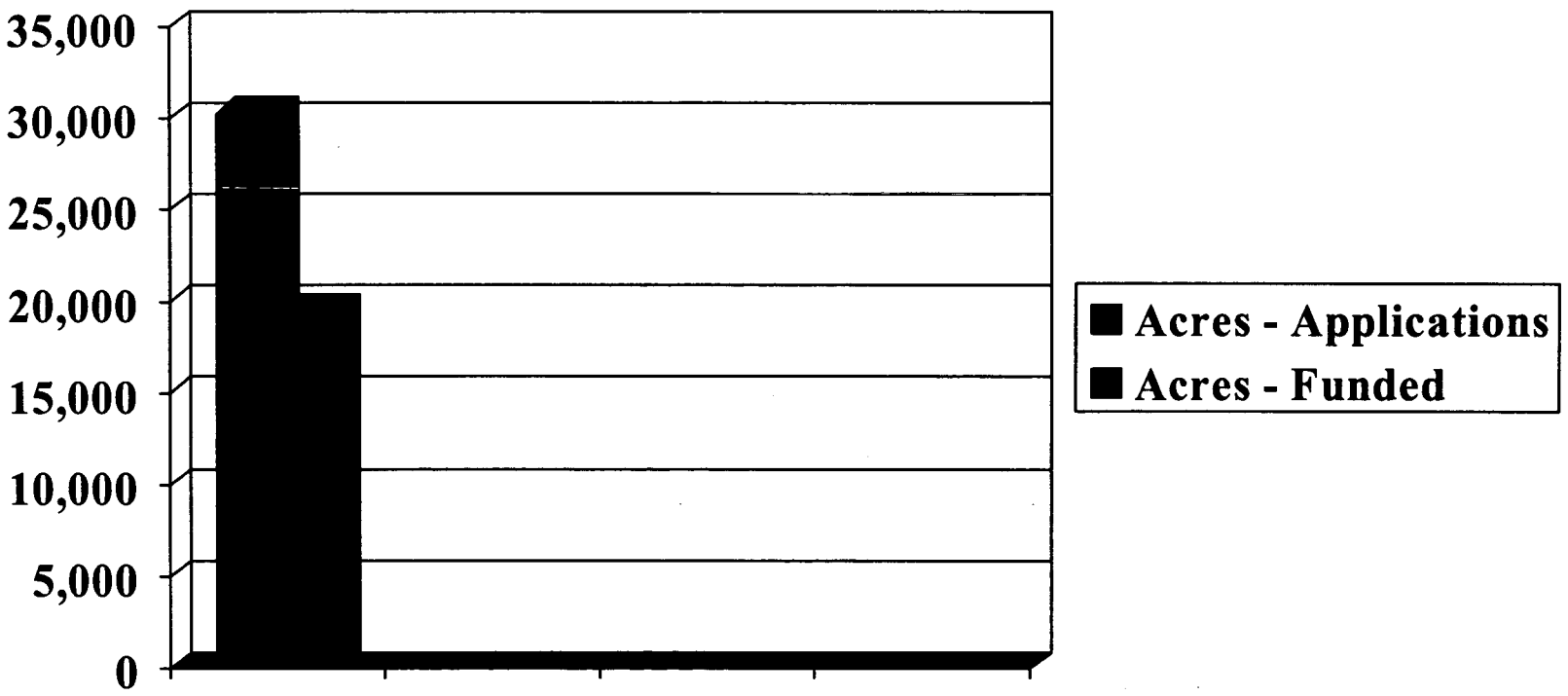
Natural Heritage Trust Fund
2005 Awarded Projects



NHTF Missed Opportunities



NHTF Missed Opportunities



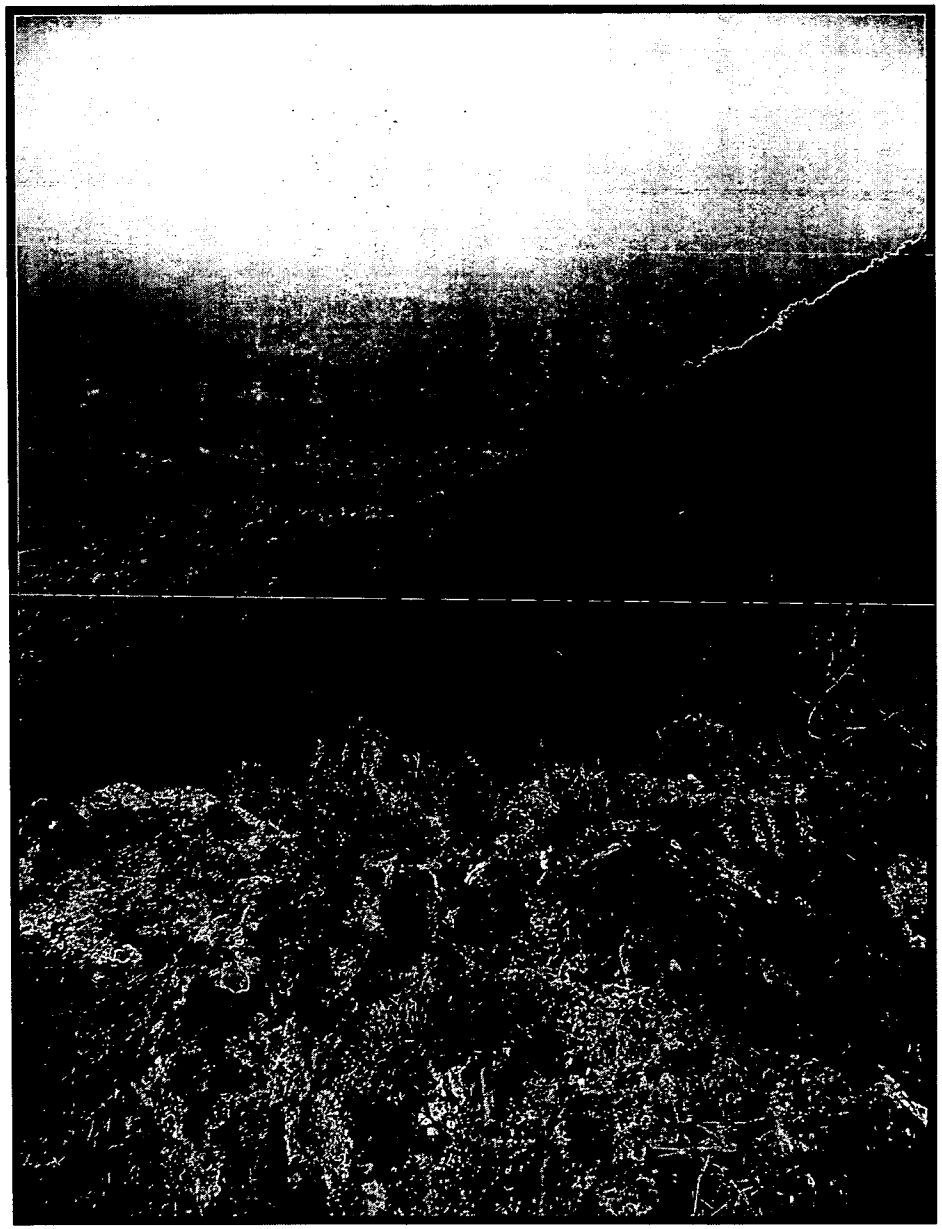
Sandhills Game Lands

Military Buffers



Valle Crucis
Cultural Heritage Preservation





Elk Knob – The "Peak" State Park Expansion

Natural Heritage Trust Fund
Looking Forward

- Coordinate with other Funds and State Planning organizations
- More Education/Outreach
- Continue Efficient and Effective Process



EXHIBIT G

cleanwater
MANAGEMENT TRUST FUND

Bill Holman
EXECUTIVE DIRECTOR

CWMTF TRUSTEES

Chair, Robert D. Howard
SOUTHPORT

Vice-Chair, Jerry Wright
JARVISBURG

Phil Baddour
GOLDSBORO

Ron Beane
LENOIR

Yevonne S. Brannon, Ph.D.
RALEIGH

Rick Coleman
TABOR CITY

Karen Cragnolin
ASHEVILLE

John Crumpler
RALEIGH

Nick Garrett
WILMINGTON

Joseph M. Hester, Jr.
ROCKY MOUNT

William Hollan
WINSTON-SALEM

Charles Johnson
GREENVILLE

Tony Lathrop
CHARLOTTE

Kevin Markham
CARY

Dickson McLean, Jr.
LUMBERTON

John McMillan
RALEIGH

Johnnie Mosley
KINSTON

Peter Rascoe
EDENTON

C. Leroy Smith
WINTERVILLE

Stan Vaughan
CHARLOTTE

Claudette Weston
WINSTON-SALEM

February 9, 2006

MEMORANDUM

TO: The Honorable Marc Basnight, Co-Chairman
The Honorable Jim Black, Co-Chairman
Joint Legislative Commission on Government Operations

The Honorable Charlie Albertson, Co-Chairman
The Honorable Dan Clodfelter, Co-Chairman
The Honorable Pryor Gibson, Co-Chairman
Environmental Review Commission

The Honorable David Weinstein, Co-Chairman
The Honorable Howard Hunter, Co-Chairman
The Honorable Edith Warren, Co-Chairman
Joint Appropriations Subcommittee on Appropriations for Natural and Economic Resources

Mr. Lynn Muchmore, Interim Director, Fiscal Research Division
Ms. Jennifer Haygood, Fiscal Research Division

FROM: Robert Howard, Chairman, Board of Trustees
Bill Holman, Executive Director

Re: Clean Water Management Trust Fund's 2005 Annual Report

TEL 919 733.6375 | FAX (919) 733.6374 | www.cwmtf.net
530 NORTH WILMINGTON STREET, RALEIGH, NC 27604
1651 MAIL SERVICE CENTER, RALEIGH, NC 27699-1651

One North Carolina Naturally

Introduction

We are writing on behalf of the Board of Trustees and staff of the Clean Water Management Trust Fund (CWMTF) to thank the members of the General Assembly of North Carolina for your continuing strong support for investments in clean water and to make our annual report to the General Assembly and the public pursuant to GS 113A-257.

We are also writing to report to the General Assembly on management and stewardship of conservation easements pursuant to Section 6.22 of Session Law 2005-276.

GS 143-15.3B requires that the General Assembly appropriate a minimum of $100,000,000 to CWMTF each year.

Session Law 2005-276, Current Operations and Capital Improvements Act of 2005 (SB 622) appropriated $100,000,000 in recurring funds to CWMTF in each year of the biennium.

Thanks to the General Assembly North Carolina continued to make progress in protecting and restoring water quality in calendar year 2005.

Background

Almost ten years ago the 1996 General Assembly created the Clean Water Management Trust Fund (CWMTF) (Chapter 113A Article 18 (GS 113A-251 et seq.)), "to clean up pollution in the state's surface waters and to protect and conserve those waters that are not yet polluted."

The CWMTF "shall be used to help finance projects that specifically address water pollution problems and focus on upgrading surface waters, eliminating pollution, and protecting and conserving unpolluted surface waters, including urban drinking water supplies" and "to build a network of riparian buffers and greenways for environmental, educational, and recreational benefit."

The CWMTF's non-regulatory, incentive-based programs complement North Carolina's environmental regulatory and educational programs and help ensure both a strong economy and healthy environment.

The CWMTF is an independent agency housed for administrative purposes in the Department of Environment and Natural Resources (DENR.) A twenty-one-member board of trustees establishes criteria, allocates funds, reviews applications, approves grants, and hires the executive director. Seven members are appointed by the Governor; seven by the General Assembly upon the recommendation of the President Pro Tempore of the Senate; and seven by the General Assembly upon the recommendation of the Speaker of the House. An advisory council composed of the Commissioner of Agriculture, Chair of the Wildlife Resources Commission, Secretary of DENR, and Secretary of Commerce or their designees advises the board of trustees.

Local governments, state agencies, and nonprofit conservation organizations, such as land trusts, may apply for grants. Deadlines for applications are June 1 and December 1 of each year.

The board of trustees typically meets ten times per year - six times across the state and four times in Raleigh. In 2005, the board met in Randolph County, Southport, Goldsboro, Raleigh, Mecklenburg County, Edenton and Wilmington. In 2006, the board plans to meet in Lake Lure, Tabor City, Davidson County, Haywood County, Raleigh, Mt. Airy, Wallace, and Washington.

Moneys from CWMTF may be used to acquire conservation easements or land in fee simple to preserve riparian buffers, wetlands, floodplains, and greenways; to restore riparian buffers, streams, and wetlands; to repair failing wastewater collection and treatment systems; to eliminate failing septic tanks and straight pipes; to prevent, reduce, collect and treat stormwater pollution; to plan water quality projects; and for administration and staff. The board works through three principal committees: acquisitions, infrastructure/wastewater, and restoration/stormwater.

CWMTF applications forms for grants, grant evaluation guidelines, enabling legislation, lists of the board of trustees, staff directory, news releases, and other reports and documents are available at www.cwmtf.net.

The executive director, deputy director, senior scientist, contracts and real estate acquisition manager, administrative officer, public information officer, and executive assistant are based in the central office in Raleigh. Five field representatives cover the coast, piedmont and mountain regions of the state. A part-time water quality advisor is home based.

The Board of Trustees adopted an annual administrative budget of up to $1,662,900 for fiscal year 2005-2006 at its August 2005 meeting.

Progress and Challenges

The CWMTF continued to make strides in reaching performance targets outlined in the state's Progress Board report entitled ***North Carolina 20/20*** Designed to significantly improve water quality throughout the state by the year 2020, the targets included increasing the percentage of water bodies fully supporting their uses, ensuring that 100 percent of all North Carolinians have access to clean and safe drinking water, protecting and permanently preserving one million acres by 2010, and improving water quality to ensure the continued viability of the state's fisheries.[1]

In addition, CWMTF is helping the state achieve its goal of preserving a million acres of open space, as set out in GS 113A-240, is helping Governor Easley implement his One

[1] North Carolina 20/20: A Report About the Future of North Carolina; N.C. Progress Board, December 2001

North Carolina Naturally initiative, and is helping the State prevent encroachment from incompatible development near our military bases.

The Numbers

In almost all the areas cited by the North Carolina 20/20 report, CWMTF grants are playing a role in reaching those performance targets. Here are some examples:

- The CWMTF and its partners have helped protect 3,612 miles of riparian buffers and preserve 317,529 acres of land, thereby ensuring streams, rivers, lakes, and shellfishing waters will be able to support their uses for drinking water, recreation, fisheries and other uses. CWMTF has invested over $338,300,000 in land and water conservation.
- The CWMTF has funded 102 riparian buffer, stream and wetland restoration projects totaling over $63,800,000 to help maintain and preserve these important ecosystems.
- CWMTF acquisition and restoration grants have been used to protect shellfishing waters, to help restore waters in areas closed to shellfishing, to restore oyster reefs and other fisheries habitat, and to provide public access to public waters.
- The CWMTF has assisted local governments with 142 wastewater improvement projects, investing over $134,400,000 to reduce discharges and more effectively treat wastewater so that fewer nutrients and other pollutants enter our rivers. (LISA- Total for ALL ww projects, including applicants other than local govts, is 148 projects for over $138,300,000.)
- CWMTF grants have funded 49 stormwater management projects totaling over $36,900,000 to reduce pollution from urban runoff and decrease flooding.

Since 1996 the board of trustees has approved 781 grants for a total of almost $595,800,000. CWMTF grants have leveraged at least $906,900,000 or 152% in private and other public funds.[2]

All of these efforts are just as important to North Carolina's economic well being as they are to the health and safety of its citizens and the environment. They enhance both the recreational and commercial fishing industries, and strengthen the quality of life.

As the Progress Board asserts in its report, "...states can and do have strong economies and simultaneously protect the environment. In fact, the states with the strongest environmental records also claim the distinction of having the best job opportunities and climate for long term economic development."

2005 Summary of Projects

The CWMTF Board of Trustees and staff reviewed 116 applications requesting $137,400,000 in the spring of 2005 (2005A Cycle) and 121 applications requesting over $114,800,000 in the fall of 2005 (2005B Cycle) for a total of 237

[2] See Appendix A: Summary of Funded Projects 1997-2005

applications requesting over $252,200,000 in 2005. This does not include 23 requests for mini-grants and donated easement grants.

Thanks to appropriations from the General Assembly and to the closing out of old grants the Board of CWMTF approved 78 water quality grants totaling over $53,700,000 through August 2005 (2005A Cycle) and approved 81 grants totaling over $58,900,000 between September and November 2005 (2005B Cycle) for a total of 159 projects for $112,700,000 in calendar year 2005.

The Board approved financing three clean water/military protection projects totaling $8,592,000 to help protect Marine Corps Air Station Cherry Point and Marine Corps Camp Lejeune/New River with special indebtedness authorized by Session Law 2004-179, Finance Vital Projects (HB 1264).

The Board approved a diverse mix of projects: 58%, acquisition, including clean water/military protection; 31%, infrastructure/wastewater; 9%, restoration/stormwater; and the remainder planning and mini-grants.

2005 Highlights

CWMTF, PARTF, and NHTF played an important role in the **State's successful efforts to prevent encroachment from incompatible development near our military bases** and to prevent any major installations from being closed during the Base Realignment and Closure Commission (BRAC) process in 2005.

CWMTF funded six clean water/military protection projects at a cost of $12,305,000 (including special indebtedness) at all four major bases in August 2005. CWMTF funded one project to help protect the Dare County bombing range at a cost of $1,025,000 in November 2005. CWMTF invested a total of $13,330,000 in clean water/military protection in 2005.

CWMTF and the NC Coastal Land Trust are working together to protect **lower Cape Fear River in Brunswick County**. CWMTF provided $1,556,000 to acquire a conservation easement on the Davis tract (CWMTF #2004B-029) and $2,612,000 on the Clarendon tract (CWMTF #2005B-026). CWMTF and NCCLT's partnership have protected 10,353 acres including much of Town Creek valued at almost $75,000,000 (in 2005) since 1997.

CWMTF provided two grants to the Carolina Mountain Lands Conservancy totaling $6,614,000 to acquire conservation easements at bargain sales on over **3784 acres to protect the headwaters of the Green River in Henderson County** (CWTMF #2004B-003 & 2004B-007).

CWMTF provided grants to State Parks to help acquire Worlds Edge, the first tract for the new **Hickory Nut Gorge State Park** (CWMTF #2005B-005); $2,270,000 to help expand **New River State Park** in Ashe County (CWMTF #2005B-028), and $720,000 to improve public access and help protect the **Haw River** in Chatham County (CWMTF #2005B-029).

The NC Wildlife Resources Commission and Foothills Conservancy are working to protect the **Johns River and the headwaters of Lake Rhodhiss in Burke and Caldwell Counties**. CWMTF funded two projects to acquire key tracts for the WRC's Game Lands Program at a cost of $3,596,000 (CWMTF #2005B-012 and 2005B-033). Lake Rhodhiss provides drinking water and is impaired.

CWMTF provided grants of $2,211,000 to **Wallace** (CWMTF #2005A-507) and $750,000 to **Greenevers** (CWMTF #2005A-601) to provide regional wastewater collection and treatment.

CWMTF continues to provide major grants to municipalities to repair and rehabilitate their leaking sewer systems, including $2,000,000 for **Elizabeth City** (CWMTF #2005B-504), $1,552,000 for **Fremont** (CWMTF #2005B-507), $1,992,000 for **Plymouth** (CWMTF #2005B-511), and $2,000,000 for **Tuckaseigee Water & Sewer Authority in Sylva** (CWMTF 2005B-515).

CWMTF provided $1,181,000 to Kinston (CWMTF #2005A-006) to buy vacant lots in the 100-year floodplain so that the city can use the **land acquired after the Fran and Floyd buyouts for stormwater treatment, restoration, and recreation.**

CWMTF continued its long partnership with Mecklenburg County to prevent and reduce pollution from stormwater runoff. CWMTF provided a grant of $639,000 to match local funds to address **stormwater in Caldwell Station Creek in the Mountain Island Lake** watershed (CWMTF #2005A-702).

CWMTF also continued its work with **Surry Soil & Water Conservation District** and the **Rutherford Soil & Water Conservation District** fencing livestock, restoring streams and cost-sharing the installation of best management practices with farmers (CWMTF #2005B-412 & CWMTF #2005B-409). CWMTF, Mt. Airy and the Resource Institute will begin an **ambitious restoration of** the Ararat River (CWMTF #2005B-407) at a cost of $1,847,000 in 2006.

CWMTF and the Division of Soil and Water Conservation (DSWC) reported to the Environmental Review Commission on implementation of the State's **Conservation Reserve Enhancement Program (CREP)** on January 13, 2005.

In November 2005 CWMTF provided a grant of $2,759,000 to DSWC until June 30, 2006 for phase III of CREP and a grant of $2,411,000 until December 31, 2006 if performance measures are met (CWMTF #2004B-040). CWMTF, DSWC, and other stakeholders have worked hard to improve the effectiveness and efficiency of CREP. DENR may request appropriations from the General Assembly to administer CREP. CWMTF does not want to fund positions at DSWC or other agencies. DSWC plans to apply for phase IV funds from CWMTF on June 1, 2006.

CWMTF provided $1,425,000 to assist land trusts with funds to match federal farm and ranchland preservation funds in 2005.

2005 Legislative Budget Action

The 2005 General Assembly continued its strong support for protecting and restoring water quality. The General Assembly appropriated $100,000,000 to the Clean Water Management Trust Fund and fully funded the Parks and Recreation and Natural Heritage Trust Funds for fiscal year 2005-2007. $50,000 was appropriated to the Farmland Preservation Trust Fund.

Key provisions of Session Law 2005-276, 2005 Appropriations Act (SB 622) are:

- Section 2.1 recognizes GS 143-15.3B and fully funds CWMTF at $100,000,000 in each year of the biennium.
- Section 2.2(h) transfers $2,000,000 from the NC Division of Water Quality's Riparian Buffer Restoration Fund to the General Fund.
- Section 6.9 further strengthens State oversight in GS 143-6.2 over the use of State funds by non-State entities. Grantees must file a conflict of interest policy with the State agency or department disbursing funds. Grantees must certify that they do not have any overdue tax debts, as defined by GS 105-243.1 at the federal, State or local level.
- Section 6.22 directs CWMTF to study management and stewardship of conservation easements and report to the Environmental Review Commission by December 1, 2005.
- Section 6.33 directs the Office of State Budget and Management to "conduct a study to determine the best methods for collecting, managing, and providing access to information about technology, water, sewer, and other modern infrastructures needed to assist communities in becoming and remaining economically viable."
- Section 13.12 appropriates $20,000,000 per year to CWMTF's partner, the NC Rural Economic Development Center for infrastructure, including $15,000,000 for drinking water and wastewater.
- Section 28.19 directs the Department of Transportation to report to the Joint Legislative Transportation Oversight Committee on its plan to clean up ocean outfalls in accordance with Section 30.20 of Session Law 2004-124.
- Section 30.3(a) appropriates $15,260,000 to the Division of Water Resources for water resources development projects, including hurricane stream restoration and oyster habitat restoration.

CWMTF has revised its contracts with non-profit organizations to require compliance with Section 6.9 of SL 2005-276. CWMTF's report on stewardship and management of conservation easements to comply with Section 6.22 is included in this report. CWMTF would like to work with the Department of

Transportation and local governments to reduce stormwater pollution as directed by Section 28.19.

Section 58 of the Natural & Economic Resources "Money Report" provides $575,000 (R) to the Division of Marine Fisheries to support four positions and oyster rehabilitation work. Section 82 appropriates $600,000 (R) to the Division of Aquariums for oyster hatchery research. Section 103 appropriates $3,889,571 (NR) to DENR to match EPA funds for the Clean Water State Revolving Loan Fund.

The General Assembly enacted SL 2005-1, Hurricane Recovery Act of 2005 (SB 7), by Senator Martin Nesbitt and others. SL 2005-7 appropriated $247,000,000 to the Disaster Relief Reserve Fund. SL 2005-1 also directed DENR to study the causes of flooding in Western North Carolina, to identify flood prevention and mitigation opportunities, and to map streams and potential landslide areas. CWMTF's work to protect watersheds and to protect riparian buffers, wetlands, and floodplains reduces damage from flooding. CWMTF was pleased that most of the stream restoration projects that it funded in the mountains held up during the floods of 2004.

2005 Legislative Action

Senator John Kerr introduced SB 1091, Clean Water Act of 2005, to provide a dedicated source of State revenues for DENR, Rural Center and CWMTF to fund drinking water, wastewater, and stormwater projects. The General Assembly removed the controversial financing provisions and enacted **Session Law 2005-474, Clarify Clean Water Funding (Senate Committee Substitute for HB 1095).**

SL 2005-474 applies common criteria and limits for grants for drinking water, wastewater treatment and stormwater projects funded by the Department of Environment and Natural Resources (DENR) and CWMTF. The common criteria set forth in GS 159G-23 are given priority over CWMTF's existing criteria in awarding grants.

SL 2005-474 amends CWMTF statutes covering the establishment and purposes of the fund, definitions and requirements for grants for wastewater treatment, wastewater collection systems, and stormwater projects. SL 2005-474 became effective on January 1, 2006.

CWMTF will begin to implement SL 2005-474 in the spring of 2006 (2006A Cycle). CWMTF will review its existing criteria and, if appropriate, modify them.

The General Assembly authorized establishment of **two new state parks at Hickory Nut Gorge/Chimney Rock in Rutherford County and Carvers Creek in Cumberland County** by passing SL 2005-26 (SB 586), by Senator Walter Dalton, Senator Tony Rand, and others. CWMTF provided a grant of $3,900,000 to the Division of Parks & Recreation to help acquire the Worlds Edge property

(CWMTF #2005B-005). PARTF and NHTF provided funds to acquire the first large tract at Carvers Creek. CWMTF clean water/military protection funds went to other projects at Camp Lejeune/New River, Cherry Point, and Seymour Johnson.

The 2005 General Assembly enacted **SL 2005-190, Drinking Water Reservoir Protection Act (SB 981),** by Senator Janet Cowell and others. CWMTF can assist local governments and others in increasing protection of drinking water supplies.

The General Assembly also enacted **SL 2005-455, Implement Coastal Recreational Fishing License (SB 1126),** by Senator Charlie Albertson and others. Coastal recreational fishing license funds will provide another important source of revenue to protect and restore oyster reefs, nursery areas, marshes, wetlands, riparian buffers, and fisheries habitats starting in 2007.

2006 Projects

The CWMTF board and staff will review 135 new applications requesting over $212,800,000 and sixteen deferred applications requesting almost $31,700,000 for a total of 151 applications requesting $244,500,000 this spring (2006A Cycle). CWMTF will also receive applications on June 1, 2006 and review them in the fall (2006B Cycle).

2006 Legislative Issues

CWMTF appreciates the General Assembly's appropriation of $100,000,000 in recurring funds for CWMTF in fiscal year 2006-2007 and will work to maintain it.

CWMTF uses maps of streams and wetlands to set priorities and to determine water quality benefits. CWMTF supports and would benefit from implementation of the "Plan to Improve the Mapping and Digital Representation of Surface Waters in North Carolina" adopted by the Geographic Information Coordinating Council (GICC) in January 2005. The 2005 General Assembly funded phase I of the plan in SL 2005-1, the Hurricane Recovery Act of 2005. CWMTF supports appropriations to fund phase 2 and other phases to improve stream maps statewide.

Most landowners who sell or donate conservation easements of conservation land in fee discount the price and take advantage of NC's Conservation Income Tax Credit Program. This stretches and leverages the funds that CWMTF and the other conservation trust funds provide. SB 521, Amend Conservation Income Tax Credit, by Senator Dan Clodfelter expands this incentive and is pending in the Senate Committee on Finance.

Property taxation of conservation easements varies by county. Landowners in some counties may face higher property taxes after they donate or sell their development, timber or other rights. CWMTF supports legislation that enables property owners in the

agricultural or forestry present use tax classification to remain taxed at that rate after they donate or sell conservation easements.

Major landowners will sell large tracts of conservation property soon, including timberlands in Eastern North Carolina, lands in the Yadkin/Pee Dee and Catawba River Basins around lakes created for hydropower, land in Hickory Nut Gorge, and other locations. The combined existing resources of CWMTF and our partners at Natural Heritage Trust Fund, Parks & Recreation Trust Fund, and the Wildlife Resources Commission may not be able to respond to all these properties. CWMTF would support one-time appropriations to respond to the once in a generation opportunities.

The Board of CWMTF debated the Land for Tomorrow Coalition's proposal to increase funding for land and water conservation and historic preservation by $200,000,000 per year at its January 2006 meeting and retreat. The Board will continue its debate at its March 12-13, 2006 meeting.

Stewardship of Conservation Easements

Section 6.22 of SL 2005-276 directed CWMTF to study the management and stewardship of conservation easements and report its findings to the Environmental Review Commission.

CWMTF has provided funds to land trusts to monitor and steward approximately 140 conservation easements since 1997. The Board has expressed concerns about whether this is the best way to insure proper stewardship of permanent conservation easements held by the State. The Board has also expressed concerns about whether CWMTF stewardship funds are being managed professionally, whether CWMTF stewardship funds are restricted to stewardship activities and are properly audited and reported to CWMTF, and whether CWMTF easements are being monitored and reported on annually.

Options to address these concerns include the following:

1) Participate in the DENR's new Stewardship Program;
2) Create a CWMTF Stewardship Program;
3) Create a CWMTF Stewardship Program that includes a single contract with an outside entity that would enter into contracts with individual land trusts for stewardship;
4) Create a CWMTF Stewardship Program with funds managed by an endowment held by a third party;
5) Provide lump sum stewardship endowment funds to land trusts with additional investment, reporting, and accreditation standards; and
6) Provide lump sum stewardship endowment funds to land trusts with no additional requirements (2004 status quo).

Since 2004 CWMTF contracts have included language stating that stewardship funds will not be paid to grantees until the Board adopts a final policy on stewardship. CWMTF has funded 76 projects for which stewardship funds will be needed and that have not been paid. CWMTF is holding these funds until the Board adopts a stewardship policy. The Board is currently funding about 30 conservation easement projects per cycle that require stewardship.

The Board of CWMTF has not selected its preferred option and welcomes comments from members of the Environmental Review Commission and other legislators on their concerns. CWMTF Trustee Phil Baddour of Wayne County chairs CWMTF's stewardship committee. The Board plans to adopt a policy in 2006.

Summary Of Funded Projects (1997A-2005B Cycles)

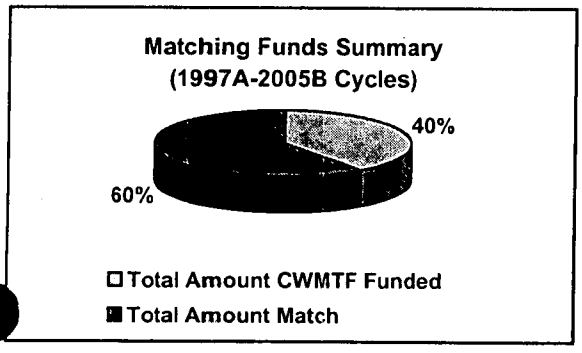
Note: As of November 14, 2005, there were 31 projects funded for a total of $14,343,882 that were subsequently withdrawn. These projects are included in these tables in the funded amounts, but noted as "Withdrawn" in their project name.

Acquisition Summary- Riparian Buffer Totals (1997A-2005B Cycles)

CWMTF contributed to preservation of:
3,612 Miles
317,529 Acres

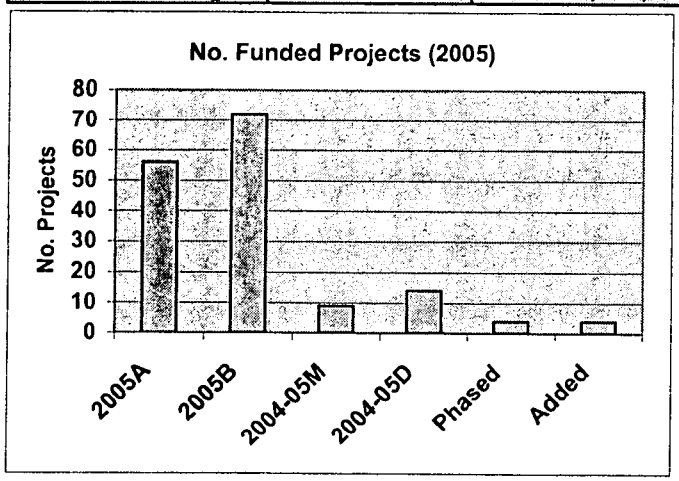
Matching Funds Summary (1997A-2005B Cycles)

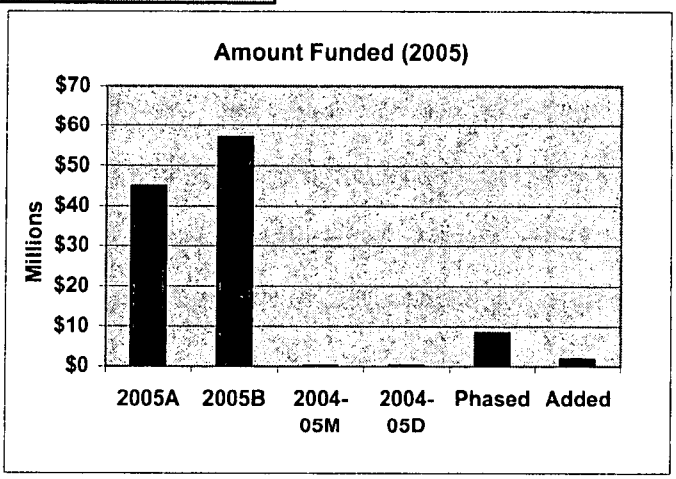
Total Project Cost	Total Amount CWMTF Funded	Total Amount Match	Overall % Match
$1,502,723,662	$595,788,003	$906,935,659	60%



Funded Projects During 2005 Calendar Year

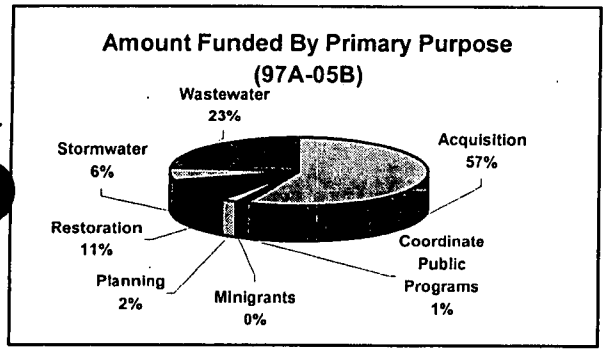
	Number Projects	Amount Funded	Comments
2005A	56	$44,911,000	Regular Spring Cycle
2005B	72	$57,146,000	Regular Fall Cycle
2004-05M	9	$201,600	Standard Minigrants
2004-05D	14	$282,600	Donated Conservation Easement Minigrants
Phased	4	$8,313,000	Phased Funding For 4 Previously Approved Projects
Added	4	$1,847,000	Additional Funding For 4 Previously Approved Projects
Total	**159**	**$112,701,200**	
Total New Projects Excluding Additional and Phased Funding	**151**	**$102,541,200**	

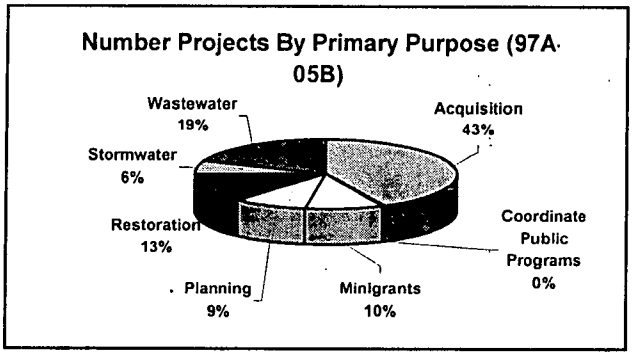




Funded Projects Summarized By Primary Purpose (1997A-2005B Cycles)

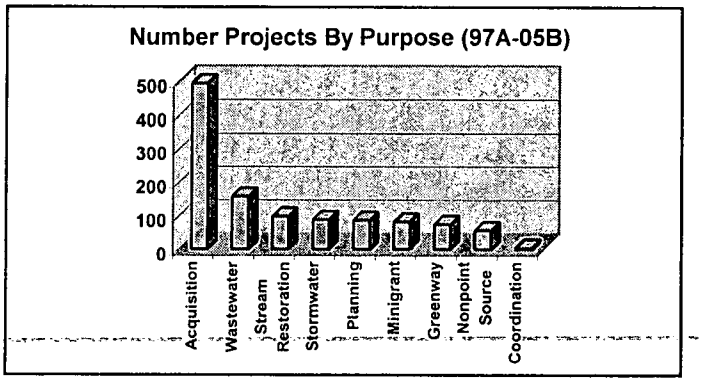
Primary Purpose	Number Projects	Amount Funded	Notes
Acquisition	331	$338,300,744	Includes fee simple, easements, and greenways.
Coordinate Public Programs	3	$5,750,000	
Minigrants	76	$1,678,627	
Planning	72	$10,935,297	
Restoration	102	$63,857,976	Includes stream restoration, ag BMPs, and other types of ecological restoration
Stormwater	49	$36,944,982	
Wastewater	148	$138,320,377	
Total	781	$595,788,003	





Funded Projects Summarized by Individual Project Component (1997A-2005B Cycles)
(Takes into consideration projects with multiple purposes.)

Project Type, including multiple purposes	Number Projects
Acquisition	493
Wastewater	156
Stream Restoration	98
Stormwater	88
Planning	86
Minigrant	81
Greenway	74
Nonpoint Source	56
Coordination	3

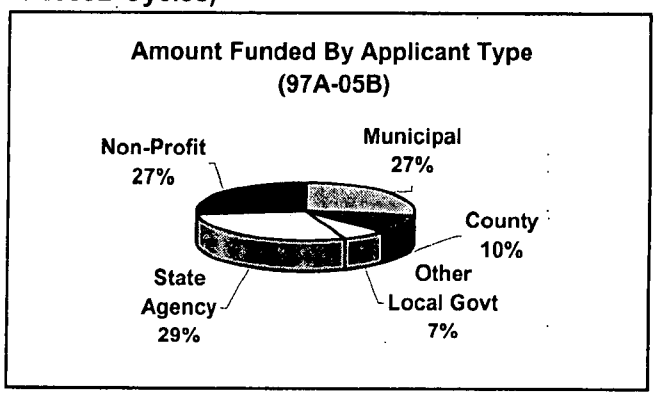


Wastewater Subcomponents (1997A-2005B Cycles)

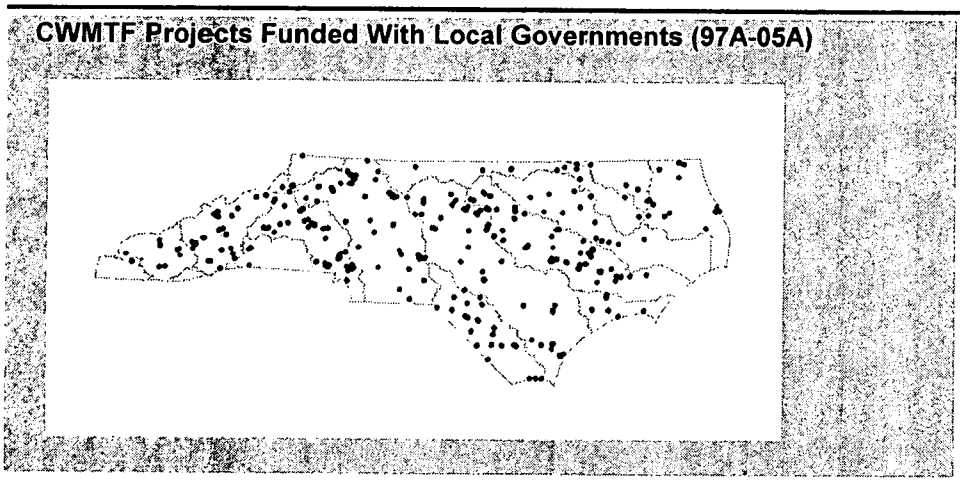
Wastewater Subcomponents	Number Projects	Wastewater Subcomponents	Number Projects
Sewer System Repair	46	Elimination of Permitted Discharge	19
Wastewater Collection System	38	Reuse	15
WWTP Repair	26	Repair Failing Septic Systems and Elimination of Straight Pipes	13
Nondischarge of Waste (incl. Land App)	23	Backup Generation	9
Decommission WWTP and Reroute Waste	21		

Funded Projects Summarized By Applicant Type (1997A-2005B Cycles)

Applicant Type	Number Projects	Amount Funded
Local Government Total	373	$263,085,414
Municipal	219	$162,781,910
County	91	$60,039,300
Other Local Govt	63	$40,264,204
State Agency	111	$172,086,335
Non-Profit	297	$160,616,254
Total	781	$595,788,003

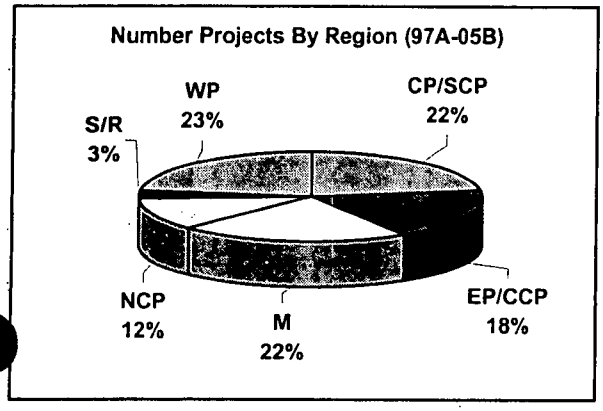


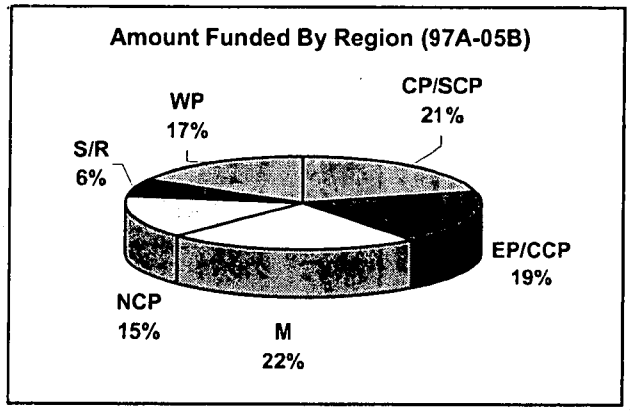
CWMTF Projects Funded With Local Governments (97A-05A)



Funded Projects Summarized By Region (1997A-2005B Cycles)

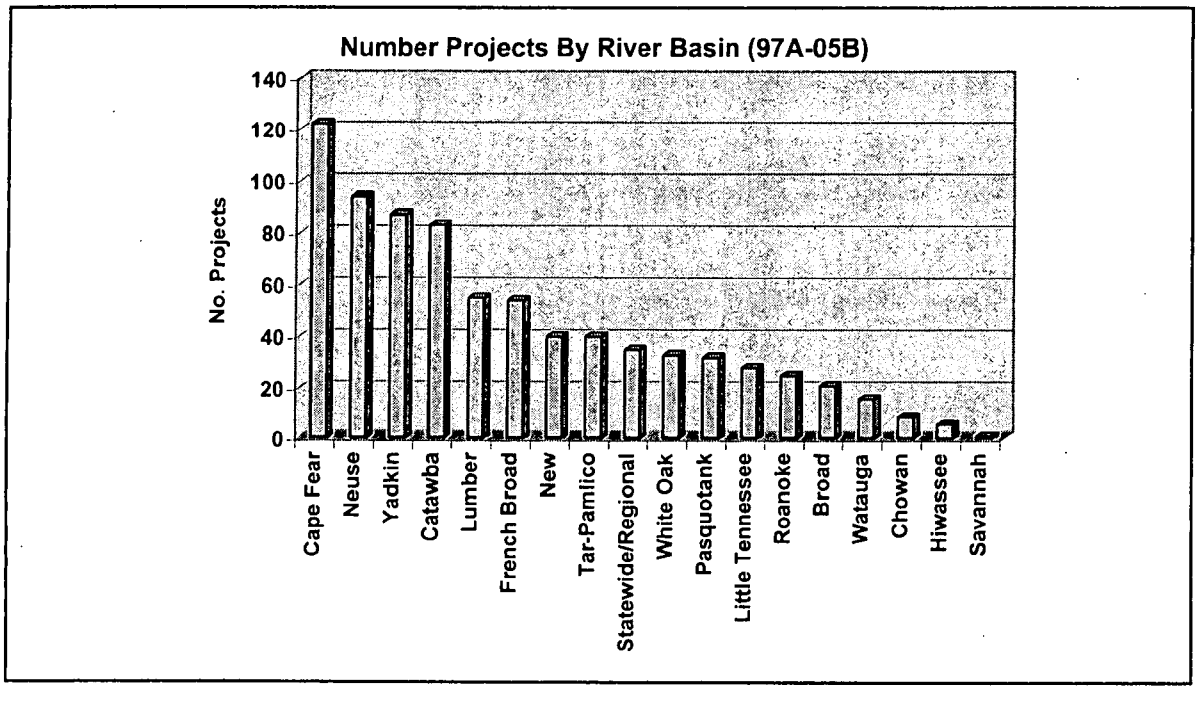
Region Name	Region Abbreviation	Number Projects	Amount Funded
Central Piedmont/Southern Coastal Plain	CP/SCP	175	$124,822,102
Eastern Piedmont/Central Coastal Plain	EP/CCP	144	$111,003,505
Mountains	M	170	$136,296,454
Northern Coastal Plain	NCP	90	$88,245,131
Statewide/Regional	S/R	23	$34,813,056
Western Piedmont	WP	179	$100,607,755
Total		781	$595,788,003



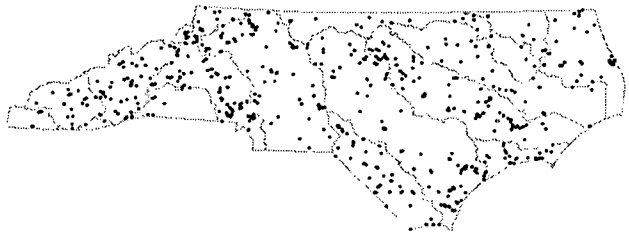


Funded Projects Summarized By River Basin (1997A-2005A Cycles)

River Basin	Number Projects	Amount Funded
Cape Fear	122	$94,687,700
Neuse	94	$74,261,170
Yadkin	87	$62,015,900
Catawba	83	$52,834,123
Lumber	55	$31,136,402
French Broad	54	$48,024,669
New	40	$11,326,632
Tar-Pamlico	40	$30,376,060
Statewide/Regional	35	$43,561,506
White Oak	33	$32,590,141
Pasquotank	32	$31,341,005
Little Tennessee	28	$25,893,967
Roanoke	25	$17,010,100
Broad	21	$19,115,890
Watauga	16	$7,533,928
Chowan	9	$9,352,810
Hiwassee	6	$3,851,000
Savannah	1	$875,000
Total	781	$595,788,003



CWMTF Funded Projects 97A-05A



Projects Funded BY CWMTF In Calendar Year 2005 By Cycle (Listed Alphabetically Within Cycle)

Funded Projects During 2005 Calendar Year

Cycle	Number New Projects	Amount Funded	Comments
Spring 2005A	56	$44,911,000	Regular Cycle
Fall 2005B	72	$57,146,000	Regular Cycle
2004M & 2005M	9	$201,600	Standard Minigrants
2004D & 2005D	14	$282,600	Donated Conservation Easement Minigrants
Phased Funding For 4 Previously Approved Projects	4	$8,313,000	
Additional Funding For 4 Previously Approved Projects	4	$1,847,000	
Total	**159**	**$112,701,200**	
Total New Projects Excluding Additional and Phased Funding	**151**	**$102,541,200**	

Spring 2005A Cycle

Application Name	Project Number	Approval Date	Amount Funded	Applicant Type	County	River Basin
Ayden, Town of - WW/ Collection System Rehabilitation, Swift Creek	2005A-501	8/8/2005	$178,000	Local Government - Municipal	Pitt	Neuse
Biscoe, Town of - WW/ Treatment Plant Upgrade, Cedar Creek	2005A-502	8/8/2005	$480,000	Local Government - Municipal	Montgomery	Yadkin
Blue Ridge Rural Land trust - Acq/ Minton and Church Tracts, Lewis Fork and Reddies Creeks	2005A-001	8/8/2005	$157,000	Non-profit	Wilkes	Yadkin
Canton, Town of - Plan/Acq/ Pigeon River Development Impact Assessment	2005A-801	2/14/2005	$35,000	Local Government - Municipal	Haywood	French Broad
Catawba Lands Conservancy-Acq/ Cloninger Tract, Stanley Creek	2004B-009	8/8/2005	$154,000	Non-profit	Gaston	Catawba
Cherokee County - Acq/ Valley River and Town Creek Greenways	2005A-002	8/8/2005	$139,000	Local Government - County	Cherokee	Hiwassee
Conservation Trust for North Carolina - Acq/ CSX Tract, Catawba River	2005A-003	8/8/2005	$936,000	Non-profit	McDowell	Catawba
Edgecombe Water and Sewer District #5 - Septic/ Leggett Septic Tanks, Swift Creek	2004B-602	8/8/2005	$2,945,000	Local Government	Edgecombe	Tar-Pamlico
Enfield, Town of - WW/ WWTP and Collection Rehabilitation, Fishing Creek	2005A-503	8/8/2005	$797,000	Local Government - Municipal	Halifax	Tar-Pamlico
Farmville, Town of - WW/ Solids Reduction, Little Contentnea Creek	2005A-504	8/8/2005	$1,310,000	Local Government - Municipal	Pitt	Neuse
Fishing Creek SWC District - Acq/ Iles Farm, Roanoke Rapids Lake	2005A-004	8/8/2005	$208,000	Local Government	Halifax	Roanoke
Goldsboro, City of - Acq/ Seymour Johnson AFB, Stoney Creek, Phase II	2005A-005	8/8/2005	$3,000,000	Local Government - Municipal	Wayne	Neuse
Greenevers, Town of - Septic/ Wallace Regionalization, Island Creek	2005A-601	8/8/2005	$750,000	Local Government - Municipal	Duplin	Cape Fear
Halifax, Town of - WW/ Regionalization, Collection Rehabilitation, Quankey Creek	2004B-507	8/8/2005	$2,297,000	Local Government - Municipal	Halifax	Roanoke
Haw River Assembly - Plan/Acq/ Lower Haw Riparian Corridor Plan	2005A-803	8/8/2005	$97,000	Non-profit	Alamance	Cape Fear
Kinston, City of - Acq/ Floodplain Protection and Open Space Project, Adkin Branch	2005A-006	8/8/2005	$1,181,000	Local Government - Municipal	Lenoir	Neuse
LaGrange, Town of - WW/ Reuse, Mosley Creek	2004B-509	8/8/2005	$1,075,000	Local Government - Municipal	Lenoir	Neuse
Lucama, Town of - Wastewater/ Outfall Reroute, Black Creek	2004A-507	8/8/2005	$349,000	Local Government - Municipal	Wilson	Neuse
Lumber River Conservancy - Acq/ Mears Island, Lumber River	2005A-007	8/8/2005	$73,000	Non-profit	Columbus	Lumber
Manteo, Town of - Plan/WW/ Wastewater Treatment Feasibility Plan, Shallowbag Bay	2005A-804	8/8/2005	$65,000	Local Government - Municipal	Dare	Pasquotank
Mecklenburg County - Storm/ Mt. Island Lake Initiative, Caldwell Station Creek	2005A-702	8/8/2005	$639,000	Local Government - County	Mecklenburg	Catawba
National Committee for the New River - Plan/Rest/ Boone Creek Greenway and Restoration Plan	2005A-805	8/8/2005	$30,000	Non-profit	Watauga	New

Application Name	Project Number	Approval Date	Amount Funded	Applicant Type	County	River Basin
Nature Conservancy, The - Acq/ Adirondack Tract, Shaken Creek Tributaries	2005A-008	8/8/2005	$238,000	Non-profit	Statewide/Regional	Cape Fear
Nature Conservancy, The - Acq/ Troutman Tract, Drowning Creek	2005A-010	8/8/2005	$475,000	Non-profit	Hoke	Cape Fear
NC Coastal Federation - Plan/Acq/ Currituck Sound Protection Plan	2005A-806	8/8/2005	$40,000	Non-profit	Currituck	Pasquotank
NC Coastal Federation - Storm/ Old Hammocks Beach Ferry Terminal, ICW	2005A-703	8/8/2005	$155,000	Non-profit	Onslow	White Oak
NC Coastal land Trust - Acq/ Cherry Point, Piney Island	2005A-012	8/8/2005	$3,000,000	Non-profit	Statewide/Regional	Neuse
NC Coastal Land Trust - Acq/ Plum Creek Timberlands, NE Cape Fear River	2005A-013	8/8/2005	$346,000	Non-profit	Pender	Cape Fear
NC Coastal Land Trust - Acq/ Witdoeckt Tract, Town Creek	2005A-014	8/8/2005	$364,000	Non-profit	Brunswick	Cape Fear
NC Coastal Land Trust=Acq/ Davis Tract, Lower Cape Fear	2004B-029	8/8/2005	$1,556,000	Non-profit	Brunswick	Cape Fear
NC Coastal Land Trust-Acq/ Hughes Tract, upper Broad Creek	2004B-030	8/8/2005	$394,000	Non-profit	Craven	Neuse
NC Parks and Recreation - Acq/ Pru- and Plum Creek Timber Tracts, Lumber River State Park	2005A-018	8/8/2005	$2,000,000	State Agency	Robeson	Lumber
NC Parks and Recreation - Acq/ Sandy Run Savannah, Shelter Swamp	2005A-019	8/8/2005	$4,500,000	State Agency	Statewide/Regional	Cape Fear
NC Widlife Resources Commission- Acq/ Cashie River Tracts	2004B-042	8/8/2005	$440,000	State Agency	Bertie	Roanoke
NC Wildlife Resources Commission - Acq/ Folkstone Tract, Kings Creek	2005A-020	8/8/2005	$1,092,000	State Agency	Onslow	Cape Fear
NC Wildlife Resources Commission - Acq/ Kannapolis Tract, Second and Sloan Creeks	2005A-022	8/8/2005	$2,522,000	State Agency	Rowan	Yadkin
NC Wildlife Resources Commission - Acq/ Marion Carter Tract, Silver Creek	2005A-023	8/8/2005	$2,188,000	State Agency	Burke	Catawba
NC Wildlife Resources Commission - Acq/ Roanoke Island Greenway, Amended Project	2005A-024	8/8/2005	$1,746,000	State Agency	Dare	Pasquotank
NCSU Cooperative Extension - Rest/ Watauga Restoration, Cove & Dutch Creeks; Elk River	2005A-401	8/8/2005	$561,000	State Agency	Statewide/Regional	Watauga
New Hanover County - WW/ Landfill Leachate Land Application, NE Cape Fear	2004B-513	8/8/2005	$155,000	Local Government - County	New Hanover	Cape Fear
Orange Water & Sewer Authority - Acq/ Phase III, Cane Creek	2005A-026	8/8/2005	$130,000	Local Government	Orange	Cape Fear
Piedmont Land Conservancy - Acq/ Berry Tract, Hyco Lake	2005A-027	8/8/2005	$441,000	Non-profit	Caswell	Roanoke
Pikeville, Town of - WW/ Collection Rehabilitation, The Slough	2005A-505	8/8/2005	$750,000	Local Government - Municipal	Wayne	Neuse
Pilot View RC&D, Inc. - Rest/ Shoals Restoration Project, Ararat River	2005A-402	8/8/2005	$488,000	Local Government	Surry	Yadkin
Robeson County - Plan/Storm/ COMtech Management Systems, Raft Swamp / Agriculture	2005A-807	8/8/2005	$238,000	Local Government - County	Robeson	Lumber
Southern Appalachian Highlands Conservancy - Plan/Acq/ Great Smokies Pigeon River Riparian Corridor Plan	2005A-808	8/8/2005	$40,000	Non-profit	Haywood	French Broad
Southern Appalachian Highlands Conservancy - Plan/Acq/ South Toe River Riparian Corridor Plan	2005A-809	8/8/2005	$40,000	Non-profit	Yancey	French Broad
Spring Lake, Town of - WW/ Treatment System Upgrade, Little River	2004B-516	8/8/2005	$822,000	Local Government - Municipal	Cumberland	Cape Fear
Swain County - Septic/ Bryson Branch, Tuckasegee River	2005A-604	8/8/2005	$50,000	Local Government - County	Swain	Little Tennessee
Triangle Greenways Council - Acq/ Young Heirs Tract, Walnut Creek	2005A-030	8/8/2005	$65,000	Non-profit	Wake	Neuse
Upper Callasaja Watershed Association - Plan/Rest/ Watershed Protection Plan	2005A-810	8/8/2005	$40,000	Non-profit	Macon	Little Tennessee
Valle Crucis Park, Inc. - Rest/ Watauga Park Greenway Restoration	2004B-404	8/8/2005	$107,000	Non-profit	Watauga	Watauga
Wake County-Acq/ Southeast County Park, Middle Creek	2004B-055	8/8/2005	$714,000	Local Government - County	Wake	Neuse

Application Name	Project Number	Approval Date	Amount Funded	Applicant Type	County	River Basin
Wallace, Town of - WW/ Rockfish Creek Project, Amended	2005A-507	8/8/2005	$2,211,000	Local Government - Municipal	Duplin	Cape Fear
Watershed Association of the Tuckasegee River - Plan/Rest/ Savannah Creek Watershed Action Plan	2005A-811	8/8/2005	$40,000	Non-profit	Jackson	Little Tennessee
Western Piedmont Council of Governments - Plan/Acq/ Hickory Metro Comprehensive Recreation Based Economic Development Initiative	2005A-812	8/8/2005	$68,000	Local Government	Statewide/Regional	Statewide/Regional
Total Spring 2005A Cycle			$44,911,000			

Fall 2005B Cycle

Application Name	Project Number	Approval Date	Amount Funded	Applicant Type	County	River Basin
Alamance County Recreation & Parks Dept. - Acq/ Glencoe Mill Village, Haw River	2005B-001	11/14/2005	$158,000	Local Government - County	Alamance	Cape Fear
Asheville, City of - Storm/ Watershed Stormwater Management, Dingle Creek	2005B-701	11/14/2005	$133,000	Local Government - Municipal	Buncombe	French Broad
Ayden, Town of - WW/ Collection System Rehabilitation III, Swift Creek	2005B-501	11/14/2005	$500,000	Local Government - Municipal	Pitt	Neuse
Burlington, City of - Acq/ Carolina Mill Tract, Haw River	2005B-002	11/14/2005	$44,000	Local Government - Municipal	Alamance	Cape Fear
Carolina Mountain Land Conservancy - Acq/ World's Edge Tract, Pool and Wolf Creeks	2005B-005	11/14/2005	$3,900,000	Non-profit	Henderson	Broad
Carolina Mountain Land Conservancy - Storm/ Upper Broad Watershed Protection Program	2005B-702	11/14/2005	$82,000	Non-profit	Buncombe	Broad
Catawba Lands Conservancy - Acq/ Jack Moore Nature Preserve, Hoyle Creek	2005B-006	11/14/2005	$461,000	Non-profit	Gaston	Catawba
Concord, City of - WW/ WWTP Discharge Elimination, Rocky River	2005B-502	11/14/2005	$175,000	Local Government - Municipal	Cabarrus	Yadkin
Conservation Trust for North Carolina - Acq/ Cumberland Knob Tract, Roaring Fork	2005B-007	11/14/2005	$512,000	Non-profit	Alleghany	Yadkin
Conservation Trust for North Carolina - Plan/Acq/ Riparian Corridor Planning and Implementation, Phase VI	2005B-801	11/14/2005	$695,000	Non-profit	Statewide/Regional	Statewide/Regional
Durham Soil & water Conservation District - Storm/ West Village Project, Ellerbee Creek	2005B-703	11/14/2005	$100,000	Local Government - County	Durham	Neuse
Durham, County of - Acq/ Erwin Trace and Penny Tracts, New Hope Creek	2005B-008	11/14/2005	$1,112,000	Local Government - County	Durham	Cape Fear
Elizabeth City, City of - WW/ Hughes Boulevard Force Main, Knobs Creek	2005B-504	11/14/2005	$2,000,000	Local Government - Municipal	Camden	Pasquotank
Elizabethtown, Town of - Plan/Storm/ Stormwater Master Plan Development, Browns and Hammond Creeks	2005B-802	11/14/2005	$45,000	Local Government - Municipal	Bladen	Cape Fear
Elm City, Town of - WW/ Sewer Rehabilitation, Town Creek	2005B-505	11/14/2005	$1,000,000	Local Government - Municipal	Wilson	Tar-Pamlico
Farmville, Town of - Acq/ Bee Branch and Middle Swamp Acquisition Project	2005B-009	11/14/2005	$213,000	Local Government - Municipal	Pitt	Neuse
Farmville, Town of - Rest/ Bee Branch, Middle Swamp Restoration Project	2005B-402	11/14/2005	$633,000	Local Government - Municipal	Pitt	Neuse
Farmville, Town of - WW/ Bee Branch, Middle Swamp, Sewer Line Access and Maintenance	2005B-506	11/14/2005	$231,000	Local Government - Municipal	Pitt	Neuse
Foothills Conservancy of NC-Acq/ Adams Tract, Left Prong, Catawba River	2004B-013	11/14/2005	$208,000	Non-profit	McDowell	Catawba
Foothills Conservancy of North Carolina - Acq/ Johns River Confluence Tract II South, Johns River	2005B-012	11/14/2005	$1,358,000	Non-profit	Burke	Catawba
Fremont, Town of - WW/ Sewer Rehabilitation, Nahunta Swamp	2005B-507	11/14/2005	$1,552,000	Local Government - Municipal	Wayne	Neuse
Gaston, Town of - WW/Septic/ Collection Rehabilitation and Failing Septic Tanks, Black Duck & Creeks	2005B-508	11/14/2005	$409,000	Local Government - Municipal	Northampton	Roanoke

Application Name	Project Number	Approval Date	Amount Funded	Applicant Type	County	River Basin
Handy Sanitary District - Septic/ Failing On-Site Systems and Decommissioning of WWTPs, Badin Lake	2005B-601	11/14/2005	$3,000,000	Local Government - County	Montgomery	Yadkin
Lake Lure, Town of - Plan/WW/ I & I Investigations, Lake Lure	2005B-804	11/14/2005	$77,000	Local Government - Municipal	Rutherford	Broad
Land Trust for the Little Tennessee - Acq/ Carter Branch Tract	2005B-014	11/14/2005	$208,000	Non-profit	Macon	Little Tennessee
Land Trust for the Little Tennessee - Acq/ Cowee Mound Tract, Little Tennessee River	2005B-015	11/14/2005	$471,000	Non-profit	Macon	Little Tennessee
Land Trust for the Little Tennessee - Acq/ Needmore Expansion, Phase II	2005B-017	11/14/2005	$727,000	Non-profit	Macon	Little Tennessee
Lumber River Conservancy - Acq/ Hunt Tract, Lumber River	2005B-019	11/14/2005	$188,000	Non-profit	Hoke	Lumber
Lumber River Conservancy - Acq/ Slaughter Tract, Lumber River	2005B-021	11/14/2005	$57,000	Non-profit	Hoke	Lumber
Lumber River Conservancy - Acq/ Singleton's Bay Tracts	2005B-020	11/14/2005	$400,000	Non-profit	Hoke	Lumber
Maxton, Town of - Plan/Storm/ Storm Drainage Improvement Planning, Shoe Heel Creek	2005B-806	11/14/2005	$40,000	Local Government - Municipal	Robeson	Lumber
Mecklenburg County - Rest/ Four Mile Creek Project	2005B-404	11/14/2005	$542,000	Local Government - County	Mecklenburg	Catawba
Mecklenburg County - Storm/ Restoration Initiative Phase VII, Little Sugar Creek	2005B-704	11/14/2005	$280,000	Local Government - County	Mecklenburg	Catawba
Morven, Town of - Plan/WW/ Collection System Rehabilitation Strategy, Jones & Mill Creeks	2005B-807	11/14/2005	$40,000	Local Government - Municipal	Anson	Yadkin
Nature Conservancy, The - Acq/ Davis Tract, Alligator River	2005B-023	11/14/2005	$1,025,000	Non-profit	Hyde	Tar-Pamlico
NC Coastal Federation - Acq/ Jones Island, White Oak River	2005B-025	11/14/2005	$550,000	Non-profit	Onslow	White Oak
NC Coastal Land trust - Acq/ Clarendon Tract, Mallory Creek	2005B-026	11/14/2005	$2,612,000	Non-profit	Brunswick	Cape Fear
NC Coastal Land Trust - Acq/ Foy Tract, Foy Creek	2005B-027	11/14/2005	$1,342,000	Non-profit	Pender	Cape Fear
NC Div Soil & Water Conservation- Acq/ Conservation Reserve Enhancement Program	2004B-040	11/14/2005	$2,759,000	State Agency	Statewide/Regional	Statewide/Regional
NC Environmental Health - Septic/ WaDE Program, Straight Pipe Elimination, Mountain Region	2005B-602	11/14/2005	$1,500,000	State Agency	Statewide/Regional	Statewide/Regional
NC Parks and Recreation - Acq/ Bower and Darnell Tracts, South Fork New River	2005B-028	11/14/2005	$2,270,000	State Agency	Ashe	New
NC Parks and Recreation - Acq/ Pegg Tract, Haw River	2005B-029	11/14/2005	$720,000	State Agency	Chatham	Cape Fear
NC Wildlife Resources Commission - Acq/ Bernhardt Tract, Walnut Branch	2005B-030	11/14/2005	$364,000	State Agency	Caldwell	Yadkin
NC Wildlife Resources Commission - Acq/ Johns River Loop Road Tract, Johns River	2005B-033	11/14/2005	$2,238,000	State Agency	Burke	Catawba
NC Wildlife Resources Commission - Acq/ Owen Tract, Turnbull Creek	2005B-035	11/14/2005	$128,000	State Agency	Bladen	Cape Fear
Piedmont Land Conservancy - Acq/ Harris Tract, Mill Creek	2005B-040	11/14/2005	$199,000	Non-profit	Surry	Yadkin
Pilot View RC&D - Rest/ Mill Creek Restoration	2005B-406	11/14/2005	$292,000	Local Government	Forsyth	Yadkin
Plymouth, Town of - WW/ Sewer Rehabilitation, Roanoke River	2005B-511	11/14/2005	$1,992,000	Local Government - Municipal	Washington	Roanoke
Resource Institute, Inc. - Rest/ Mount Airy, Ararat River Restoration	2005B-407	11/14/2005	$1,847,000	Non-profit	Surry	Yadkin
RiverLink - Rest/ Swannanoa River and Tomahawk Branch Project	2005B-408	11/14/2005	$550,000	Non-profit	Buncombe	French Broad
Robeson County - Storm/ COMtech Development Project Phae II, Bear Swamp	2005B-706	11/14/2005	$1,195,000	Local Government - County	Robeson	Lumber
Rutherford Soil and Water Conservation District - Rest/ Ag BMPs & Cattle Exclusions, Broad River Tributaries	2005B-409	11/14/2005	$480,000	Local Government - County	Rutherford	Broad
Sandhills Area Land trust - Acq/ Kinlaw Tracts, Cape fear	2005B-042	11/14/2005	$539,000	Non-profit	Columbus	Cape Fear
Sandhills Area Land trust - Acq/ Snipes and Turner Tracts, Cape Fear River	2005B-044	11/14/2005	$444,000	Non-profit	Cumberland	Cape Fear

Application Name	Project Number	Approval Date	Amount Funded	Applicant Type	County	River Basin
Southern Appalachian Highlands Conservancy - Acq/ Christmount Tract, Swannanoa River	2005B-045	11/14/2005	$1,646,000	Non-profit	Buncombe	French Broad
Southern Appalachian Highlands Conservancy - Acq/ Roan Mountain Tract, Elk River	2005B-046	11/14/2005	$214,000	Non-profit	Avery	Watauga
Southport, City of - WW/ Land Application Site, Discharge Elimination, Cottage Creek	2005B-513	11/14/2005	$1,686,000	Local Government - Municipal	Brunswick	Cape Fear
Southwestern RC&D - Rest/ Lake Logan Episcopal Center, West Fork Pigeon River	2005B-411	11/14/2005	$145,000	Local Government	Haywood	French Broad
Southwestern RC&D - Rest/Storm/ Bethel School Tract, Pigeon River	2005B-410	11/14/2005	$462,000	Local Government	Haywood	French Broad
Surry Soil and Water Conservation District - Rest/ Fisher River Restoration Project	2005B-412	11/14/2005	$976,000	Local Government - County	Surry	Yadkin
Swansboro, Town of - Plan/Acq/ Watershed Protection Planning, Hawkins Creek	2005B-808	11/14/2005	$30,000	Local Government - Municipal	Onslow	White Oak
Swansboro, Town of - WW/ Wastewater Treatment Upgrades, Intracoastal Waterway	2005B-514	11/14/2005	$3,000,000	Local Government - Municipal	Onslow	White Oak
Tar River Land Conservancy - Acq/ Blackley Farm Tract, Tar River	2005B-048	11/14/2005	$527,000	Non-profit	Granville	Tar-Pamlico
Tar River Land Conservancy - Acq/ Huff Farm Tract, Bollens and Fishing Creeks	2005B-049	11/14/2005	$586,000	Non-profit	Granville	Tar-Pamlico
Tar River Land Conservancy - Acq/ Perry Tract, Sandy Creek	2005B-050	11/14/2005	$219,000	Non-profit	Franklin	Tar-Pamlico
Tar River Land Conservancy - Acq/ Thorp Tract, Fox Creek	2005B-051	11/14/2005	$306,000	Non-profit	Granville	Tar-Pamlico
Tar River Land Conservancy - Acq/ Wood Farm Tract, FRPP, Sandy Creek	2005B-052	11/14/2005	$345,000	Non-profit	Franklin	Tar-Pamlico
Triangle Land Conservancy - Acq/ Hanson Aggregates Tract, Deep River	2005B-053	11/14/2005	$150,000	Non-profit	Chatham	Cape Fear
Tuckaseigee Water and Sewer Authority - WW/ Collection System Rehabilitation, Cope Creek	2005B-515	11/14/2005	$2,000,000	Local Government - County	Jackson	Little Tennessee
Wake County - Acq/ Sandy Branch Tract, Mark's Creek	2005B-054	11/14/2005	$190,000	Local Government - County	Wake	Neuse
Wilson County - Plan/WW Regionalization Feasibility Study	2005B-811	11/14/2005	$40,000	Local Government - Municipal	Wilson	Neuse
Wilson, City of - Plan/Acq/ Contentnea Creek Management Planning	2005B-810	11/14/2005	$27,000	Local Government - Municipal	Wilson	Neuse
Total Fall 2005B Cycle			$67,146,000			

Standard Minigrants

Application Name	ApplicationID	Approval Date	Amount Funded	Applicant Type	County	Watershed
Lumber River Conservancy - Minigrant/ Slaughter Tract, Chalk Banks	2004M-004	1/10/2005	$25,000	Non-profit	Hoke	Lumber
Blue Ridge Rural Land Trust - Mini - Teeter- Beech Creek Project	2005M-001	8/8/2005	$25,000	Non-profit	Watauga	Watauga
NC Coastal Federation - Mini/ Weyerhaeuser Tract, Newport River	2005M-002	8/8/2005	$25,000	Non-profit	Carteret	White Oak
Troy, Town of - Mini/ Phase VI, Densons & Dumas Creeks	2005M-003	8/8/2005	$25,000	Local Government - Municipal	Montgomery	Yadkin
Conservation Trust for North Carolina - Mini/ Lankford Tract, Boone Fork Creek	2005M-004	8/8/2005	$25,000	Non-profit	Watauga	Watauga
Land Trust for the Little Tennessee - Minigrant, Sylva, Fisher Creek Tract	2005M-005	11/14/2005	$13,000	Non-profit	Jackson	Little Tennessee
Triangle Greenways Council - Minigrant / Joe Lee Tract, Walnut Creek	2005M-006	11/14/2005	$13,600	Non-profit	Wake	Neuse
New Hanover Soil & Water Conservation District - Minigrant/ NHC Watershed Mgmt. Adv. Bd., Hewletts Creek	2005M-007	11/14/2005	$25,000	Local Government	New Hanover	Cape Fear
New Hanover County Watershed Management Advisory Board - Minigrant/ Harrell Tract, Smith Creek	2005M-008	11/14/2005	$25,000	Local Government - County	New Hanover	Cape Fear
Total Standard Minigrants			$201,600			

Application Name	Project Number	Approval Date	Amount Funded	Applicant Type	County	River Basin

Donated Minigrants

Application Name	ApplicationID	Approval Date	Amount Funded	Applicant Type	County	Watershed
Blue Ridge Rural Land Trust - Donated Mini, C. Wyly Watson Farm, Pig Pen Cr	2005D-005	8/8/2005	$25,000	Non-profit	Yancey	French Broad
Blue Ridge Rural Land Trust - Donated Mini/ Almond Farm, Piney Creek	2005D-001	8/8/2005	$15,000	Non-profit	Alleghany	New
Blue Ridge Rural Land Trust - Donated Mini/ Davis Tract, Little Horse Creek	2005D-004	8/8/2005	$24,000	Non-profit	Ashe	New
Blue Ridge Rural Land Trust - Donated Mini/ Hilton Crews Farm, Lewis Fork Creek	2005D-002	8/8/2005	$25,000	Non-profit	Wilkes	Yadkin
Blue Ridge Rural Land Trust - Donated Mini/ Swansie Shepherd farm, Little Horse Creek	2005D-003	8/8/2005	$24,000	Non-profit	Ashe	New
Carolina Mountain Land Conservancy- Donated Mini/Linneman Tract, Rock Creek	2005D-013	11/14/2005	$13,800	Non-profit	Henderson	Broad
Catawba Lands Conservancy - Donated Mini/ Waters Tract, Hoyle Creek	2005D-012	10/10/2005	$17,000	Non-profit	Lincoln	Catawba
Conservation Trust for North Carolina - Donated Mini/ Waynesville Tract, Allen Creek	2005D-010	8/8/2005	$25,000	Non-profit	Haywood	French Broad
Lumber River Conservancy - Donated Mini/ McMillan Mill Pond, Lumber River	2004D-019	1/10/2005	$5,000	Non-profit	Columbus	Lumber
National Committee for the New River - Donated Mini, Kemp Tract, North Fork New River	2005D-006	8/8/2005	$17,700	Non-profit	Ashe	New
National Committee for the New River - Donated Mini, Smith Farm	2005D-007	8/8/2005	$20,300	Non-profit	Alleghany	New
Southern Appalachian Highlands Conservancy - Donated Mini/ Waynesville Watershed Stewardship, Allen Creek	2005D-011	8/8/2005	$25,000	Non-profit	Haywood	French Broad
Triangle Land Conservancy - Donated Mini/ Mullen Tract, Borland Creek	2005D-008	8/8/2005	$21,100	Non-profit	Orange	Cape Fear
Triangle Land Conservancy - Donated Mini/ Wilson Tract, Borland Creek	2005D-009	8/8/2005	$24,700	Non-profit	Orange	Cape Fear
Total Donated Minigrants			$282,600			

Phased Funding

Application Name	ApplicationID	Approval Date	Amount Funded 2005	Applicant Type	County	Watershed
Brevard, City of - Acq/ Brackens and Brushy Creeks	2004B-002	8/8/2005	$1,012,000	Local Government - Municipal	Transylvania	French Broad
Carolina Mountain Land Conservancy- Acq/ Ball Tract, Green River	2004B-003	8/8/2005	$1,498,000	Non-profit	Henderson	Broad
Carolina Mountain Land Conservancy- Acq/ Schenk and Ball Tracts, Green River	2004B-007	8/8/2005	$5,116,000	Non-profit	Henderson	Broad
Nature Conservancy - Acq/ Grandfather Mountain, Profile Trail	2004B-025	8/8/2005	$687,000	Non-profit	Avery	Watauga
Total Phased Funding			$8,313,000			

Projects Receiving Additional Funds During 2005

Application Name	Project Number	Initial Approval Date	Additional Amount Funded	Applicant Type	County	River Basin
Ellerbe, Town of - WW/ UV Disinfection, Toms Creek	2004B-506	11/15/2004	$165,000	Local Government - Municipal	Richmond	Yadkin
Fair Bluff, Town of - Wastewater/ Lumber River Regionalization	2004A-502	7/12/2004	$1,000,000	Local Government - Municipal	Columbus	Lumber
Lexington, City of - WW/ Reclaimed Wastewater, Abbotts Creek	2004B-511	11/15/2004	$234,000	Local Government - Municipal	Davidson	Yadkin
Maysville - Sewer System Rehabilitation- Phase III/ White Oak River	2001B-504	11/13/2002	$448,000	Local Government - Municipal	Jones	White Oak
Total Additional Funds Awarded			$1,847,000			

Projects Funded BY CWMTF In Calendar Year 2005 (Listed Alphabetically)

Application Name	Project Number	Approval Date	Amount Funded	Applicant Type	County	River Basin
Alamance County Recreation & Parks Dept. - Acq/ Glencoe Mill Village, Haw River	2005B-001	11/14/2005	$158,000	Local Government - County	Alamance	Cape Fear
Asheville, City of - Storm/ Watershed Stormwater Management, Dingle Creek	2005B-701	11/14/2005	$133,000	Local Government - Municipal	Buncombe	French Broad
Ayden, Town of - WW/ Collection System Rehabilitation III, Swift Creek	2005B-501	11/14/2005	$500,000	Local Government - Municipal	Pitt	Neuse
Ayden, Town of - WW/ Collection System Rehabilitation, Swift Creek	2005A-501	8/8/2005	$178,000	Local Government - Municipal	Pitt	Neuse
Biscoe, Town of - WW/ Treatment Plant Upgrade, Cedar Creek	2005A-502	8/8/2005	$480,000	Local Government - Municipal	Montgomery	Yadkin
Blue Ridge Rural Land trust - Acq/ Minton and Church Tracts, Lewis Fork and Reddies Creeks	2005A-001	8/8/2005	$157,000	Non-profit	Wilkes	Yadkin
Blue Ridge Rural Land Trust - Donated Mini, C. Wyly Watson Farm, Pig Pen Cr	2005D-005	8/8/2005	$25,000	Non-profit	Yancey	French Broad
Blue Ridge Rural Land Trust - Donated Mini/ Almond Farm, Piney Creek	2005D-001	8/8/2005	$15,000	Non-profit	Alleghany	New
Blue Ridge Rural Land Trust - Donated Mini/ Davis Tract, Little Horse Creek	2005D-004	8/8/2005	$24,000	Non-profit	Ashe	New
Blue Ridge Rural Land Trust - Donated Mini/ Hilton Crews Farm, Lewis Fork Creek	2005D-002	8/8/2005	$25,000	Non-profit	Wilkes	Yadkin
Blue Ridge Rural Land Trust - Donated Mini/ Swansie Shepherd farm, Little Horse Creek	2005D-003	8/8/2005	$24,000	Non-profit	Ashe	New
Blue Ridge Rural Land Trust - Mini - Teeter- Beech Creek Project	2005M-001	8/8/2005	$25,000	Non-profit	Watauga	Watauga
Brevard, City of - Acq/ Brackens and Brushy Creeks	2004B-002	8/8/2005	$1,012,000	Local Government - Municipal	Transylvania	French Broad
Burlington, City of - Acq/ Carolina Mill Tract, Haw River	2005B-002	11/14/2005	$44,000	Local Government - Municipal	Alamance	Cape Fear
Canton, Town of - Plan/Acq/ Pigeon River Development Impact Assessment	2005A-801	2/14/2005	$35,000	Local Government - Municipal	Haywood	French Broad
Carolina Mountain Land Conservancy - Acq/ World's Edge Tract, Pool and Wolf Creeks	2005B-005	11/14/2005	$3,900,000	Non-profit	Henderson	Broad
Carolina Mountain Land Conservancy - Storm/ Upper Broad Watershed Protection Program	2005B-702	11/14/2005	$82,000	Non-profit	Buncombe	Broad
Carolina Mountain Land Conservancy- Acq/ Ball Tract, Green River	2004B-003	8/8/2005	$1,498,000	Non-profit	Henderson	Broad
Carolina Mountain Land Conservancy- Acq/ Schenk and Ball Tracts, Green River	2004B-007	8/8/2005	$5,116,000	Non-profit	Henderson	Broad
Carolina Mountain Land Conservancy- Donated Mini/Linneman Tract, Rock Creek	2005D-013	11/14/2005	$13,800	Non-profit	Henderson	Broad
Catawba Lands Conservancy - Acq/ Jack Moore Nature Preserve, Hoyle Creek	2005B-006	11/14/2005	$461,000	Non-profit	Gaston	Catawba
Catawba Lands Conservancy - Donated Mini/ Waters Tract, Hoyle Creek	2005D-012	10/10/2005	$17,000	Non-profit	Lincoln	Catawba
Catawba Lands Conservancy-Acq/ Cloninger Tract, Stanley Creek	2004B-009	8/8/2005	$154,000	Non-profit	Gaston	Catawba
Cherokee County - Acq/ Valley River and Town Creek Greenways	2005A-002	8/8/2005	$139,000	Local Government - County	Cherokee	Hiwassee
Concord, City of - WW/ WWTP Discharge Elimination, Rocky River	2005B-502	11/14/2005	$175,000	Local Government - Municipal	Cabarrus	Yadkin
Conservation Trust for North Carolina - Acq/ CSX Tract, Catawba River	2005A-003	8/8/2005	$936,000	Non-profit	McDowell	Catawba
Conservation Trust for North Carolina - Acq/ Cumberland Knob Tract, Roaring Fork	2005B-007	11/14/2005	$512,000	Non-profit	Alleghany	Yadkin
Conservation Trust for North Carolina - Donated Mini/ Waynesville Tract, Allen Creek	2005D-010	8/8/2005	$25,000	Non-profit	Haywood	French Broad
Conservation Trust for North Carolina - Mini/ Lankford Tract, Boone Fork Creek	2005M-004	8/8/2005	$25,000	Non-profit	Watauga	Watauga
Conservation Trust for North Carolina - Plan/Acq/ Riparian Corridor Planning and Implementation, Phase VI	2005B-801	11/14/2005	$695,000	Non-profit	Statewide/Regional	Statewide/Regional
Durham Soil & water Conservation District - Storm/ West Village Project, Ellerbee Creek	2005B-703	11/14/2005	$100,000	Local Government - County	Durham	Neuse
Durham, County of - Acq/ Erwin Trace and Penny Tracts, New Hope Creek	2005B-008	11/14/2005	$1,112,000	Local Government - County	Durham	Cape Fear
Edgecombe Water and Sewer District #5 - Septic/ Leggett Septic Tanks, Swift Creek	2004B-602	8/8/2005	$2,945,000	Local Government	Edgecombe	Tar-Pamlico
Elizabeth City, City of - WW/ Hughes Boulevard Force Main, Knobs Creek	2005B-504	11/14/2005	$2,000,000	Local Government - Municipal	Camden	Pasquotank
Elizabethtown, Town of - Plan/Storm/ Stormwater Master Plan Development, Browns and Hammond Creeks	2005B-802	11/14/2005	$45,000	Local Government - Municipal	Bladen	Cape Fear
Ellerbe, Town of - WW/ UV Disinfection, Toms Creek (Additional Funds)	2004B-506	11/15/2004	$165,000	Local Government - Municipal	Richmond	Yadkin
Elm City, Town of - WW/ Sewer Rehabilitation, Town Creek	2005B-505	11/14/2005	$1,000,000	Local Government - Municipal	Wilson	Tar-Pamlico
Enfield, Town of - WW/ WWTP and Collection Rehabilitation, Fishing Creek	2005A-503	8/8/2005	$797,000	Local Government - Municipal	Halifax	Tar-Pamlico
Fair Bluff, Town of - Wastewater/ Lumber River Regionalization (Additional Funds)	2004A-502	7/12/2004	$1,000,000	Local Government - Municipal	Columbus	Lumber
Farmville, Town of - Acq/ Bee Branch and Middle Swamp Acquisition Project	2005B-009	11/14/2005	$213,000	Local Government - Municipal	Pitt	Neuse
Farmville, Town of - Rest/ Bee Branch, Middle Swamp Restoration Project	2005B-402	11/14/2005	$633,000	Local Government - Municipal	Pitt	Neuse
Farmville, Town of - WW/ Bee Branch, Middle Swamp, Sewer Line Access and Maintenance	2005B-506	11/14/2005	$231,000	Local Government - Municipal	Pitt	Neuse

Application Name	Project Number	Approval Date	Amount Funded	Applicant Type	County	River Basin
Farmville, Town of - WW/ Solids Reduction, Little Contentnea Creek	2005A-504	10/10/2005	$1,310,000	Local Government - Municipal	Pitt	Neuse
Fishing Creek SWC District - Acq/ Iles Farm, Roanoke Rapids Lake	2005A-004	8/8/2005	$208,000	Local Government	Halifax	Roanoke
Foothills Conservancy of NC-Acq/ Adams Tract, Left Prong, Catawba River	2004B-013	11/14/2005	$208,000	Non-profit	McDowell	Catawba
Foothills Conservancy of North Carolina - Acq/ Johns River Confluence Tract II South, Johns River	2005B-012	11/14/2005	$1,358,000	Non-profit	Burke	Catawba
Fremont, Town of - WW/ Sewer Rehabilitation, Nahunta Swamp	2005B-507	11/14/2005	$1,552,000	Local Government - Municipal	Wayne	Neuse
Gaston, Town of - WW/Septic/ Collection Rehabilitation and Failing Septic Tanks, Black Duck & Lees Creeks	2005B-508	11/14/2005	$409,000	Local Government - Municipal	Northampton	Roanoke
Goldsboro, City of - Acq/ Seymour Johnson AFB, Stoney Creek, Phase II	2005A-005	8/8/2005	$3,000,000	Local Government - Municipal	Wayne	Neuse
Greenevers, Town of - Septic/ Wallace Regionalization, Island Creek	2005A-601	8/8/2005	$750,000	Local Government - Municipal	Duplin	Cape Fear
Halifax, Town of - WW/ Regionalization, Collection Rehabilitation, Quankey Creek	2004B-507	8/8/2005	$2,297,000	Local Government - Municipal	Halifax	Roanoke
Handy Sanitary District - Septic/ Failing On-Site Systems and Decommissioning of WWTPs, Badin Lake	2005B-601	11/14/2005	$3,000,000	Local Government - County	Montgomery	Yadkin
Haw River Assembly - Plan/Acq/ Lower Haw Riparian Corridor Plan	2005A-803	8/8/2005	$97,000	Non-profit	Alamance	Cape Fear
Kinston, City of - Acq/ Floodplain Protection and Open Space Project, Adkin Branch	2005A-006	8/8/2005	$1,181,000	Local Government - Municipal	Lenoir	Neuse
LaGrange, Town of - WW/ Reuse, Mosley Creek	2004B-509	8/8/2005	$1,075,000	Local Government - Municipal	Lenoir	Neuse
Lake Lure, Town of - Plan/WW/ I & I Investigations, Lake Lure	2005B-804	11/14/2005	$77,000	Local Government - Municipal	Rutherford	Broad
Land Trust for the Little Tennessee - Acq/ Carter Branch Tract	2005B-014	11/14/2005	$208,000	Non-profit	Macon	Little Tennessee
Land Trust for the Little Tennessee - Acq/ Cowee Mound Tract, Little Tennessee River	2005B-015	11/14/2005	$471,000	Non-profit	Macon	Little Tennessee
Land Trust for the Little Tennessee - Acq/ Needmore Expansion, Phase II	2005B-017	11/14/2005	$727,000	Non-profit	Macon	Little Tennessee
Land Trust for the Little Tennessee - Minigrant, Sylva, Fisher Creek Tract	2005M-005	11/14/2005	$13,000	Non-profit	Jackson	Little Tennessee
Lexington, City of - WW/ Reclaimed Wastewater, Abbotts Creek (Additional Funds)	2004B-511	11/15/2004	$234,000	Local Government - Municipal	Davidson	Yadkin
Lucama, Town of - Wastewater/ Outfall Reroute, Black Creek	2004A-507	8/8/2005	$349,000	Local Government - Municipal	Wilson	Neuse
Lumber River Conservancy - Acq/ Hunt Tract, Lumber River	2005B-019	11/14/2005	$188,000	Non-profit	Hoke	Lumber
Lumber River Conservancy - Acq/ Mears Island, Lumber River	2005A-007	8/8/2005	$73,000	Non-profit	Columbus	Lumber
Lumber River Conservancy - Acq/ Slaughter Tract, Lumber River	2005B-021	11/14/2005	$57,000	Non-profit	Hoke	Lumber
Lumber River Conservancy - Acq/ Singleton's Bay Tracts	2005B-020	11/14/2005	$400,000	Non-profit	Hoke	Lumber
Lumber River Conservancy - Donated Mini/ McMillan Mill Pond, Lumber River	2004D-019	1/10/2005	$5,000	Non-profit	Columbus	Lumber
Lumber River Conservancy - Minigrant/ Slaughter Tract, Chalk Banks	2004M-004	1/10/2005	$25,000	Non-profit	Hoke	Lumber
Manteo, Town of - Plan/WW/ Wastewater Treatment Feasibility Plan, Shallowbag Bay	2005A-804	8/8/2005	$65,000	Local Government - Municipal	Dare	Pasquotank
Maxton, Town of - Plan/Storm/ Storm Drainage Improvement Planning, Shoe Heel Creek	2005B-806	11/14/2005	$40,000	Local Government - Municipal	Robeson	Lumber
Maysville - Sewer System Rehabilitation- Phase III/ White Oak River (Additional Funds)	2001B-504	11/13/2002	$448,000	Local Government - Municipal	Jones	White Oak
Mecklenburg County - Rest/ Four Mile Creek Project	2005B-404	11/14/2005	$542,000	Local Government - County	Mecklenburg	Catawba
Mecklenburg County - Storm/ Mt. Island Lake Initiative, Caldwell Station Creek	2005A-702	8/8/2005	$639,000	Local Government - County	Mecklenburg	Catawba
Mecklenburg County - Storm/ Restoration Initiative Phase VII, Little Sugar Creek	2005B-704	11/14/2005	$280,000	Local Government - County	Mecklenburg	Catawba
Morven, Town of - Plan/WW/ Collection System Rehabilitation Strategy, Jones & Mill Creeks	2005B-807	11/14/2005	$40,000	Local Government - Municipal	Anson	Yadkin
National Committee for the New River - Donated Mini, Kemp Tract, North Fork New River	2005D-006	8/8/2005	$17,700	Non-profit	Ashe	New
National Committee for the New River - Donated Mini, Smith Farm	2005D-007	8/8/2005	$20,300	Non-profit	Alleghany	New
National Committee for the New River - Plan/Rest/ Boone Creek Greenway and Restoration Plan	2005A-805	8/8/2005	$30,000	Non-profit	Watauga	New
Nature Conservancy - Acq/ Grandfather Mountain Profile Trail	2004B-025	8/8/2005	$687,000	Non-profit	Avery	Watauga
Nature Conservancy, The - Acq/ Adirondack Tract, Shaken Creek Tributaries	2005A-008	8/8/2005	$238,000	Non-profit	Statewide/Regional	Cape Fear
Nature Conservancy, The - Acq/ Davis Tract, Alligator River	2005B-023	11/14/2005	$1,025,000	Non-profit	Hyde	Tar-Pamlico
Nature Conservancy, The - Acq/ Troutman Tract, Drowning Creek	2005A-010	8/8/2005	$475,000	Non-profit	Hoke	Cape Fear

Application Name	Project Number	Approval Date	Amount Funded	Applicant Type	County	River Basin
NC Coastal Federation - Acq/ Jones Island, White Oak River	2005B-025	11/14/2005	$550,000	Non-profit	Onslow	White Oak
NC Coastal Federation - Mini/ Weyerhaeuser Tract, Newport River	2005M-002	8/8/2005	$25,000	Non-profit	Carteret	White Oak
NC Coastal Federation - Plan/Acq/ Currituck Sound Protection Plan	2005A-806	8/8/2005	$40,000	Non-profit	Currituck	Pasquotank
NC Coastal Federation - Storm/ Old Hammocks Beach Ferry Terminal, ICW	2005A-703	8/8/2005	$155,000	Non-profit	Onslow	White Oak
NC Coastal land Trust - Acq/ Cherry Point, Piney Island	2005A-012	8/8/2005	$3,000,000	Non-profit	Statewide/Regional	Neuse
NC Coastal Land trust - Acq/ Clarendon Tract, Mallory Creek	2005B-026	11/14/2005	$2,612,000	Non-profit	Brunswick	Cape Fear
NC Coastal Land Trust - Acq/ Foy Tract, Foy Creek	2005B-027	11/14/2005	$1,342,000	Non-profit	Pender	Cape Fear
NC Coastal Land Trust - Acq/ Plum Creek Timberlands, NE Cape Fear River	2005A-013	8/8/2005	$346,000	Non-profit	Pender	Cape Fear
NC Coastal Land Trust - Acq/ Witdoeckt Tract, Town Creek	2005A-014	8/8/2005	$364,000	Non-profit	Brunswick	Cape Fear
NC Coastal Land Trust=Acq/ Davis Tract, Lower Cape Fear	2004B-029	8/8/2005	$1,556,000	Non-profit	Brunswick	Cape Fear
NC Coastal Land Trust-Acq/ Hughes Tract, upper Broad Creek	2004B-030	8/8/2005	$394,000	Non-profit	Craven	Neuse
NC Div Soil & Water Conservation-Acq/ Conservation Reserve Enhancement Program	2004B-040	11/14/2005	$2,759,000	State Agency	Statewide/Regional	Statewide/Regional
NC Environmental Health - Septic/ WaDE Program, Straight Pipe Elimination, Mountain Region	2005B-602	11/14/2005	$1,500,000	State Agency	Statewide/Regional	Statewide/Regional
NC Parks and Recreation - Acq/ Bower and Darnell Tracts, South Fork New River	2005B-028	11/14/2005	$2,270,000	State Agency	Ashe	New
NC Parks and Recreation - Acq/ Pegg Tract, Haw River	2005B-029	11/14/2005	$720,000	State Agency	Chatham	Cape Fear
NC Parks and Recreation - Acq/ Pru- and Plum Creek Timber Tracts, Lumber River State Park	2005A-018	8/8/2005	$2,000,000	State Agency	Robeson	Lumber
NC Parks and Recreation - Acq/ Sandy Run Savannah, Shelter Swamp	2005A-019	8/8/2005	$4,500,000	State Agency	Statewide/Regional	Cape Fear
NC Widlife Resources Commission-Acq/ Cashie River Tracts	2004B-042	8/8/2005	$440,000	State Agency	Bertie	Roanoke
NC Wildlife Resources Commission - Acq/ Bernhardt Tract, Walnut Branch	2005B-030	11/14/2005	$364,000	State Agency	Caldwell	Yadkin
NC Wildlife Resources Commission - Acq/ Folkstone Tract, Kings Creek	2005A-020	8/8/2005	$1,092,000	State Agency	Onslow	Cape Fear
NC Wildlife Resources Commission - Acq/ Johns River Loop Road Tract, Johns River	2005B-033	11/14/2005	$2,238,000	State Agency	Burke	Catawba
NC Wildlife Resources Commission - Acq/ Kannapolis Tract, Second and Sloan Creeks	2005A-022	8/8/2005	$2,522,000	State Agency	Rowan	Yadkin
NC Wildlife Resources Commission - Acq/ Marion Carter Tract, Silver Creek	2005A-023	8/8/2005	$2,188,000	State Agency	Burke	Catawba
NC Wildlife Resources Commission - Acq/ Owen Tract, Tumbull Creek	2005B-035	11/14/2005	$128,000	State Agency	Bladen	Cape Fear
NC Wildlife Resources Commission - Acq/ Roanoke Island Greenway, Amended Project	2005A-024	8/8/2005	$1,746,000	State Agency	Dare	Pasquotank
NCSU Cooperative Extension - Rest/ Watauga Restoration, Cove & Dutch Creeks; Elk River	2005A-401	8/8/2005	$561,000	State Agency	Statewide/Regional	Watauga
New Hanover County - WW/ Landfill Leachate Land Application, NE Cape Fear	2004B-513	8/8/2005	$155,000	Local Government - County	New Hanover	Cape Fear
New Hanover County Watershed Management Advisory Board - Minigrant/ Harrell Tract, Smith Creek	2005M-008	11/14/2005	$25,000	Local Government - County	New Hanover	Cape Fear
New Hanover Soil & Water Conservation District - Minigrant/ NHC Watershed Mgmt. Adv. Bd., Hewletts Creek	2005M-007	11/14/2005	$25,000	Local Government	New Hanover	Cape Fear
Orange Water & Sewer Authority - Acq/ Phase III, Cane Creek	2005A-026	8/8/2005	$130,000	Local Government	Orange	Cape Fear
Piedmont Land Conservancy - Acq/ Berry Tract, Hyco Lake	2005A-027	8/8/2005	$441,000	Non-profit	Caswell	Roanoke
Piedmont Land Conservancy - Acq/ Harris Tract, Mill Creek	2005B-040	11/14/2005	$199,000	Non-profit	Surry	Yadkin
Pikeville, Town of - WW/ Collection Rehabilitation, The Slough	2005A-505	8/8/2005	$750,000	Local Government - Municipal	Wayne	Neuse
Pilot View RC&D - Rest/ Mill Creek Restoration	2005B-406	11/14/2005	$292,000	Local Government	Forsyth	Yadkin
Pilot View RC&D, Inc. - Rest/ Shoals Restoration Project, Ararat River	2005A-402	8/8/2005	$488,000	Local Government	Surry	Yadkin
Plymouth, Town of - WW/ Sewer Rehabilitation, Roanoke River	2005B-511	11/14/2005	$1,992,000	Local Government - Municipal	Washington	Roanoke
Resource Institute, Inc. - Rest/ Mount Airy, Ararat River Restoration	2005B-407	11/14/2005	$1,847,000	Non-profit	Surry	Yadkin
RiverLink - Rest/ Swannanoa River and Tomahawk Branch Project	2005B-408	11/14/2005	$550,000	Non-profit	Buncombe	French Broad
Robeson County - Plan/Storm/ COMtech Management Systems, Raft Swamp / Agriculture	2005A-807	8/8/2005	$238,000	Local Government - County	Robeson	Lumber
Robeson County - Storm/ COMtech Development Project Phae II, Bear Swamp	2005B-706	11/14/2005	$1,195,000	Local Government - County	Robeson	Lumber
Rutherford Soil and Water Conservation District - Rest/ Ag BMPs & Cattle Exclusions, Broad River Tributaries	2005B-409	11/14/2005	$480,000	Local Government - County	Rutherford	Broad

Application Name	Project Number	Approval Date	Amount Funded	Applicant Type	County	River Basin
Sandhills Area Land trust - Acq/ Kinlaw Tracts, Cape fear	2005B-042	11/14/2005	$539,000	Non-profit	Columbus	Cape Fear
Sandhills Area Land trust - Acq/ Snipes and Turner Tracts, Cape Fear River	2005B-044	11/14/2005	$444,000	Non-profit	Cumberland	Cape Fear
Southern Appalachian Highlands Conservancy - Acq/ Christmount Tract, Swannanoa River	2005B-045	11/14/2005	$1,646,000	Non-profit	Buncombe	French Broad
Southern Appalachian Highlands Conservancy - Acq/ Roan Mountain Tract, Elk River	2005B-046	11/14/2005	$214,000	Non-profit	Avery	Watauga
Southern Appalachian Highlands Conservancy - Donated Mini/ Waynesville Watershed Stewardship, Allen Creek	2005D-011	8/8/2005	$25,000	Non-profit	Haywood	French Broad
Southern Appalachian Highlands Conservancy - Plan/Acq/ Great Smokies Pigeon River Riparian Corridor Plan	2005A-808	8/8/2005	$40,000	Non-profit	Haywood	French Broad
Southern Appalachian Highlands Conservancy - Plan/Acq/ South Toe River Riparian Corridor Plan	2005A-809	8/8/2005	$40,000	Non-profit	Yancey	French Broad
Southport, City of - WW/ Land Application Site, Discharge Elimination, Cottage Creek	2005B-513	11/14/2005	$1,686,000	Local Government - Municipal	Brunswick	Cape Fear
Southwestern RC&D - Rest/ Lake Logan Episcopal Center, West Fork Pigeon River	2005B-411	11/14/2005	$145,000	Local Government	Haywood	French Broad
Southwestern RC&D - Rest/Storm/ Bethel School Tract, Pigeon River	2005B-410	11/14/2005	$462,000	Local Government	Haywood	French Broad
Spring Lake, Town of - WW/ Treatment System Upgrade, Little River	2004B-516	8/8/2005	$822,000	Local Government - Municipal	Cumberland	Cape Fear
Surry Soil and Water Conservation District - Rest/ Fisher River Restoration Project	2005B-412	11/14/2005	$976,000	Local Government - County	Surry	Yadkin
Swain County - Septic/ Bryson Branch, Tuckasegee River	2005A-604	8/8/2005	$50,000	Local Government - County	Swain	Little Tennessee
Swansboro, Town of - Plan/Acq/ Watershed Protection Planning, Hawkins Creek	2005B-808	11/14/2005	$30,000	Local Government - Municipal	Onslow	White Oak
Swansboro, Town of - WW/ Wastewater Treatment Upgrades, Intracoastal Waterway	2005B-514	11/14/2005	$3,000,000	Local Government - Municipal	Onslow	White Oak
Tar River Land Conservancy - Acq/ Blackley Farm Tract, Tar River	2005B-048	11/14/2005	$527,000	Non-profit	Granville	Tar-Pamlico
Tar River Land Conservancy - Acq/ Huff Farm Tract, Bollens and Fishing Creeks	2005B-049	11/14/2005	$586,000	Non-profit	Granville	Tar-Pamlico
Tar River Land Conservancy - Acq/ Perry Tract, Sandy Creek	2005B-050	11/14/2005	$219,000	Non-profit	Franklin	Tar-Pamlico
Tar River Land Conservancy - Acq/ Thorp Tract, Fox Creek	2005B-051	11/14/2005	$306,000	Non-profit	Granville	Tar-Pamlico
Tar River Land Conservancy - Acq/ Wood Farm Tract, FRPP, Sandy Creek	2005B-052	11/14/2005	$345,000	Non-profit	Franklin	Tar-Pamlico
Triangle Greenways Council - Acq/ Young Heirs Tract, Walnut Creek	2005A-030	8/8/2005	$65,000	Non-profit	Wake	Neuse
Triangle Greenways Council - Minigrant / Joe Lee Tract, Walnut Creek	2005M-006	11/14/2005	$13,600	Non-profit	Wake	Neuse
Triangle Land Conservancy - Acq/ Hanson Aggregates Tract, Deep River	2005B-053	11/14/2005	$150,000	Non-profit	Chatham	Cape Fear
Triangle Land Conservancy - Donated Mini/ Mullen Tract, Borland Creek	2005D-008	8/8/2005	$21,100	Non-profit	Orange	Cape Fear
Triangle Land Conservancy - Donated Mini/ Wilson Tract, Borland Creek	2005D-009	8/8/2005	$24,700	Non-profit	Orange	Cape Fear
Troy, Town of - Mini/ Phase VI, Densons & Dumas Creeks	2005M-003	8/8/2005	$25,000	Local Government - Municipal	Montgomery	Yadkin
Tuckaseigee Water and Sewer Authority - WW/ Collection System Rehabilitation, Cope Creek	2005B-515	11/14/2005	$2,000,000	Local Government - County	Jackson	Little Tennessee
Upper Callasaja Watershed Association - Plan/Rest/ Watershed Protection Plan	2005A-810	8/8/2005	$40,000	Non-profit	Macon	Little Tennessee
Valle Crucis Park, Inc. - Rest/ Watauga Park Greenway Restoration	2004B-404	8/8/2005	$107,000	Non-profit	Watauga	Watauga
Wake County - Acq/ Sandy Branch Tract, Mark's Creek	2005B-054	11/14/2005	$190,000	Local Government - County	Wake	Neuse
Wake County-Acq/ Southeast County Park, Middle Creek	2004B-055	8/8/2005	$714,000	Local Government - County	Wake	Neuse
Wallace, Town of - WW/ Rockfish Creek Project, Amended	2005A-507	8/8/2005	$2,211,000	Local Government - Municipal	Duplin	Cape Fear
Watershed Association of the Tuckasegee River - Plan/Rest/ Savannah Creek Watershed Action Plan	2005A-811	8/8/2005	$40,000	Non-profit	Jackson	Little Tennessee
Western Piedmont Council of Governments - Plan/Acq/ Hickory Metro Comprehensive Recreation Based Economic Development Initiative	2005A-812	8/8/2005	$68,000	Local Government	Statewide/Regional	Statewide/Regional
Wilson County - Plan/WW Regionalization Feasibility Study	2005B-811	11/14/2005	$40,000	Local Government - Municipal	Wilson	Neuse
Wilson, City of - Plan/Acq/ Contentnea Creek Management Planning	2005B-810	11/14/2005	$27,000	Local Government - Municipal	Wilson	Neuse
Total Funded in Calendar Year 2005			$112,701,200			

cleanwater
MANAGEMENT TRUST FUND

North Carolina's Clean Water Management Trust Fund



Yadkin River Basin Fact Sheet

Protecting North Carolina's Water Quality for 10 Years

The 1996 General Assembly of North Carolina established the Clean Water Management Trust Fund (CWMTF) to help local governments, state agencies and conservation non-profit groups finance projects to protect and restore surface water quality. Since 1996 -- thanks to appropriations from the General Assembly -- the CWMTF has awarded 781 grants for a total of $595.8 million. CWMTF grants have leveraged over $906 million in private and other public funds.

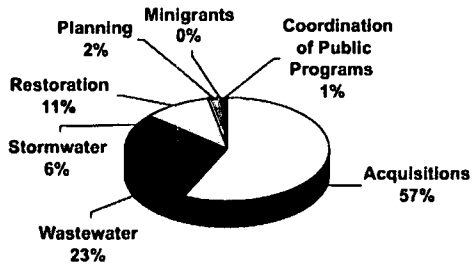
The CWMTF provides grants to:

- Enhance or restore degraded waters
- Protect unpolluted waters
- Contribute toward a network of riparian buffers and greenways for environmental, educational, and recreational benefits.

Who is eligible to apply?

- Local governments
- State agencies
- Conservation non-profits

Amount Funded by Primary Purpose (1997A-2005B)



CWMTF and the Yadkin River Basin A Valuable Resource

Numbers of Water Quality Grants in the Yadkin Since 1996:

- 87 grants totaling $62 million
- 12 Grants in Montgomery County totaling nearly $6.2 million
- Town of Troy: Seven grants totaling almost $2 million
- Town of Biscoe: two grants totaling $516,000

Types of Projects Funded:

- Improvements to wastewater treatment & collection systems; upgrades, decomissioning of plants, reuse
- Septic tank and straightpipe removal
- Acquisition of buffers, floodplains, wetlands, and greenways
- Repair of septic tanks and removal of straight-pipes
- Wetlands, riparian buffer and stream restoration

cleanwater
MANAGEMENT TRUST FUND

North Carolina's Clean Water Management Trust Fund

BADIN LAKE SEWER PROJECT

Project Partners:

- ***Clean Water Management Trust Fund: $3 million***
- NCDENR Construction Loans and Grants Program: $7 million
- Tap-on Fees - $2 million
- Private Market: $ 1.8 million

Total cost - $13.8 million

Project Water quality benefits:

The project will significantly improve water quality in Lake Badin by reducing the amount of pollution flowing into it from leaky septic tanks and straightpipes. It will also reduce stormwater runoff pollution from the Uwharrie Point and Badin Shores wastewater treatment facilities.

What the project involves:

- 1,200 septic tanks and straightpipes in lakefront communities from the Uwharrie Point peninsula east to the Shamrock development will be removed from use.
- Two land application wastewater treatment facilities will be closed/decommissioned.
- 50 miles of new sewer lines will be installed to serve 2,100 homes.
- Wastewater from the area will be treated by the Town of Troy.

CWMTF Quick Facts

•CWMTF is a voluntary, incentive-based water quality program.
•A 21-member Board of Trustees appointed by the Governor and General Assembly review and fund/not fund all applications for grants.
•CWMTF funds about one third of the requests that it receives.
•CWMTF funds have leveraged over $906 million in private and other public funds.
•The CWMTF has invested over $338.3 million in 331 projects to help local governments, state agencies, and land trusts acquire both conservation easements and land to protect riparian buffers, floodplains and wetlands from Lake Logan in Haywood County to Bird Island in Brunswick County.
•CWMTF grants have contributed towards the protection of more than 317,529 acres and 3,612 miles of riparian buffers.
•CWMTF's grants enhance North Carolina's quality of life and economy in addition to protecting water quality.
•CWMTF estimates that over $15 billion is needed to protect and restore water quality in North Carolina.

For more information, contact Lisa Schell at (919) 716-0057 or visit www.cwmtf.net

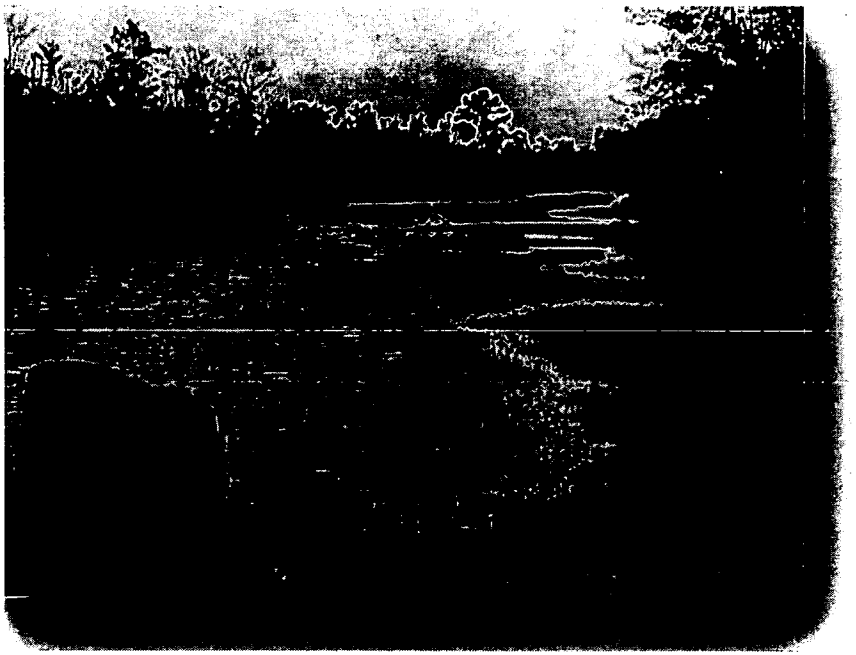
Clean Water Management Trust Fund
Annual Report 2005

Bill Holman
Environmental Review Commission
March 14, 2006

EXHIBIT H

CWMTF Mission – As Legislated

- Restore / enhance degraded waters
- Protect / conserve unpolluted waters
- Eliminate water pollution
- Create network of riparian buffers and greenways
- Fund innovative systems as demonstrations
- Not strictly conservation

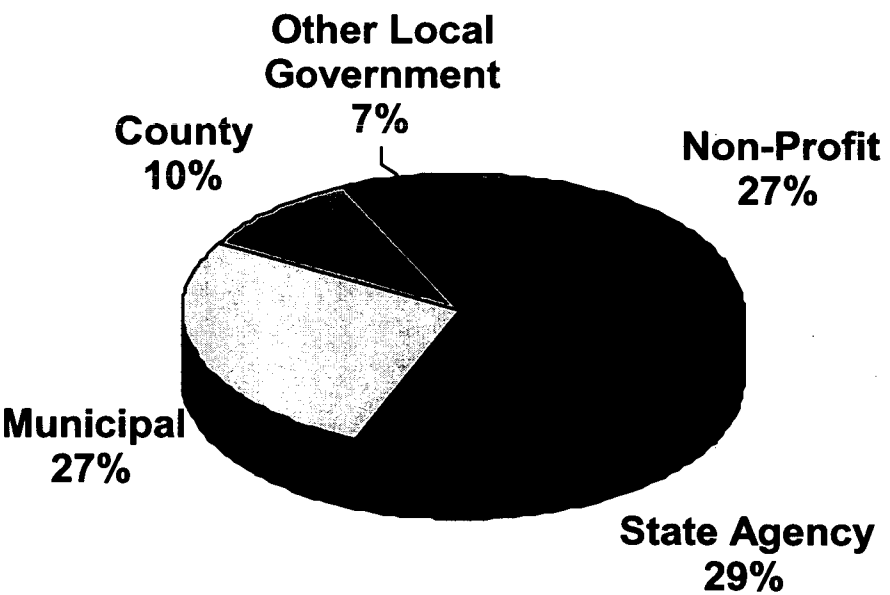


cleanwater
MANAGEMENT TRUST FUND

CWMTF Background

- Who Can Apply?
  - State Agencies
  - Municipalities, Counties and Other Local Govt. Agencies
  - Conservation Non-Profits

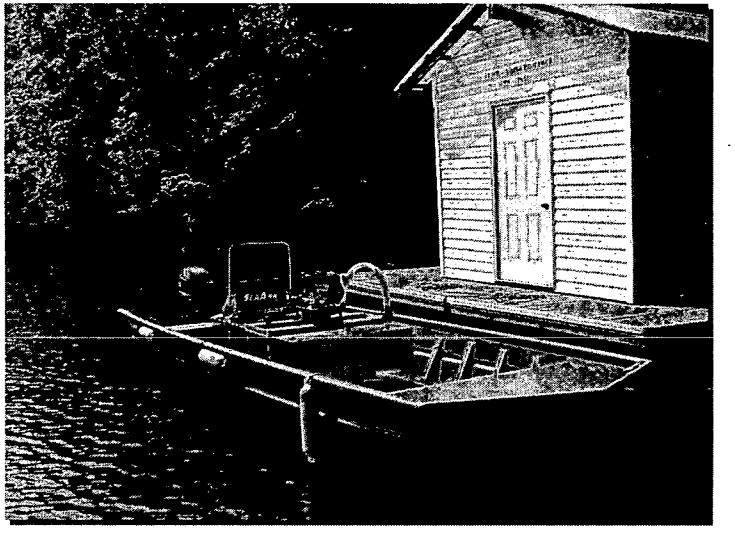
Amount Funded by Applicant Type



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MANAGEMENT TRUST FUND

CWMTF Background

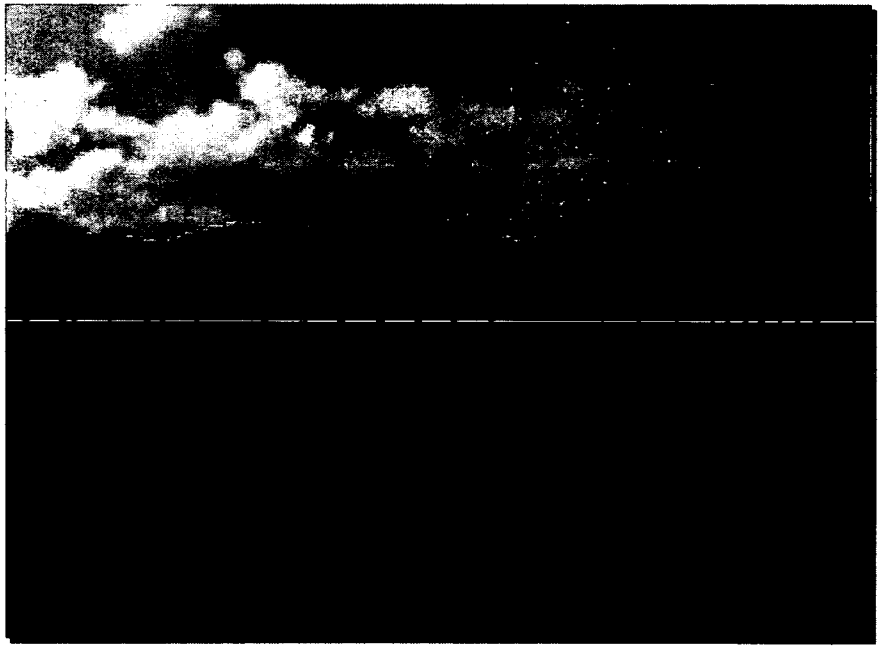
- What can be Funded?
  - Conservation Easements/Land Acquisitions
  - Stream and wetlands Restoration
  - Wastewater Treatment Improvements
  - Stormwater Management
  - Project Planning



cleanwater
MANAGEMENT TRUST FUND

The Numbers

- 3,612 miles of riparian buffers, and 317,529 acres preserved and protected
- Over $338,300,000 invested in land and water conservation
- 102 riparian buffer, stream and wetland restoration projects funded totaling over $63,800,000

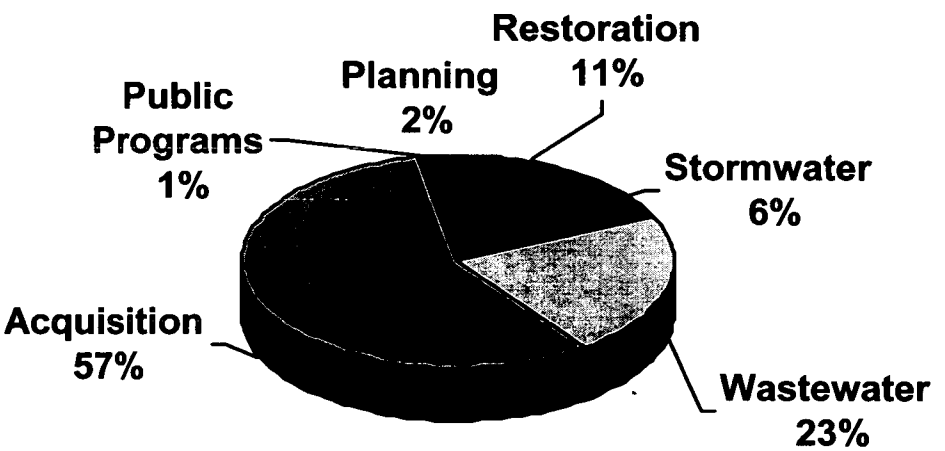


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MANAGEMENT TRUST FUND

CWMTF Funded Projects

- 781 grants since 1996
- $595.8 million in awarded grants
- Leveraged over $906.9 million in public and private funds

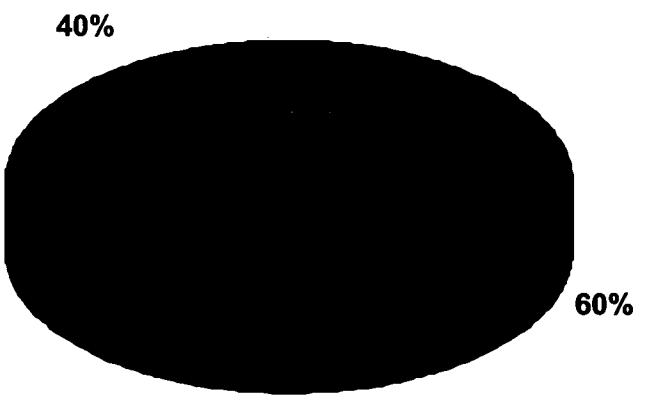
Amount Funded - Primary Purpose



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MANAGEMENT TRUST FUND

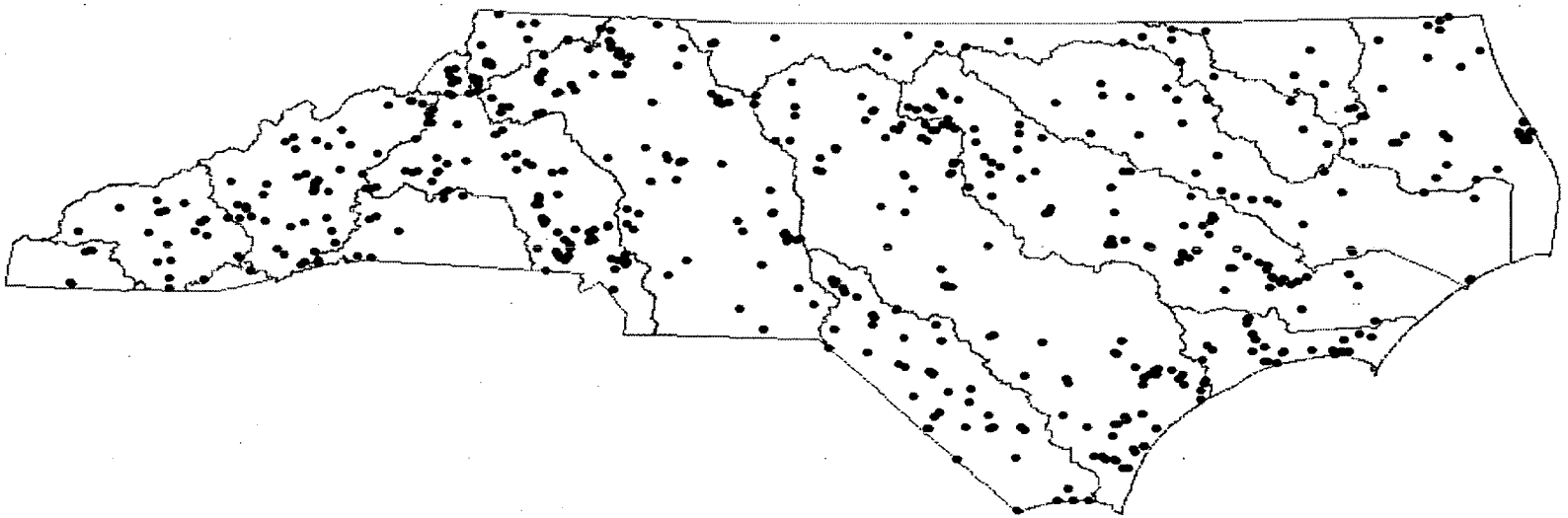
Matching Funds Summary (1997A-2005B Cycles)

Total Project Cost	Total Amount CWMTF Funded	Total Amount Match	Overall % Match
$1,502,723,662	$595,788,003	$906,935,659	60%



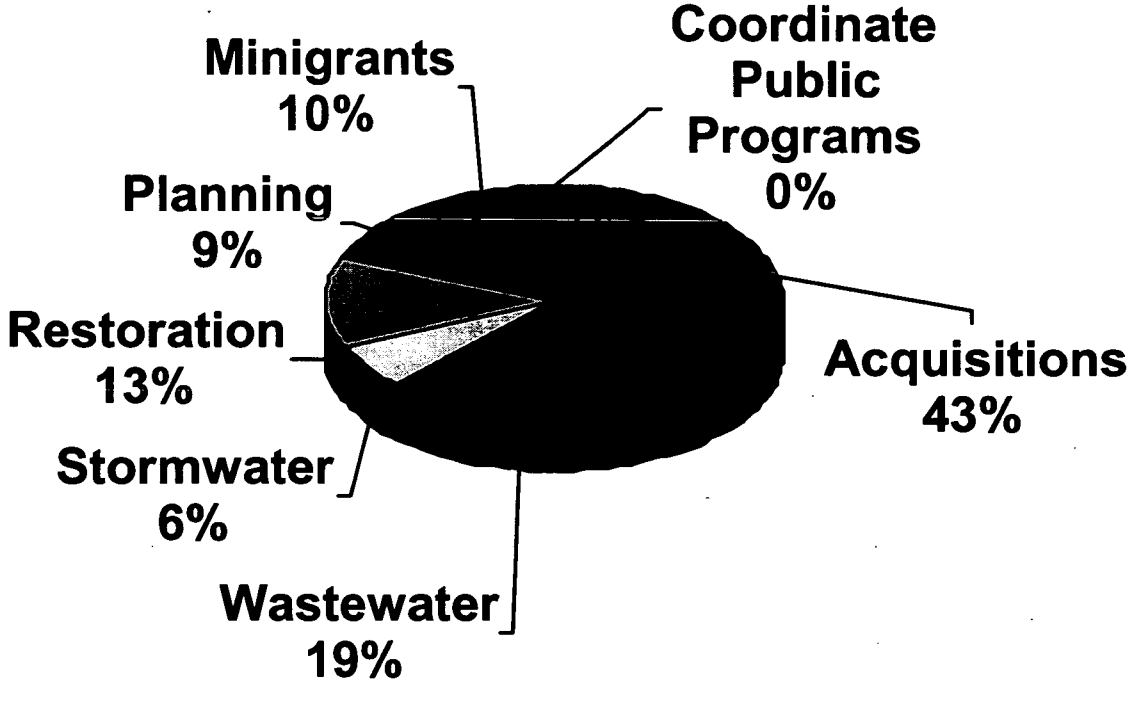
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MANAGEMENT TRUST FUND

CWMTF Funded Projects 1997-2005



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MANAGEMENT TRUST FUND

Number of Projects by Primary Purpose (1997A-2005B)



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MANAGEMENT TRUST FUND

Funded Projects Summarized by Primary Purpose (1997A-2005B Cycles)

Primary Purpose	Number Projects	Amount Funded	Notes
Acquisition	331	$338,300,744	Includes fee simple, easements, and greenways.
Coordinate Public Programs	3	$5,750,000	
Minigrants	76	$1,678,627	
Planning	72	$10,935,297	
Restoration	102	$63,857,976	Includes stream restoration, ag BMPs, and other types of ecological restoration
Stormwater	49	$36,944,982	
Wastewater	148	$138,320,377	
Total	781	$595,788,003	

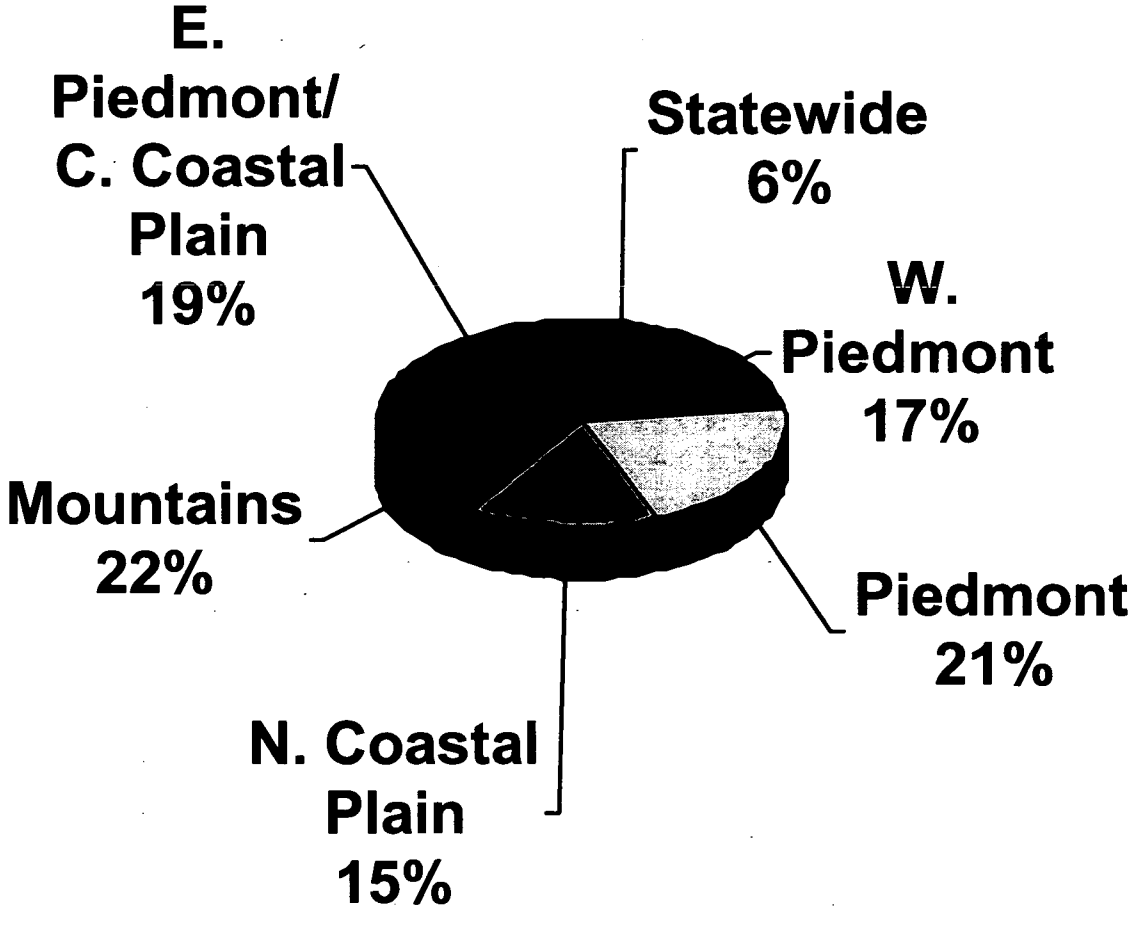
cleanwater
MANAGEMENT TRUST FUND

Wastewater Subcomponents (1997A-2005B Cycles)

Wastewater Subcomponents	Number Projects	Wastewater Subcomponents	Number Projects
Sewer System Repair	46	Elimination of Permitted Discharge	19
Wastewater Collection System	38	Reuse	15
WWTP Repair	26	Repair Failing Septic Systems and Elimination of Straight Pipes	13
Nondischarge of Waste (incl. Land App)	23	Backup Generation	9
Decommission WWTP and Reroute Waste	21		

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MANAGEMENT TRUST FUND

Amount Funded by Region (1997A-2005B)



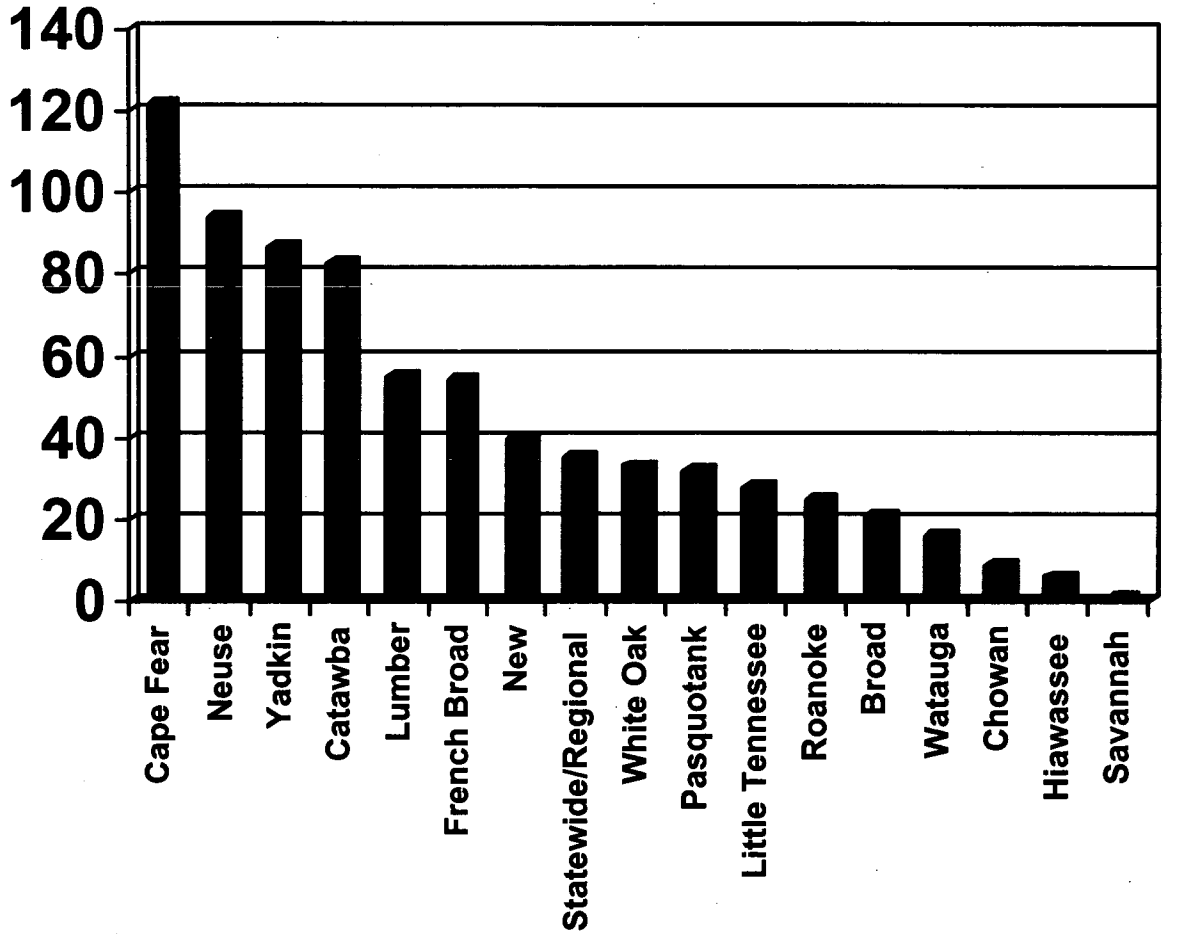
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MANAGEMENT TRUST FUND

Funded Projects Summarized by Region (1997A-2005B Cycles)

Region Name	Region Abbreviation	Number Projects	Amount Funded
Central Piedmont/Southern Coastal Plain	CP/SCP	175	$124,822,102
Eastern Piedmont/Central Coastal Plain	EP/CCP	144	$111,003,505
Mountains	M	170	$136,296,454
Northern Coastal Plain	NCP	90	$88,245,131
Statewide/Regional	S/R	23	$34,813,056
Western Piedmont	WP	179	$100,607,755
	Total	781	$595,788,003

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MANAGEMENT TRUST FUND

Number of Projects Funded by River Basin (1997A-2005B)



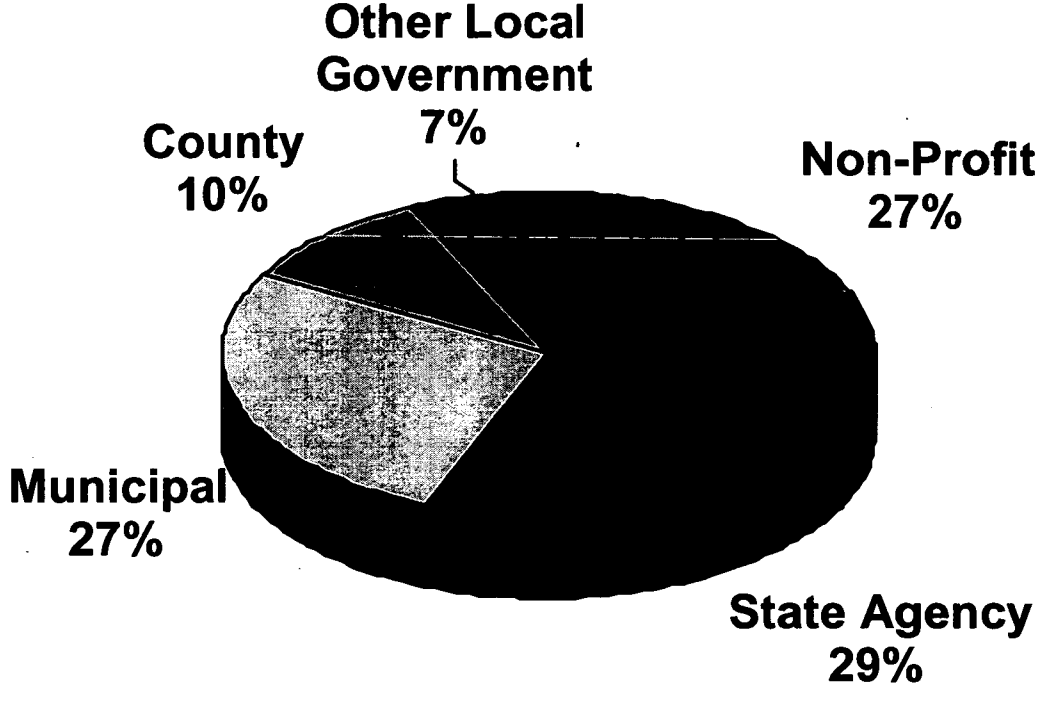
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MANAGEMENT TRUST FUND

Funded Projects Summarized by River Basin (1997A-2005B Cycles)

River Basin	Number Projects	Amount Funded
Cape Fear	122	$94,687,700
Neuse	94	$74,261,170
Yadkin	87	$62,015,900
Catawba	83	$52,834,123
Lumber	55	$31,136,402
French Broad	54	$48,024,669
New	40	$11,326,632
Tar-Pamlico	40	$30,376,060
Statewide/Regional	35	$43,561,506
White Oak	33	$32,590,141
Pasquotank	32	$31,341,005
Little Tennessee	28	$25,893,967
Roanoke	25	$17,010,100
Broad	21	$19,115,890
Watauga	16	$7,533,928
Chowan	9	$9,352,810
Hiwassee	6	$3,851,000
Savannah	1	$875,000
Total	781	$595,788,003

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Amount Funded by Applicant Type (1997A-2005B)



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MANAGEMENT TRUST FUND

Funded Projects Summarized by Applicant Type (1997A-2005B Cycles)

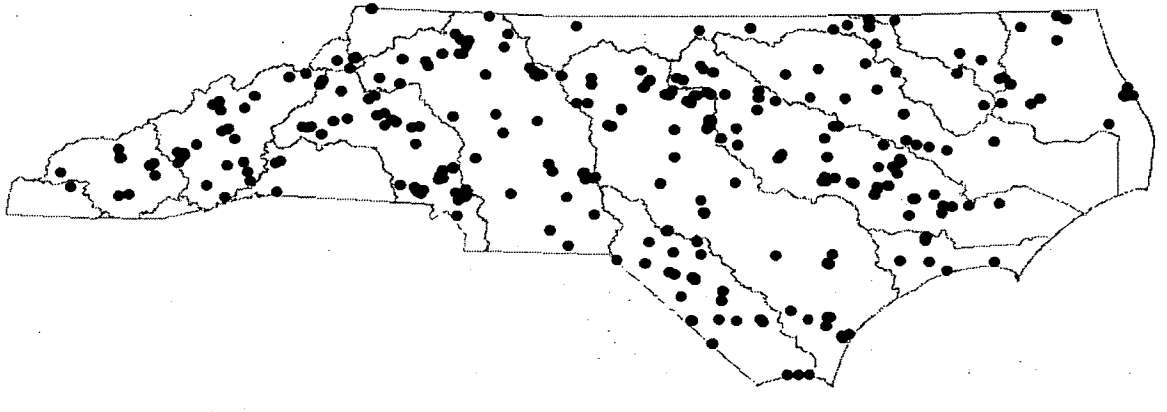
Applicant Type	Number Projects	Amount Funded
Local Government Total	373	$263,085,414
Municipal	219	$162,781,910
County	91	$60,039,300
Other Local Govt	63	$40,264,204
State Agency	111	$172,086,335
Non-Profit	297	$160,616,254
Total	781	$595,788,003

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MANAGEMENT TRUST FUND

Local Government Funding

- $263 million to local governments
- 373 grants
- Over 44 percent of the grants issued
- Projects in all 17 river basins

CWMTF Grants to Local Governments



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MANAGEMENT TRUST FUND

Local Government Funding

Numbers of Grants Made to Municipalities, Counties, Other Local Government Agencies

- 142 local governments assisted with wastewater improvements
- Over $134.4 million invested to reduce spills from leaky sewers and to more effectively treat wastewater
- CWMTF has funded 49 stormwater treatment projects for a total of $36.9 million



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MANAGEMENT TRUST FUND

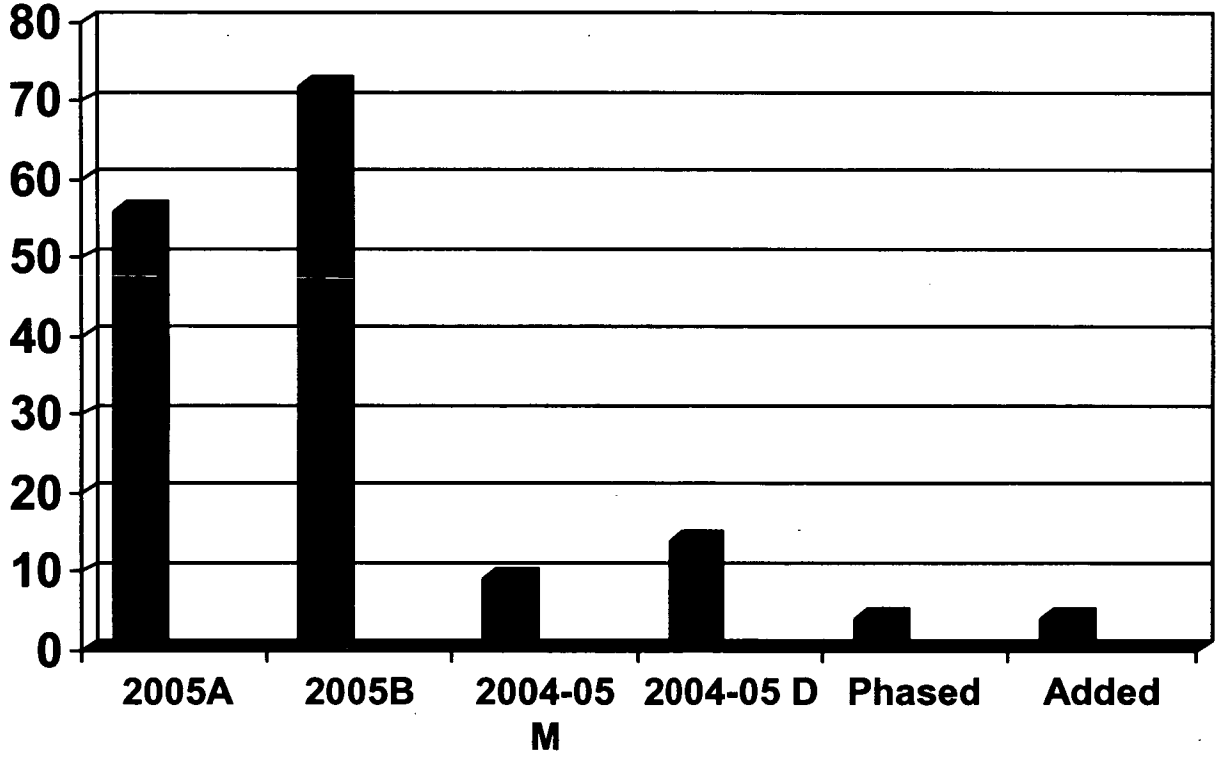
2005 Summary of Projects

Projects Reviewed:

- Spring Cycle: Reviewed **116 applications** requesting **$137.4 Million**
- Fall Cycle: Reviewed **121 applications** requesting over **$114.6 Million**
- Total Reviewed in 2005: ***237 applications requesting over $252 Million***

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MANAGEMENT TRUST FUND

Number of New Projects Funded (2005)



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MANAGEMENT TRUST FUND

Funded Projects During 2005 Calendar Year

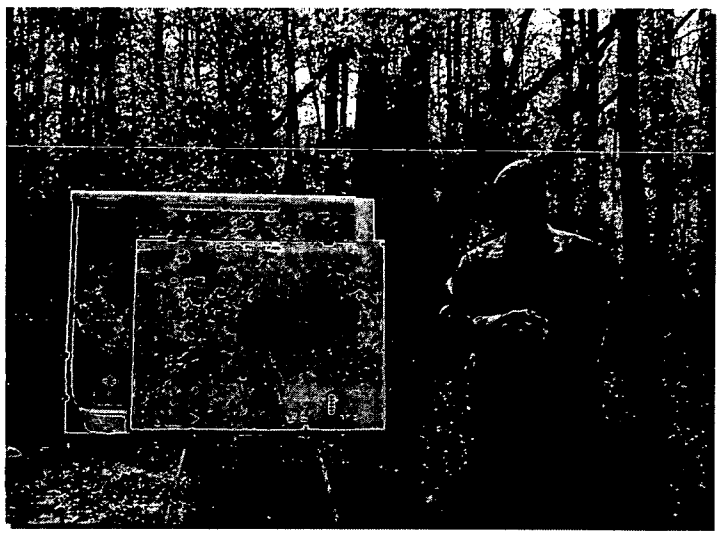
	Number Projects	Amount Funded	Comments
2005A	55	$43,601,000	Regular Spring Cycle
2005B	73	$58,456,000	Regular Fall Cycle
2004-05M	9	$192,600	Standard Minigrants
2004-05D	14	$282,600	Donated Conservation Easement Minigrants
Phased	4	$8,313,000	Phased Funding For 4 Previously Approved Projects
Added	4	$1,847,000	Additional Funding For 4 Previously Approved Projects
Total	**159**	**$112,692,200**	
Total New Projects Excluding Additional and Phased Funding	**151**	**$102,532,200**	

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MANAGEMENT TRUST FUND

2005 Project Highlights - Military Protection

CWMTF invested a total of $12.3 million in clean water/military protection in 2005.

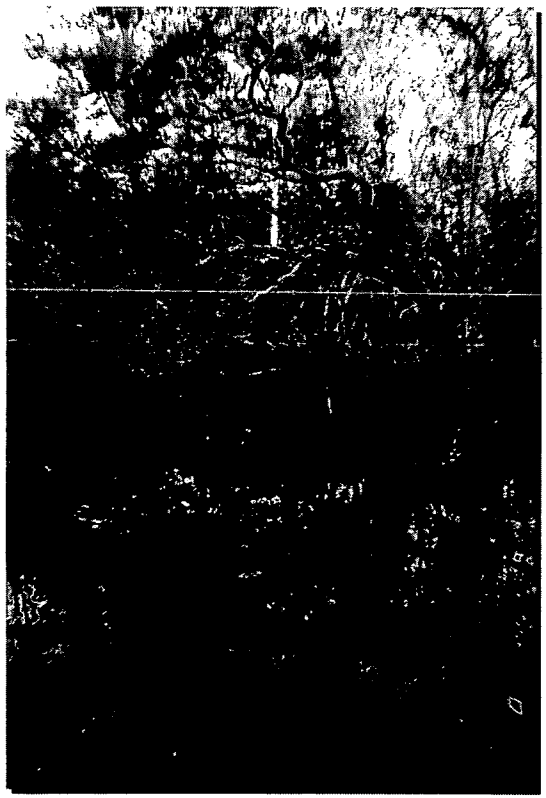
- August Action:
  - –Six clean water/military protection projects
  - –All four major bases



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MANAGEMENT TRUST FUND

2005 Project Highlights - Clarendon & Davis Tracts

- Protection of **lower Cape Fear River in Brunswick County**
- $1.5 million CWMTF grant for easement on the Davis tract
- $2.6 million grant for easement on the Clarendon tract
- CWMTF and NCCLT's partnership have protected 10,353 acres including much of Town Creek valued at $74.4 million since 1997



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MANAGEMENT TRUST FUND

2005 Project Highlights - Partnership with NCDPR

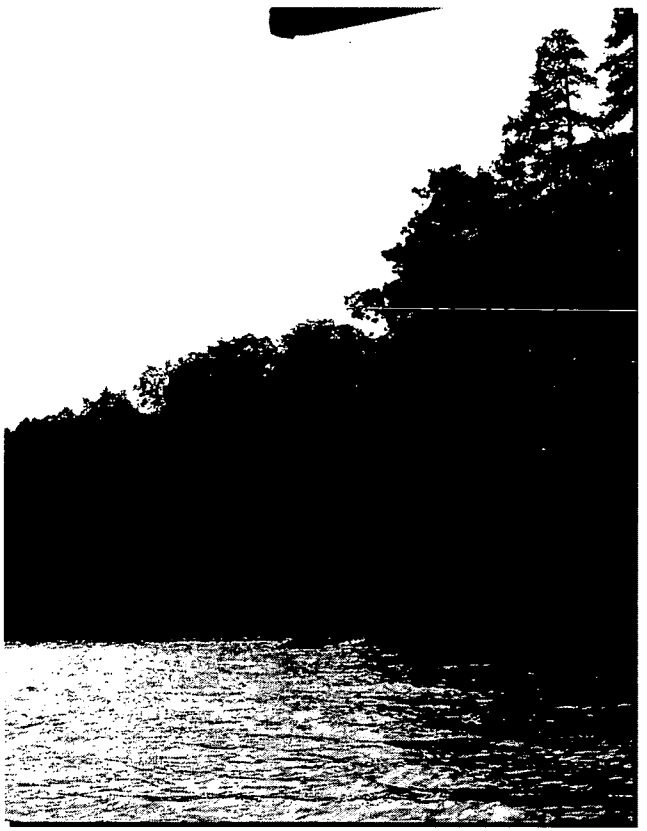
- CWMTF grants helped acquire Worlds Edge, the first tract for the new **Hickory Nut Gorge State Park**
- $2,270,000 to help expand **New River State Park** in Ashe County
- $720,000 to improve public access and help protect the **Haw River** in Chatham County



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MANAGEMENT TRUST FUND

2005 Project Highlights - Mt. Island Lake

- $639,000 grant to match local funds to address **stormwater in Caldwell Station Creek in the Mountain Island Lake** watershed
- Continuation of long partnership with Mecklenburg Co.



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MANAGEMENT TRUST FUND

2006 Grant Cycles

- Spring Cycle currently under review
  - 135 new applications requesting over $212.8 million
  - 16 deferred applications totaling $31.7 million
- Fall Cycle closes June 1

cleanwater
MANAGEMENT TRUST FUND

North Carolina Clean Water Management Trust Fund

Website: www.cwmtf.net

- Application forms
- Funding criteria
- Press releases
- Project highlights
- Meeting schedules

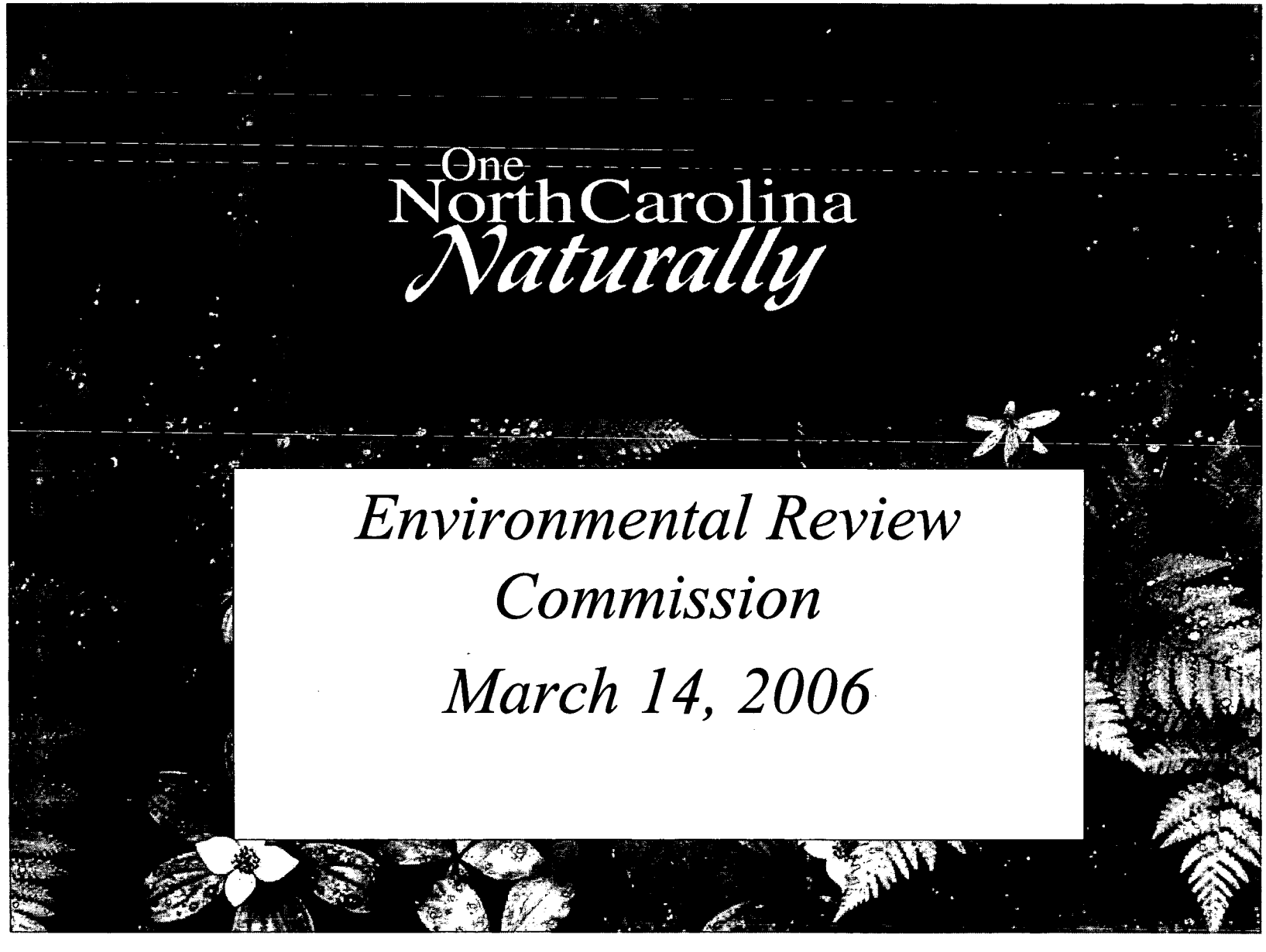
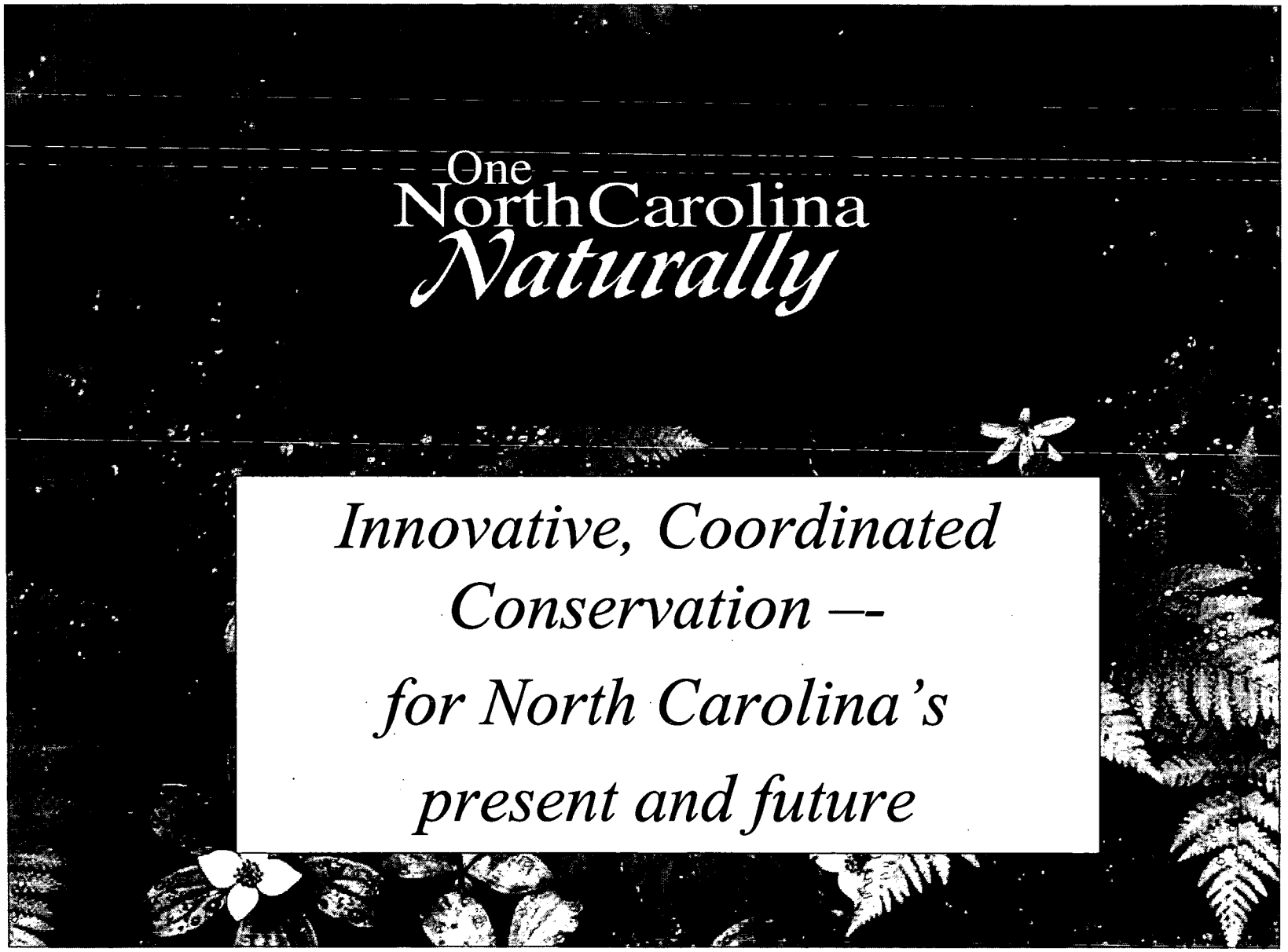

One
NorthCarolina
Naturally
Environmental Review
Commission
March 14, 2006

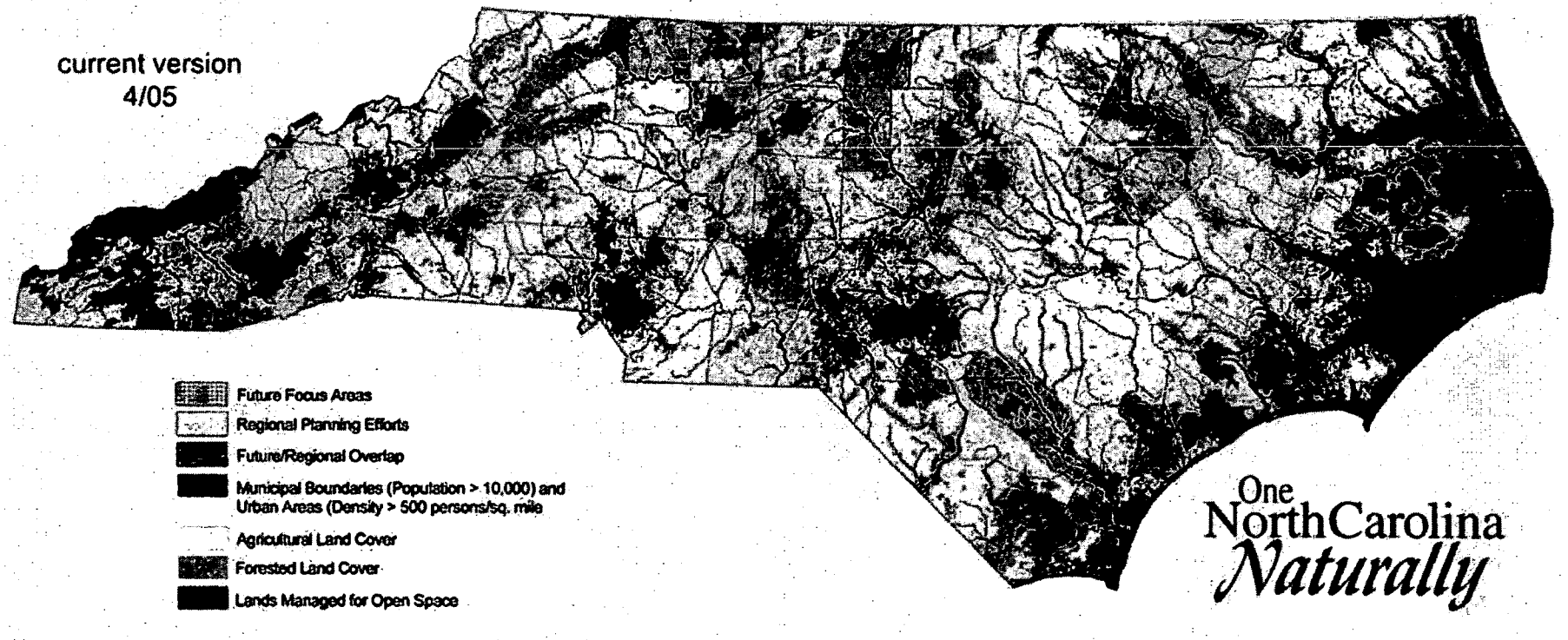
EXHIBIT I

Overview

- North Carolina's Changing Landscape
- Conservation Planning - Why?
- Million Acres Report
- Conservation Easement Program


One
North Carolina
Naturally
Innovative, Coordinated
Conservation —
for North Carolina's
present and future

Coordinated, Focused & Effective Planning



WHY BOTHER?

NC's Changing Landscape

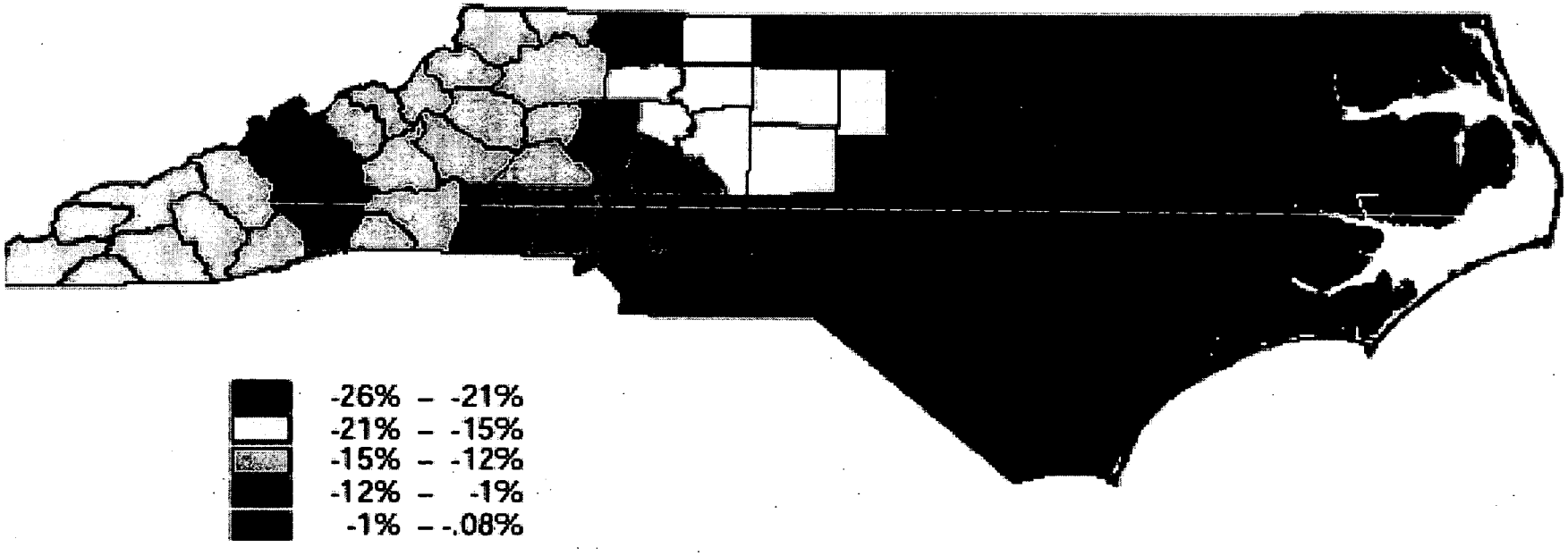


North Carolina's population will increase 50% by 2030. from 8 to 12 million

NC has one of the highest conversion rates of forest & farm land in the country. We lose 383 acres per day.

2 acres of farm and forest land is developed for every person coming to NC.

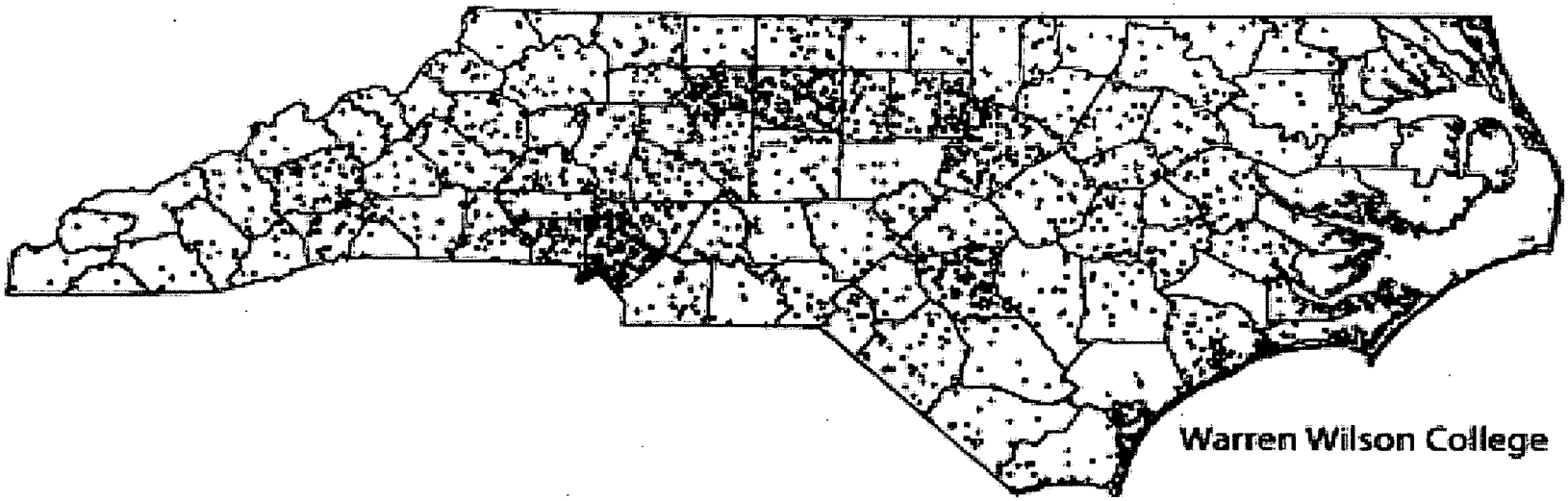
We are rapidly losing our Open Space.



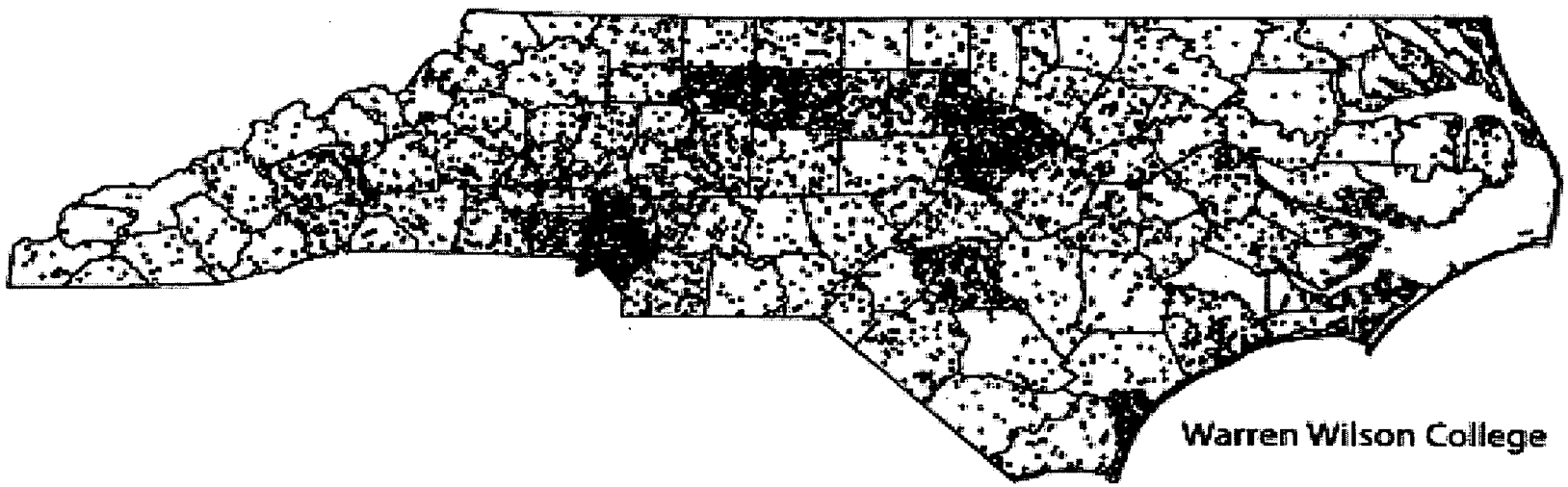
Map 1. Percent Loss of Total Crop and Forest Land, 1982-2002

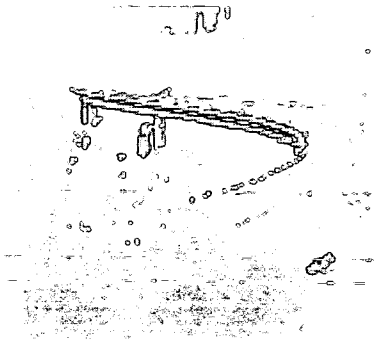
Source: NCPIRG www.ncpirg.org

North Carolina's 1980 population: 5.8 million

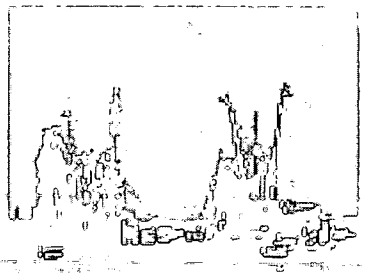


North Carolina's projected 2030 population: 12.2 million

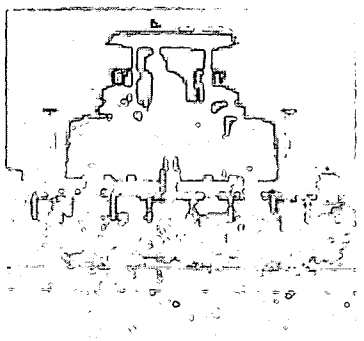




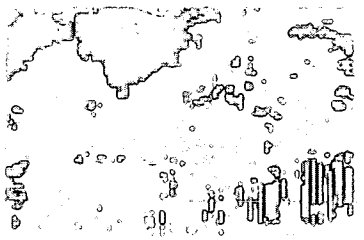
$13 billion industry
49 million visitors, primarily for our outstanding natural resources



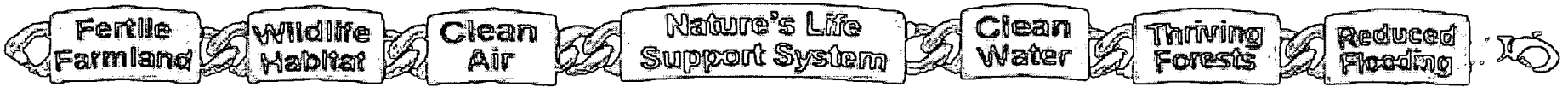
$1 billion industry



$62.5 billion industry
22% of the state's income
20% of the work force



$13 billion
10% of the work force


Fertile Farmland
Wildlife Habitat
Clean Air
Nature's Life Support System
Clean Water
Thriving Forests
Reduced Flooding

Conservation Planning….

- Provides the ability to view the network of natural system that will sustain us now and into the future.
  - Assist in identification of the conservation needs in the state.
  - Provides the ability to prioritize conservation
  - Provides the opportunity for resources to be spent effectively

Conservation Planning...

- Provides the state the ability to take multiple plans from state agencies, local governments and NGOs.
  - Provides a resource with a large number of conservation interests captured.
- Provides mechanism to keep track of conservation

Conservation Planning...

- Provides the opportunity to integrate conservation planning with development
- Provides a resource to advocate for Conservation funding at the federal, state and local levels of Government.

Million Acres Report 2005

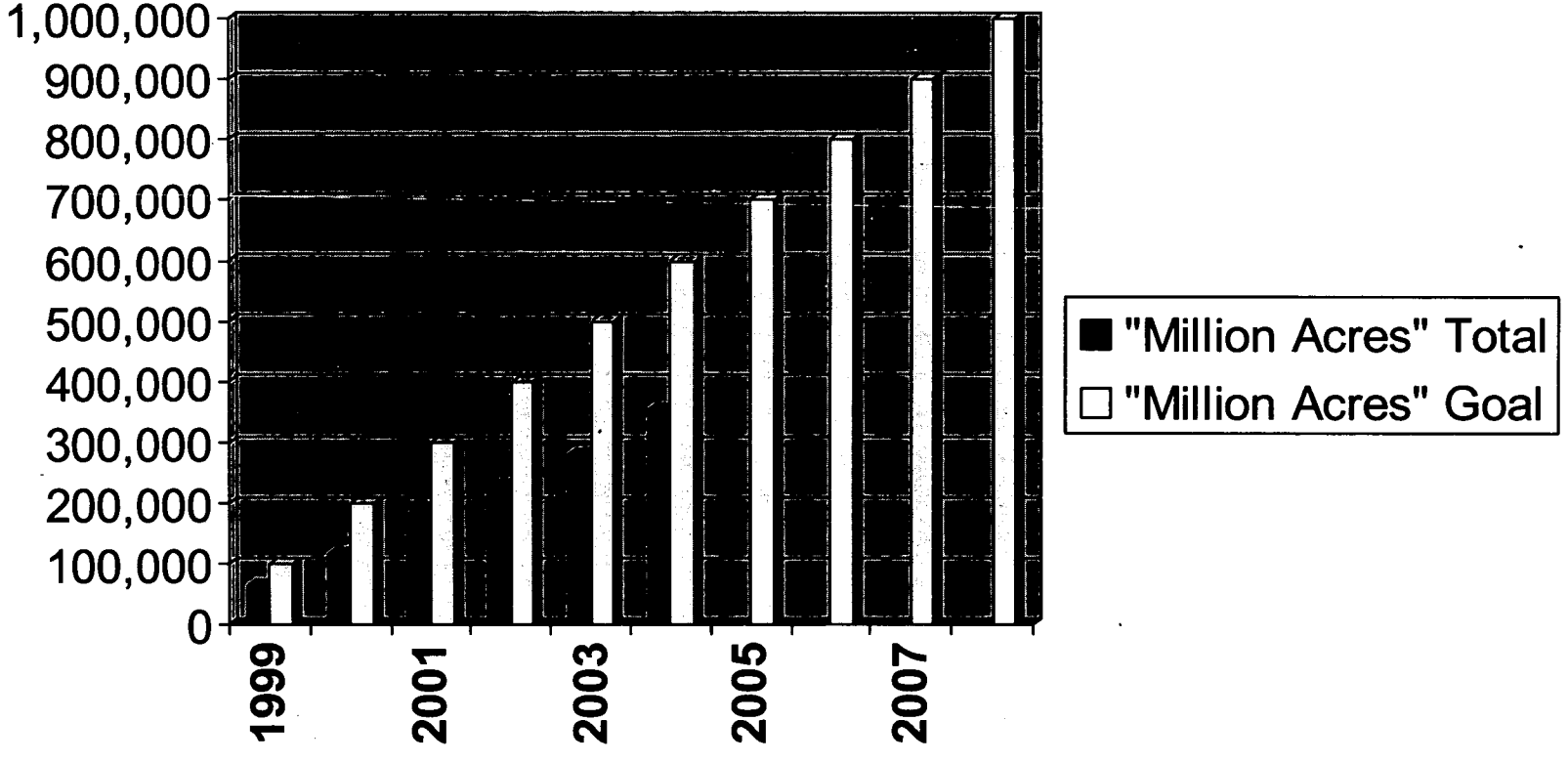
Program Overview

- General Assembly establishes Million Acres Initiative in 1999
  - Requires permanent conservation measures
  - 10 years allowed to acquire additional million acres 1999 - 2009.

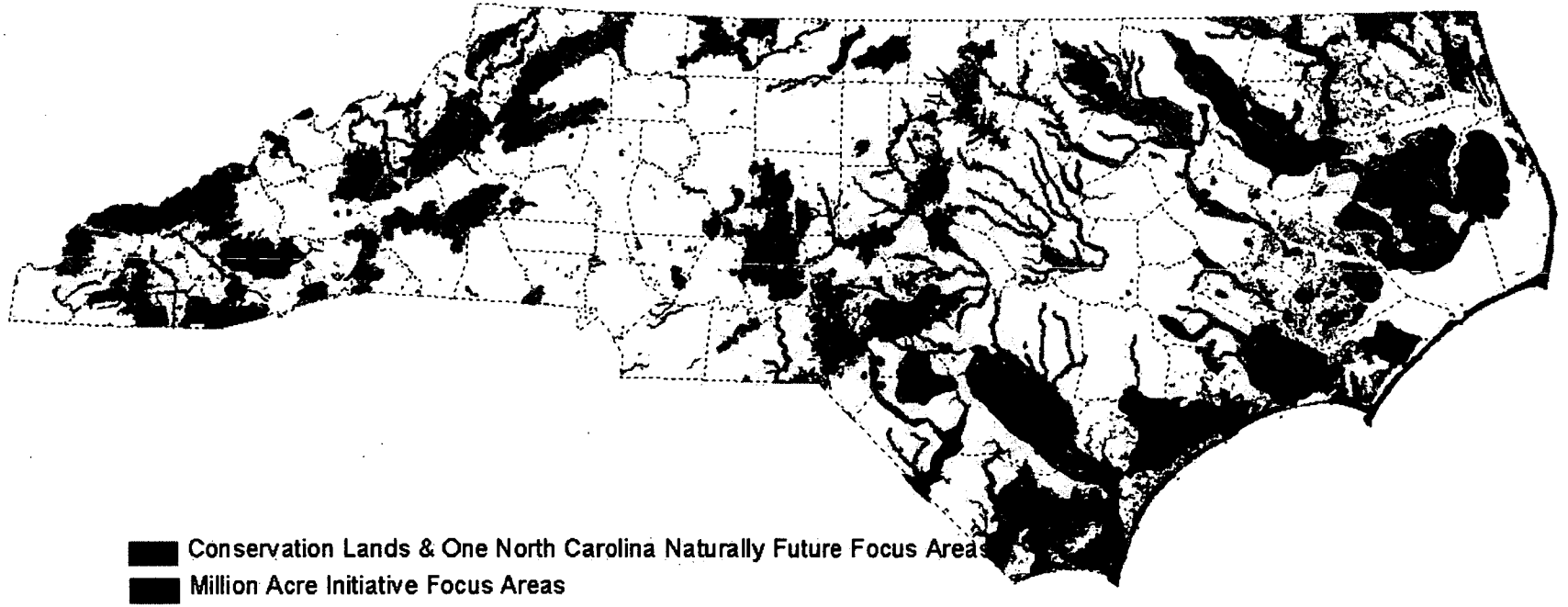
The Numbers

- 2004 Acre total 71,451 acres
- Total since January 1999 352,090 acres

Progress Toward the Goal

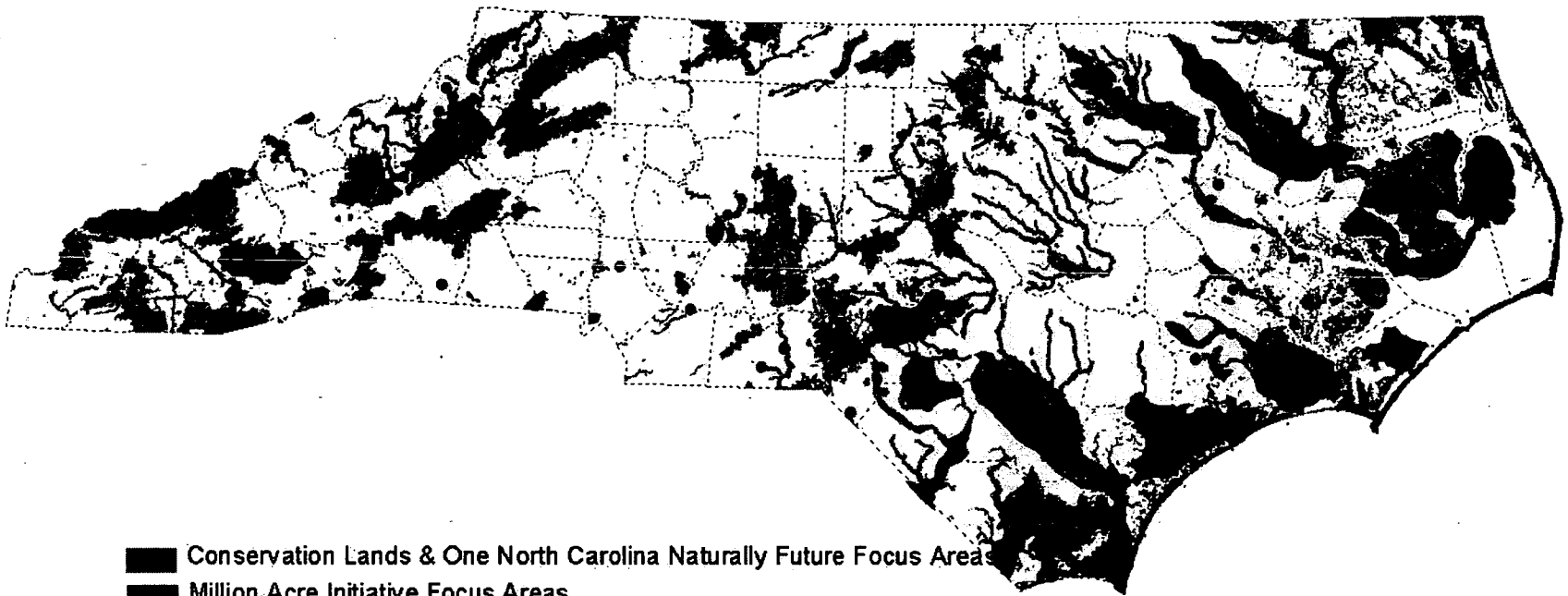


Draft Million Acres Plan
Office of Conservation and Community Affairs
January 2005 Scale 1:5,000,000

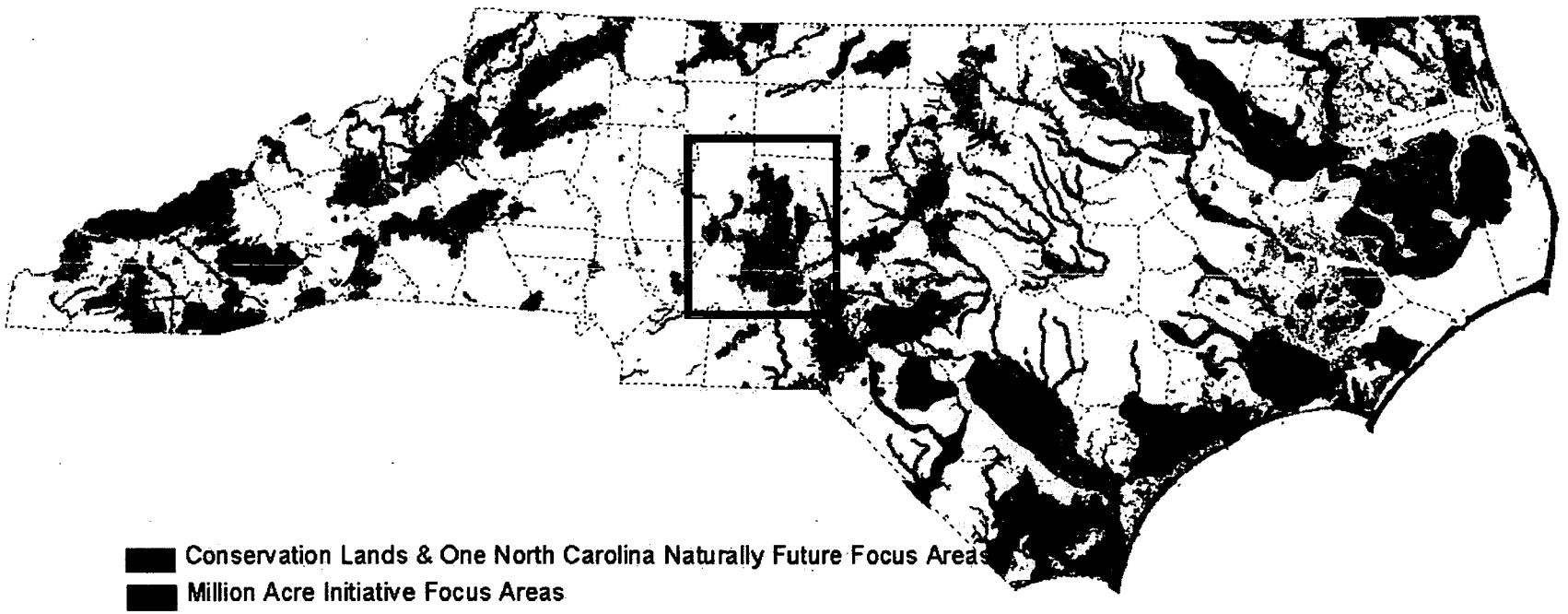


Conservation Lands & One North Carolina Naturally Future Focus Areas
Million Acre Initiative Focus Areas

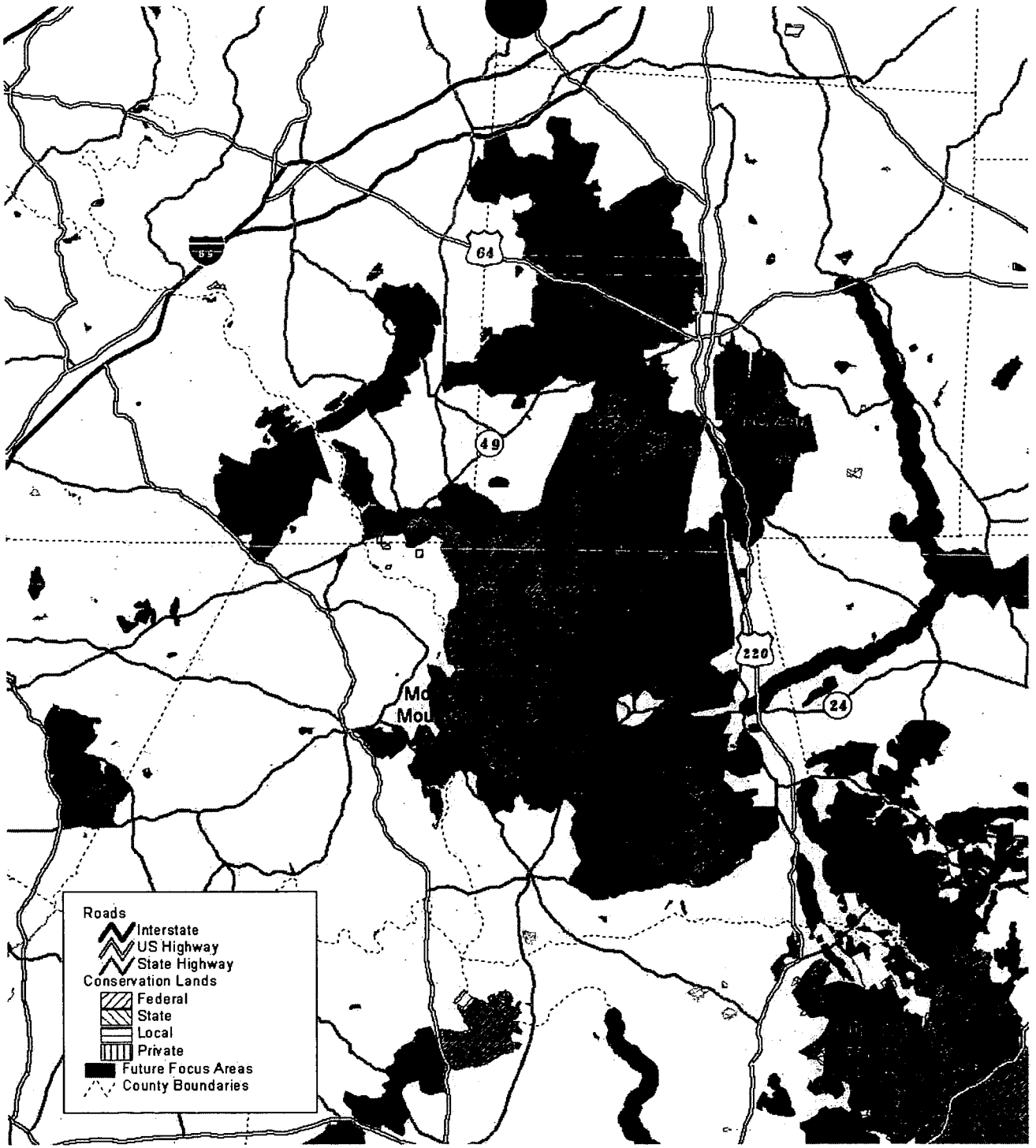
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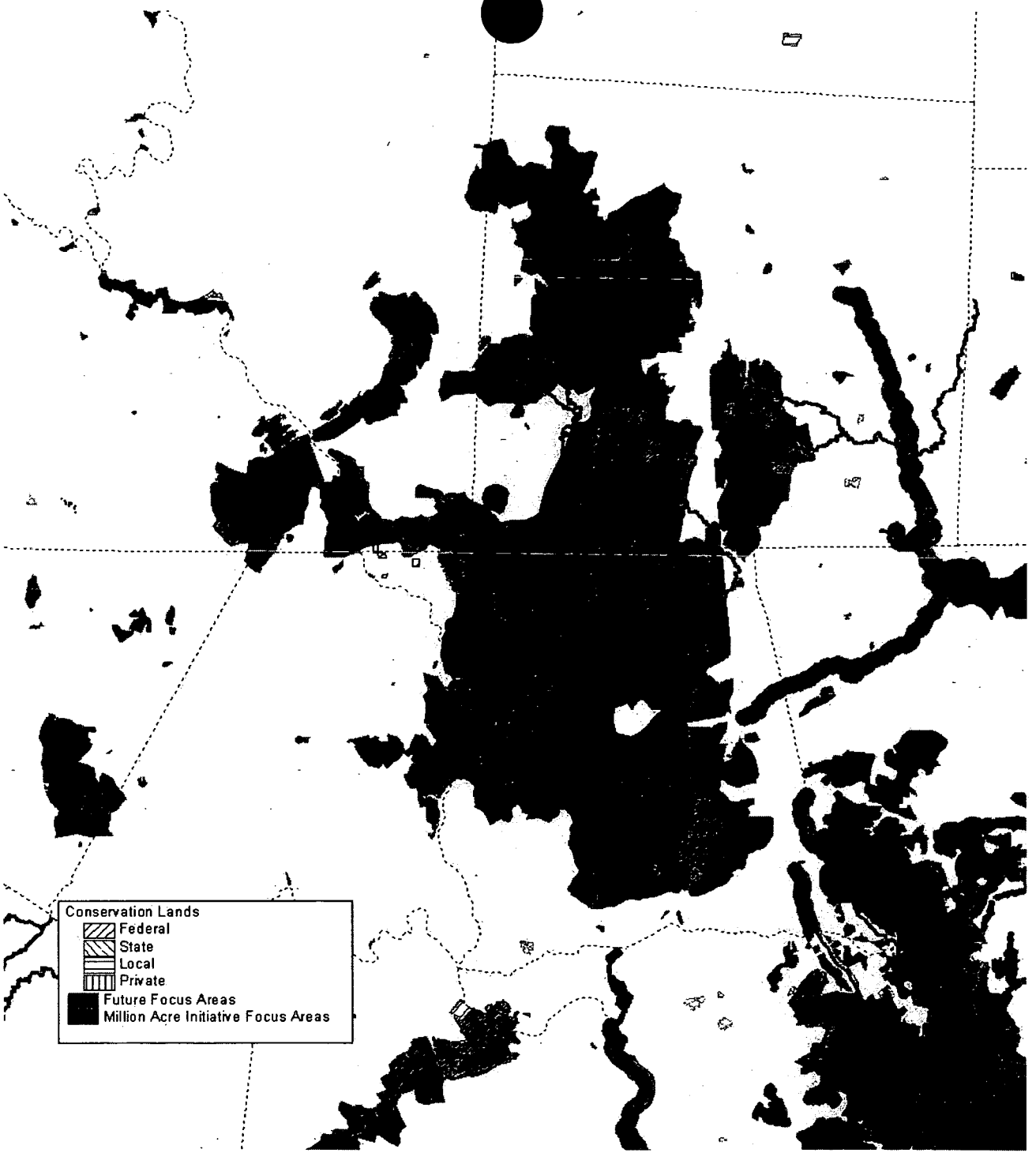


Draft Million Acres Plan
Office of Conservation and Community Affairs
January 2005 Scale 1:5,000,000



Conservation Lands & One North Carolina Naturally Future Focus Areas
Million Acre Initiative Focus Areas


64
49
220
24
Roads
Interstate
US Highway
State Highway
Conservation Lands
Federal
State
Local
Private
Future Focus Areas
County Boundaries


Conservation Lands
Federal
State
Local
Private
Future Focus Areas
Million Acre Initiative Focus Areas

CONSERVATION EASEMENT PROGRAM ANNUAL REPORT 2006

ARTICLE 16
Conservation Easement Program

- Conservation Easement Program, 113A-230
- Conservation Tax Credit Program, 113A-231
- Conservation Grant Fund, 113A-232

CONSERVATION EASEMENT PROGRAM

- CE Positives
  - Owner Retains Land
  - Appropriate Use Continues
  - Property Remains on Tax Rolls
  - Easement Holder Protects Conservation Values

CONSERVATION EASEMENT PROGRAM

- CE Challenges
  - Quality Easement Documents
  - Easement Management
  - Stewardship of Conservation Values

CONSERVATION GRANT FUND

- CGF Targets
  - Education
  - Management
  - Stewardship
  - Capacity Building

CONSERVATION EASEMENT / GRANT FUND Activity 2005

- Senate Bill 1117 - Military Support Act
- DENR Stewardship Program
  - EEP
    - Conservation Tax Credit Program Easement
    - Conservation Resource Enhancement Program
    - Others

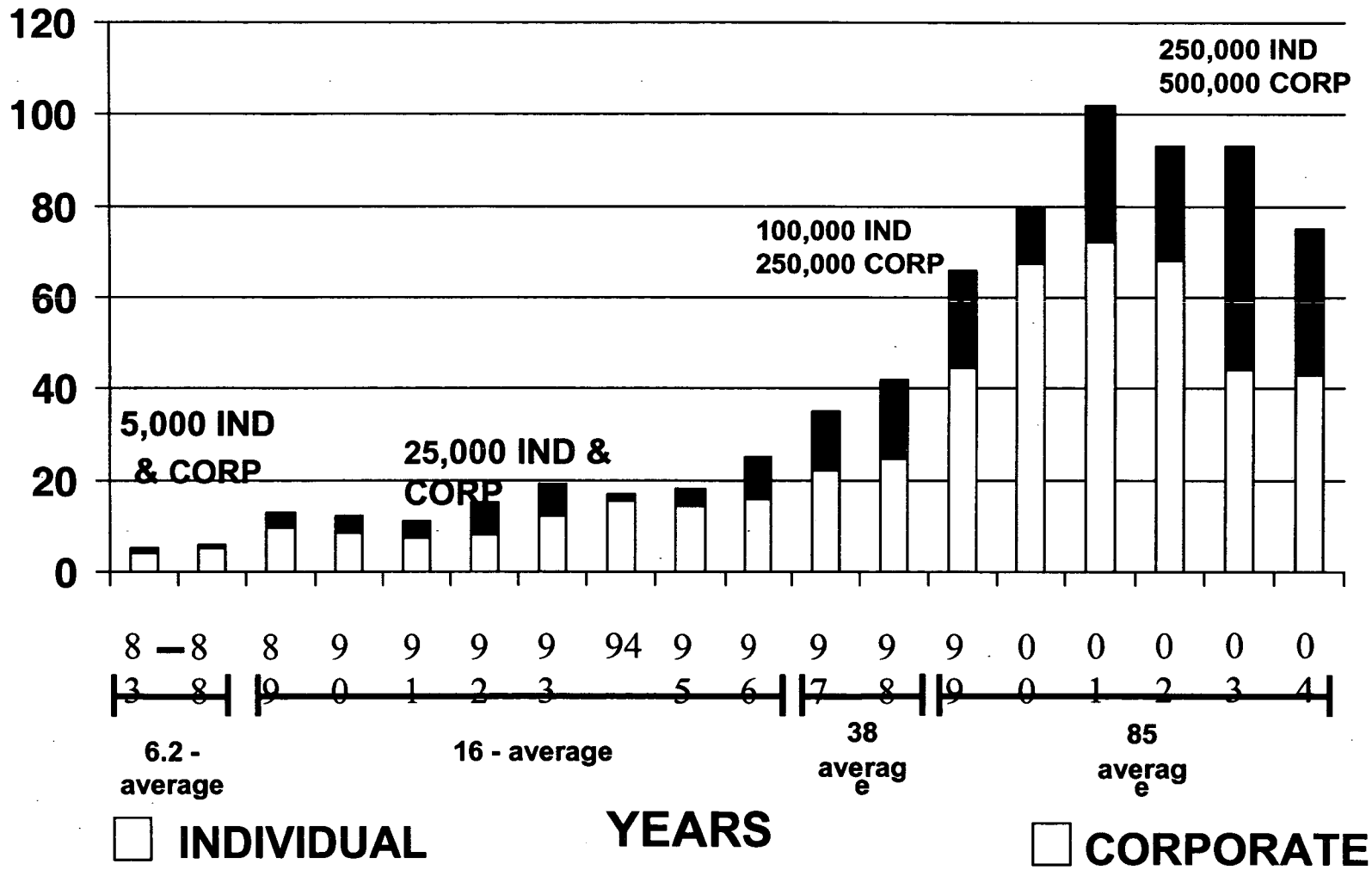
CONSERVATION TAX CREDIT PROGRAM 1983 - 2004

- Acres Donated - 138,600
- Value Donated - $505.7 million
- Excess Value Donated - $165.3 million
- Maximum Credit Cost - $85.1 million
- Bargain Sale Savings - $79.3 million

NCCTC PROGRAM STATISTICS

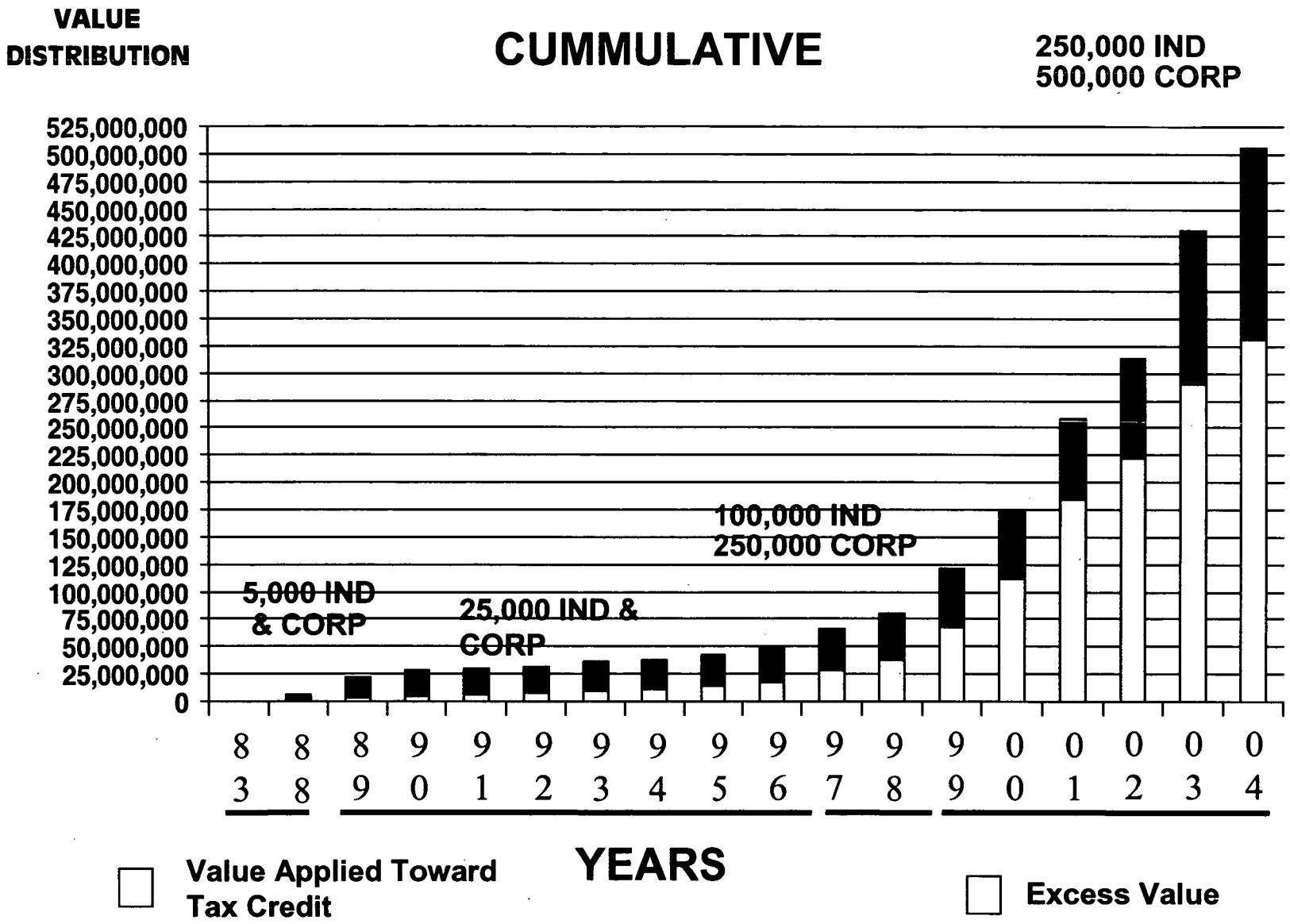
DONOR

ANNUAL & AVERAGE



Effective Date
8/15/05

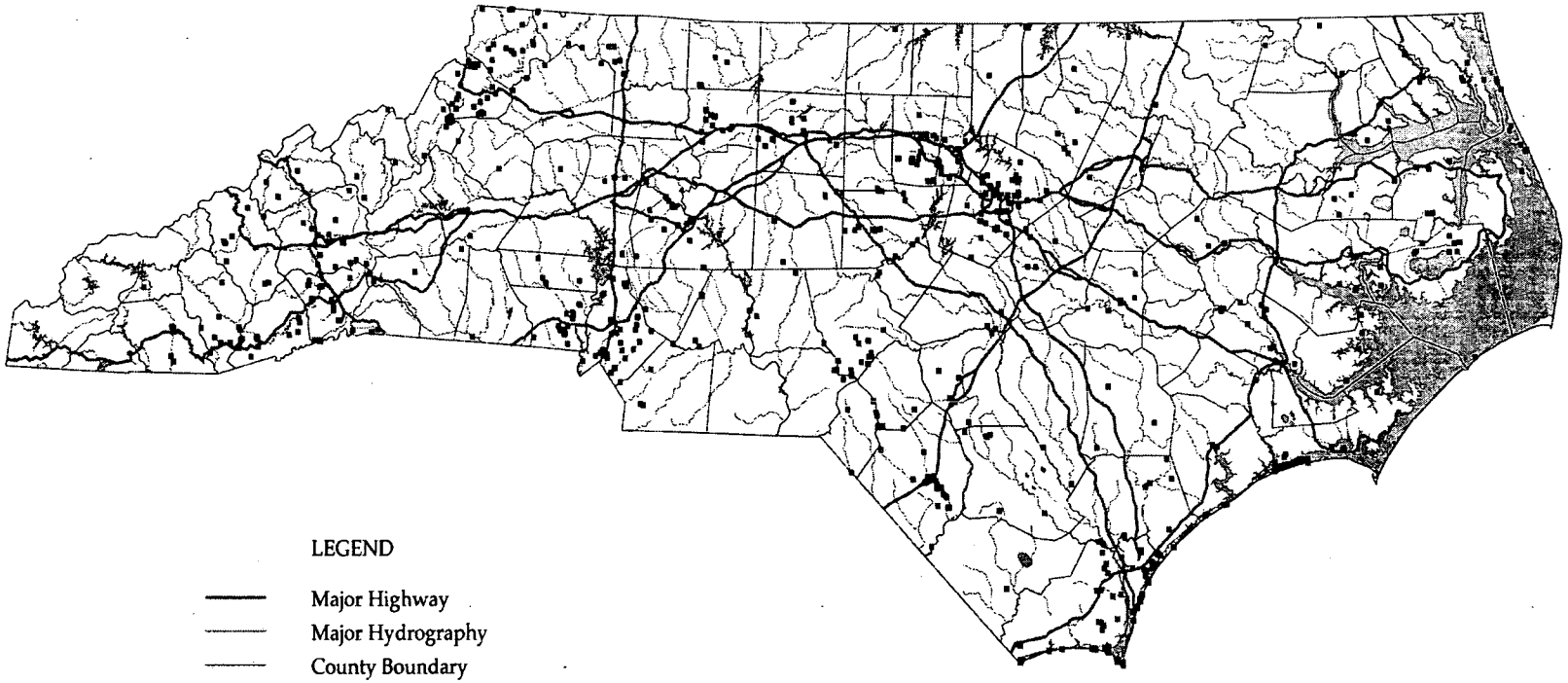
NCCTC PROGRAM STATISTICS



Effective Date 8/15/05

North Carolina Conservation Tax Credit Properties

(1983 - 2003)



LEGEND

- Major Highway
- Major Hydrography
- County Boundary
- Conservation Tax Credit Property

SCALE 1:3,100,000

0 50 100 150 MILES

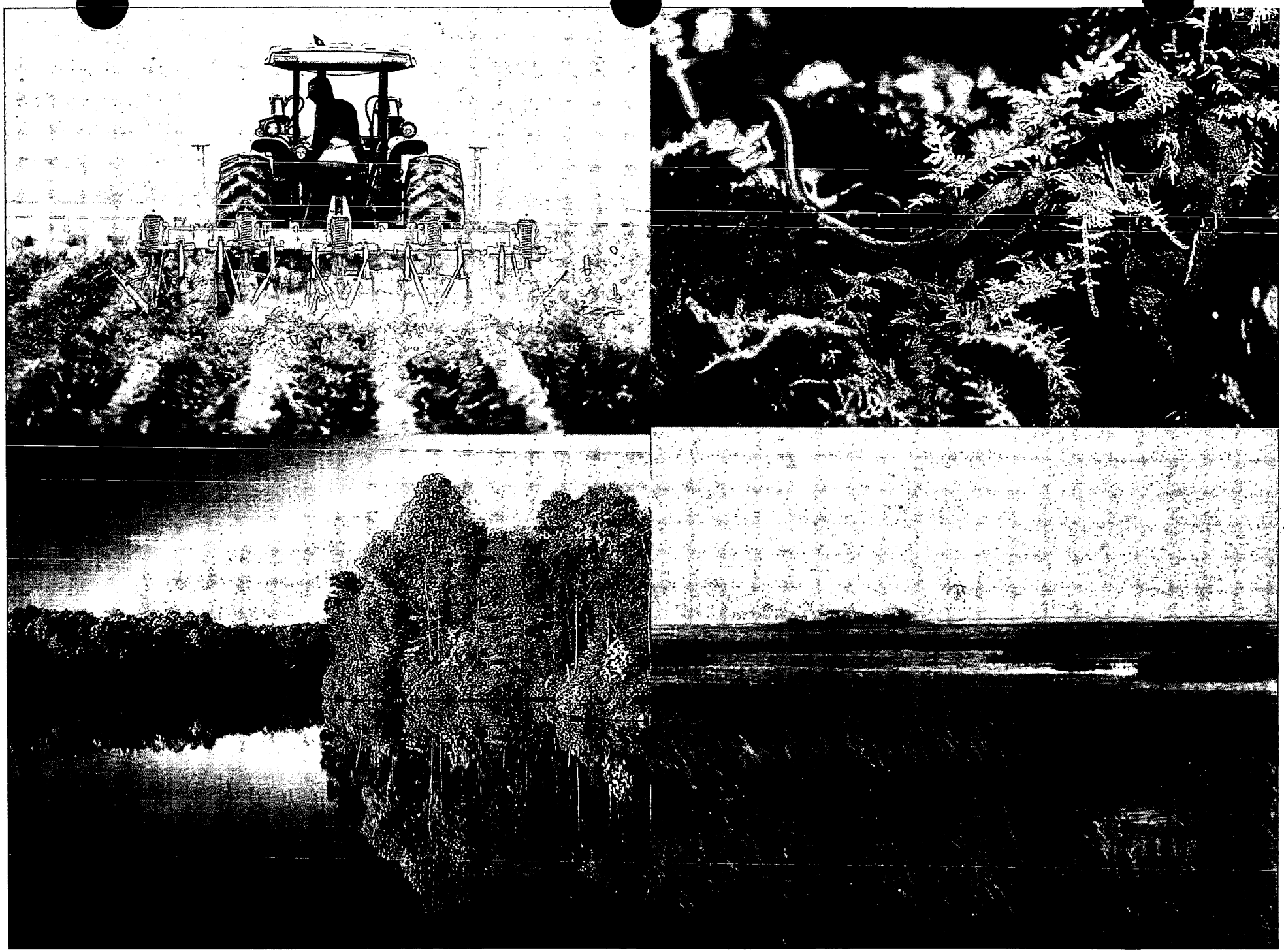
N W E S

Map Prepared September 2004 by the N.C. Center for Geographic Information & Analysis * 301 N. Wilmington St., Suite 700 * Raleigh, N.C. 27601 * (919)733-2090

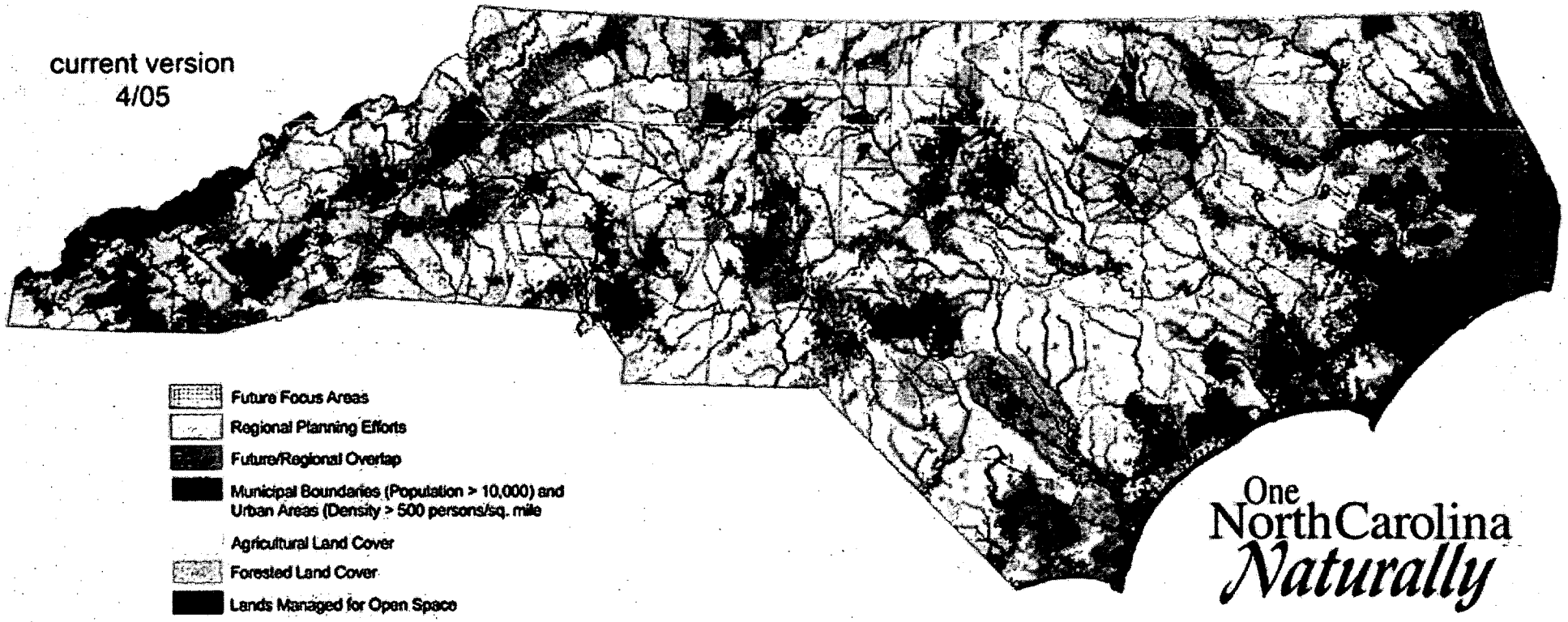
RECOMMENDATIONS FOR 2006 LEGISLATURE

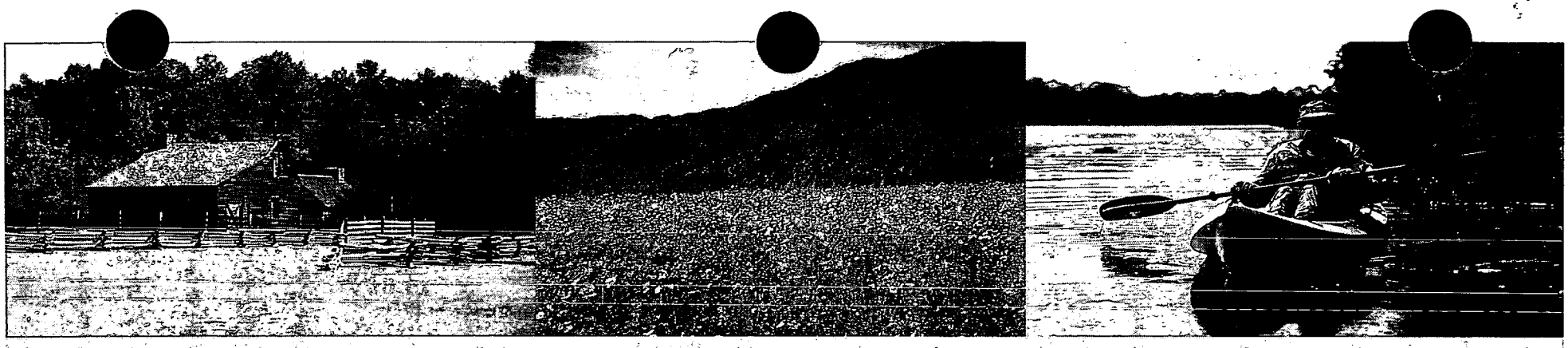
SB 521

- Corporate Donations
  - Pass Through Entities
  - Incentive To Donate
- Tax Credit Incentive
  - Refundability



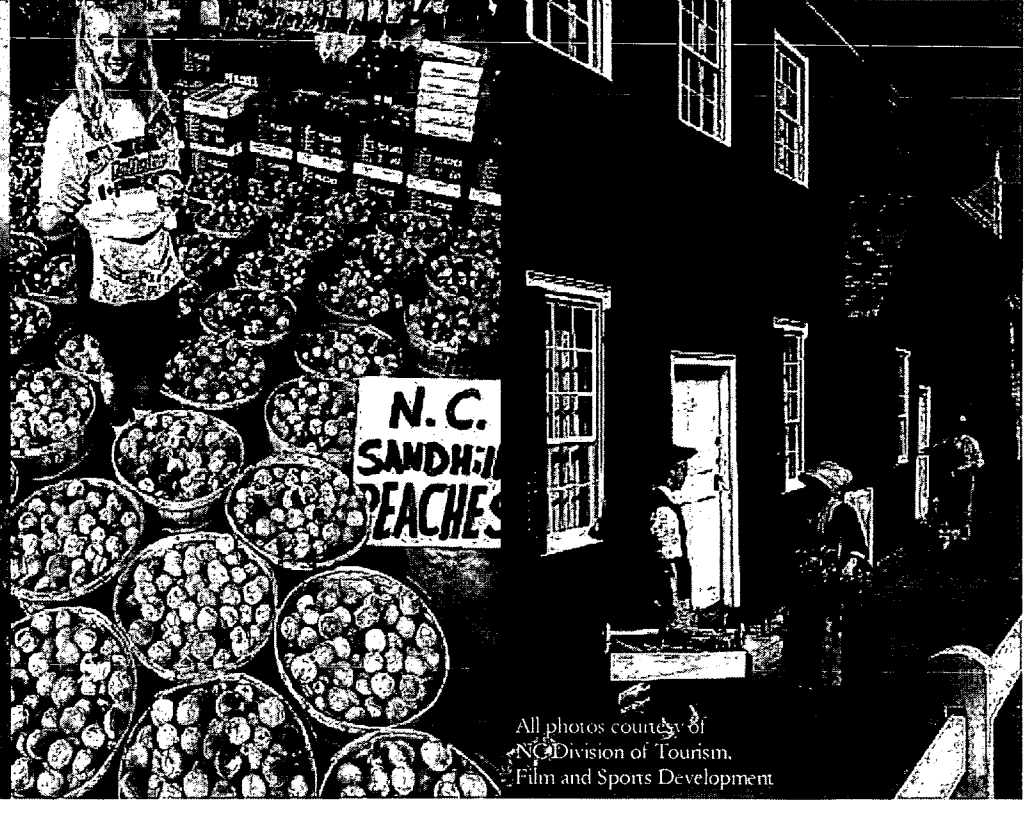
Linking it all together …





Land *for* Tomorrow





All photos courtesy of
NC Division of Tourism,
Film and Sports Development

EXHIBIT K

Land *for* Tomorrow

A growing *partnership* of organizations and North Carolinians working to:

- Build awareness of why streams, farms, forests, parks, gamelands and historic places are critical to the future of North Carolina

- Advocate giving the public a chance to vote for additional state funding of **$200 million per year for five years** to protect these places that matter to our citizens and communities

Five-Year Goals

- 740,000 acres of land across North Carolina

including

- Protect water in 6,000 miles of rivers and streams

plus

- Build trails and facilities for state and local parks

plus

- Restore 350 historic landmarks in public use

plus

- Invest in job creation and community development activities that conserve land and historic places

Build on Current Foundation

Invest more in successful programs

- **Conservation trust funds** ($167 million (84%))
  - Clean Water Management Trust Fund
  - Natural Heritage Trust Fund
  - Parks and Recreation Trust Fund
  - Farmland Preservation Trust Fund
- **Landing Jobs** ($30 million (15%))
- **One North Carolina *Naturally*** ($ 3 million (1%))

Landing Jobs: a new initiative

Mission: Provide grants and loans to businesses, nonprofits and local governments to create and retain jobs in the following industries:

- **Tourism** that attracts visitors interested in natural beauty, culture, history and farm resources
- Specialty crop and value-added **agriculture** and **forestry**
- **Historic preservation** to serve as catalyst for revitalizing cities and towns
- **Entrepreneurial**/workforce **training**/capacity building
- **High-quality neighborhood development**

Proposed Funding: $30 million/year

EXHIBIT L

LAND *for* TOMORROW

Landing Jobs: a new initiative

Mission:

Landing Jobs is recommended as a new initiative to help small businesses, nonprofits and local governments in North Carolina diversify and build economic sectors based upon sustainable use of:

- natural land and resources (e.g., forests, unique ecosystems, birds, game and other wildlife)
- water resources, fish and other aquatic species (rivers, streams, coastal areas including working waterfronts)
- working farms and agricultural lands
- working forests, timber and other forest products
- historic buildings, downtowns, rural communities, urban neighborhoods, land and archaeological sites
- cultural and artistic resources

Places the Program Will Help Protect:

This program will focus on creation and retention of jobs and businesses that promote protection of natural, cultural, historic and community resources. All nine types of places will be protected through economic development that supports land conservation and historic preservation, and promotes a "triple bottom line" of measurable economic, social, and environmental returns-on-investment.

Program:

Landing Jobs would help create, retain and sustain jobs and businesses through grants and loans that aid in development of the following industries:

- **Tourism** that creates local and regional destinations and attracts a broad range of visitors who are interested in natural resources (water, wildlife, forests), culture (food, music, special events), history (people, events, buildings) and farm resources (pick-your-own vegetables, native plants, educational programs).
- **Agriculture** that strengthens family farms and small businesses through specialty crops (e.g., herbs, native plants, organic vegetables or pasture-fed livestock), sustainable aquaculture, value-added products (processed foods) and finding new markets for products.
- **Forestry** that supports community ownership/management of forestlands and sustainable harvest of timber, wood products and non-timber forest products (e.g., pine straw, mushrooms) and value-added processing of those products.
- Attracting, training and retaining **entrepreneurs**, artists and other individuals or corporate entities committed to sustainable economic development in North Carolina. Special emphasis will focus on diversifying the state's economy with "sectoral"economies: creative, knowledge-based, place-based, natural resource-based, and culture-based.
- Rehabilitation and re-use of **historic buildings** and downtown areas and redevelopment of previously-developed or under-utilized sites for new uses that support sustainable economic development (including workforce housing, job creation, small business development and community revitalization) and encourage entrepreneurship.
- **High-quality neighborhood development** targeted to low-wealth areas utilizing innovations and technologies consistent with environmental priorities such as land use, land conservation, water quality protection, forest cover protection, health issues related to interior air quality, and energy efficiency.

Grants and loans would be awarded in two different categories:

- **Planning Grants** would be awarded to nonprofits and local governments to develop community-based plans for supporting the creation and retention of jobs and businesses through sustainable use of their natural, historic, and cultural resources. For example, a nonprofit organization and local government might develop a plan for a youth conservation corps that would teach job skills to young adults while engaging them in building trails and boardwalks and creating or improving local park facilities. Or, several communities located along a river might apply together for a planning grant for cleaning up the river for ecotourism, or for developing and implementing attractions, events and businesses that attract tourists to visit the river and stay in their historic towns. These plans might outline infrastructure, organizational capacity, enterprise development, financial capital, marketing, timeframe and other needs to implement the vision.
- **Project Implementation Loans and Grants** would be made to small businesses, nonprofits and local governments to help communities, regions, and public-private partnerships implement their plans to build economic sectors based on their natural, agricultural, forestry, historic and cultural resources.
  - **Grants** would be available to nonprofits and local governments to build agency or organizational capacity, and to operate and implement programs that create, retain and sustain jobs and enterprises that help protect the resource base. Grants may also be made available to help construct important parts of the infrastructure of a project that are not expected to generate a profit directly (e.g., a visitor's center or a canoe launch). Grants which invest directly in job-related skill-building in the community would also be available to eligible applicants.
  - **Loans** would be available to small businesses for projects expected to generate a public benefit or private profit (e.g., renovating a historic home into a bed and breakfast, renovating a food- or forest-product processing facility, or up-fitting a downtown building as a business incubator.

Governance:

We recommend that Landing Jobs be administered as a special project of the NC Community Development Initiative (NCCDI), a highly-respected statewide nonprofit that already receives a portion of its funding through the NC Department of Commerce. The NCCDI Board of Directors would have final authority to approve recommendations about grants and loans made by an 11-member Landing Jobs Council. The Council will seek members with expertise in natural, agricultural, forestry, historic and cultural resources, and in economic development and tourism. The Council would be appointed by the NCCDI Board of Directors based on nominations:

- Two members selected from nominations by the NC Governor.
- Two members selected from nominations by the President Pro Tem of the NC Senate.
- Two members selected from nominations by the Speaker of the NC House.
- Four stakeholder organizations representing communities of low-wealth and/or historic preservation/downtown revitalization/entrepreneurship and related constituencies.
- The Chair appointed by the Board of Directors of the NCCDI (only position not based on outside nomination).

At its discretion, the Landing Jobs Council may make grants and loans to other organizations with expertise to regrant or reloan them for individual projects. We recommend that the Landing Jobs Council be authorized to spend up to 3% of its annual funding on staffing and administrative costs.

Funding Level:

- FY 2005-2006: $0
- Proposed Funding: $30 million per year for five years

For more information, please contact Kate Dixon, Director, Land for Tomorrow, 4705 University Drive, Suite 290, Durham, NC 27707; 919-489-8129; kdixon@landfortomorrow.org

EXHIBIT M

LAND *for* TOMORROW

Saving the Goodliest Land:

A Five-Year Plan for Investing in North Carolina's Land, Water, History and Future

EXECUTIVE SUMMARY

JUNE 2005

In 1585, Sir Walter Raleigh sent Lieutenant Ralph Lane and a group of surveyors to establish the first English colony in the New World. Adventuring off Roanoke Island, Lane's men explored the mainland to the west and declared it "to bee the goodliest soile under the cope of heaven."

That "goodliest soile" became North Carolina. Since then the farms, forests, fields, mountains, rivers, sounds and oceans have provided livelihoods for our citizens and astonished visitors with their beauty. Lane's men were right: we truly live in the "goodliest" land.

Today, the quality of North Carolina's natural and rural lands and its water are just as important as they were 400 years ago.

- A significant amount of the state's jobs and gross product depend on quality land and water including those in tourism, agriculture, forestry, fishing and on military bases.
- Other businesses strongly consider quality of life and a healthy environment for their employees when they make decisions about where to locate.
- Public health depends on safe drinking water, clean air and places to exercise.
- Our quality of life is enhanced by the state's parks and trails, places celebrating our history and the sheer beauty of the land.
- North Carolina's geographic diversity produces a special variety of native plants and animals that makes this one of the world's ecological "hot spots."

North Carolina is a "hot spot" for people. Between 1990 and 2000 our population grew by 21% and is expected to increase by 50% by 2030. You can travel almost anywhere in North Carolina and see firsthand the pressures our population creates on the land. More than one million acres of natural and rural areas have been developed over the last decade. North Carolina lost more prime farmland between 1987 and 1997 than any other state except Ohio and Texas. And for the first time since the 1930s, forest acreage declined.

To help protect these critical areas, the General Assembly created the Clean Water Management Trust Fund, Farmland Preservation Trust Fund, Natural Heritage Trust Fund and Parks and Recreation Trust Fund. The General Assembly also set a goal of conserving one million acres of critical lands between 2000 and 2009. Significant progress has been made, but efforts have fallen short because of lack of funding. The Farmland Preservation Trust Fund has received no funding for the last two years. In 2004, the Clean Water Management Trust Fund had only $62 million in appropriations compared to $350 million in grant requests. Protecting our critical land is only going to get harder and more costly.

Because of the need to expand land and historic conservation efforts in North Carolina, several of the state's leading nonprofit organizations joined together to form Land for Tomorrow in 2003. Their goals are to:

- Build awareness of why streams, farms, forests, parks, game lands and historic places are critical to the future of North Carolina.
- Advocate for a public vote to provide additional state funding of $200 million per year for five years to protect these places that matter.

Land for Tomorrow began its work by interviewing business, government and nonprofit leaders from across the state and polling registered voters and farmland owners to learn more about what people in North Carolina think about conservation. We studied conservation finance techniques used in North Carolina and other states to develop a better understanding of options available to increase funding at the federal, state and local levels.

Based upon this information, research into land and historic properties in North Carolina and current programs to protect them, and advice from more than one hundred experts, the Coalition presents this report, *Saving the Goodliest Land: A Five-Year Plan for Investing in North Carolina's Land, History and Future*, which:

- Examines changes in land use and ownership that are creating economic, public health, ecological and quality of life challenges in urban and rural areas.
- Recommends how the state can address these challenges by increasing funding for land conservation and historic preservation.
- Recommends the following five-year conservation goals:
  - **Rivers, Wetlands, Floodplains and Coastal Waters** – 6,000 miles of stream banks and flood plains
  - **Working Farms** – 50,000 acres of productive farmland
  - **Working Forests** – 25,000 acres
  - **Local Parks and Trails** – 35,000 acres and needed trail and park facilities
  - **State Parks and Trails** – 60,000 acres and needed trails and facilities
  - **Game Lands and Other Natural Areas** – 150,000 acres
  - **Historic Places** –Restore 350 historic landmarks for public use and protect 3,000 acres of important archeological sites and land around State Historic Sites
  - **Land Visible from Scenic Highways** – 50,000 acres along the Blue Ridge Parkway and other scenic highways
  - **Urban Forests** – Increase tree canopy in areas that are not meeting air quality standards
- Estimates that the projected cost to North Carolina state government to meet these conservation goals is an additional **$200 million annually for five years** which can be used to leverage federal, local and private matching funds.
- Recommends creating one new initiative to help communities take advantage of their critical land and historic places to create sustainable jobs and a higher quality of life.
- Recommends building on the State's excellent existing conservation trust funds, One North Carolina *Naturally* program and the creative, vibrant work of local governments, nonprofits and community groups to accomplish these goals.

Land for Tomorrow presents this plan as a proposal for discussion. We hope it will be used by legislators, state agencies, citizens and organizations to craft an action plan to save North Carolina's critical land and historic places and ensure a bright future for our citizens and communities.

If we're successful in this effort, our children and grandchildren will still think of North Carolina as the "goodliest land" with:

- Clean air and water
- Sustainable jobs and vibrant communities
- Thriving farms and forests
- Places to enjoy the beauty of North Carolina, to exercise, to hunt and fish
- Places of historic significance and ecological value

In 1971, North Carolina voters approved Article XIV, Section V of the State Constitution, which mandates that we must use "every appropriate way to preserve as part of the common heritage of this State its forests, wetlands, estuaries, beaches, historical sites, openlands and places of beauty." Implementing *Saving the Goodliest Land* is the best way to follow through on that Constitutional commitment.

We must protect North Carolina's critical land and historic places now. There will be no second chance.



LAND *for* TOMORROW

www.landfortomorrow.org

4705 University Drive • Suite 290
Durham, NC 27707

T 919-489-8129
F 919-403-0379

THE CENTRAL PARK STRATEGY
A SUSTAINABLE REGIONAL ECONOMIC STRATEGY TO PRESERVE OUR CULTURAL AND NATURAL RESOURCES AND CREATE 33,000 JOBS AND $3 BILLION IN ANNUAL ECONOMIC IMPACT BY 2025

SOCIAL CAPITAL AND PUBLIC SUPPORT

1000/100 PROJECT
A CULTURAL TOURISM LEADERSHIP DEVELOPMENT PROJECT

CENTRAL PARK LEADERSHIP INSTITUTE

SMALL TOWN AREA REVITALIZATION S.T.A.R. INITIATIVES

STAR COMMUNITIES
30 TOWNS IN 7 COUNTIES
REVITALIZED TO PROVIDE HOSPITALITY INFRASTRUCTURE AND PLACE-BASED MAIN STREET BUSINESSES

TOWN OF STAR
MONTGOMERY COUNTY
- PILOT COMMUNITY FOR S.T.A.R PROJECT
- LAUNCHED 2005

TOWN OF BADIN
STANLY COUNTY
- LAUNCH FALL 2005
- FUNDED BY ALCOA FOUNDATION

TOWN OF ELLERBE
RICHMOND COUNTY
- LAUNCH SPRING 2006
- FUNDED BY COLE FOUNDATION

TOWN OF ANSONVILLE
ANSON COUNTY
- LAUNCH LATE SPRING 2006
- FUNDED BEING SOURCED

STARworks CREATIVE ENTERPRISE INCUBATOR
BUSINESSES AND INDIVIDUALS ARE RELOCATED INTO S.T.A.R. COMMUNITIES AFTER 2-3 YEARS

CERAMICS CLUSTER
- FIRST TWO BUSINESSES STARTED
- FUNDING BY GOLDEN LEAF, PRIVATE INDIVIDUALS

METAL AND HOT GLASS
FUNDING BEING SOURCED

WOOD CLUSTER
HANDMADE STUDIO FURNITURE

FIBER AND TEXTILE CLUSTER
(HMONG/LAO INTEREST)

AGRICULTURE CLUSTER
- SMALL-SCALE SUSTAINABLE FARMS
- LOCAL FOOD CULINARY ARTS
- COMMUNITY KITCHEN

REGIONAL IDENTITY AND INFRASTRUCTURE

CENTRAL PARK BRANDING AN IMAGING
FUNDED BY GOLDEN LEAF

SCENIC BYWAYS AND TRAIL DEVELOPMENT
FUNDED BY GOLDEN LEAF

CYCLING INITIATIVES
- CENTRAL PARK BIKE MAP – APPROVED NCDOT PROJECT
- CYCLING CENTER AND VELODROME-
- Z.SMITH REYNOLDS FUNDED FEASIBILITY STUDY

OUTDOOR RECREATIONAL DEVELOPMENT
- CENTRAL PARK SPLASH! 2006
- YADKIN-PEE DEE RIVER TRAIL
- BIRKHEAD WILDERNESS/UWHARRIE HIKING TRAIL

CULTURAL PROGRAMS DEVELOPMENT
- UWHARRIE CHAUTAUQUA – Z.SMITH REYNOLDS FUNDED FEASIBILITY STUDY
- PERFORMING ARTS AT STARworks

EXHIBIT Q

THE CENTRAL PARK OF NORTH CAROLINA

EXHIBIT R

WHAT IS THE CENTRAL PARK OF NORTH CAROLINA?

- A regional effort led by the Yadkin-Pee Dee Lakes Project, a 501-(c)(3) nonprofit corporation.
- Includes Anson, Davidson, Montgomery, Randolph, Richmond, Rowan, and Stanly counties.
- Creates jobs and preserves green space based on the region's outdoor recreation opportunities afforded by the Uwharrie Mountains and the many area lakes and streams.
- A green, rural, natural and cultural refuge for the nearly 5 million urban residents within a two-hour drive.

WHAT IS THE ECONOMIC IMPACT?

The seven-county region to be branded as NC's Central Park, has lost 18,000 jobs over the past five years as textile, furniture, and tobacco jobs have migrated overseas at an alarming and ever-increasing rate. Anson, Montgomery, and Richmond counties are now ranked among the most economically distressed counties in the state. **According to UNC-Charlotte's School of Business, by 2025 this project will result in:**

- 25,700 sustainable jobs with above average incomes
- $2 billion in annual economic impact

WHO SUPPORTS THE CENTRAL PARK?

Leaders in all seven counties in the region, USDA Rural Development, Golden LEAF Foundation, Z. Smith Reynolds, and small businesses and private individuals.

HOW MUCH WILL IT COST?

We are requesting a total appropriation of $255,000. This investment will **help leverage further investment** in the Central Park and to develop several specific Central Park projects at this pivotal period. These funds are to be allocated for the biennium as follows:

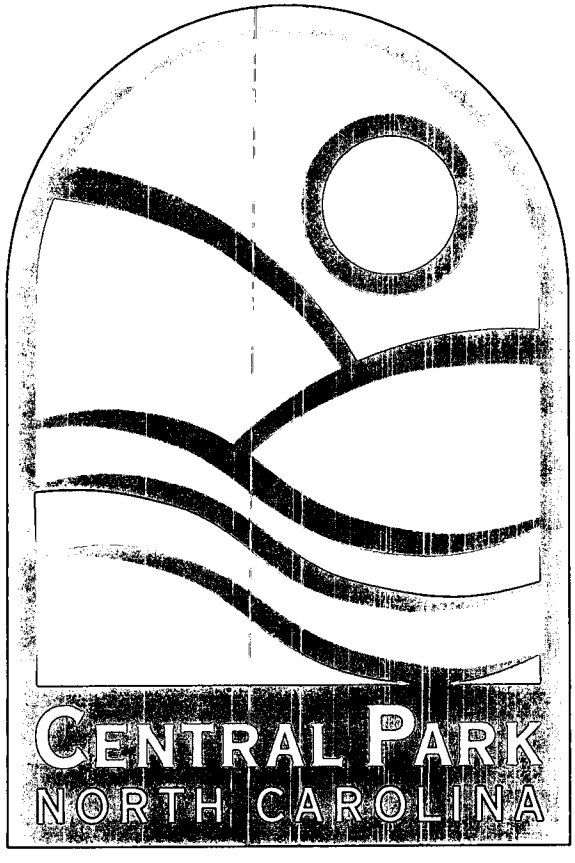
- **$85,000 for the STARworks incubator project.** The incubator will house several new businesses that will employ up to 150 persons at a time with as many as 500 jobs over a ten-year period. The expense of generating these initial 150 jobs is less than $4,000 per job. **The mill itself has been donated to the Project** through the vision and generosity of a local businessperson who strongly supports the Central Park economic development plan. ***$25,000 will provide a match for a $100,000 Kresge Green Building planning grant request that that we are preparing.*** The matching funds for the Green Building planning grant would allow us to rigorously explore and plan for what may become the largest vegetated green roof in North Carolina.

- **$60,000 will provide matching funds for a $100,000 commitment the Golden LEAF Foundation has provided for the first phase of the Central Park scenic driving and cycling routes project.** This will allow us to develop the interpretive kiosks, guides, and website to explain our unique natural heritage and to use that information as a competitive means to attractive eco-tourists to our region.

- **$85,000 for the Central Park Small Town Area Revitalization program.** We have already launched the program in three communities, and have five other small towns in the planning and preparation process. These communities will provide homes for the businesses that are being incubated at STARworks, hospitality, and visitor infrastructure that is critical to accomplishing the Central Park plan. All seven targeted communities have suffered tremendous erosion of their economic and tax base as a result of the downturn in our traditional industries.

- **$85,000 for the development of four themed Central Park heritage trails that will incorporate nine of the State's Scenic Byways** with interpretive kiosks, signage, and interactive website. These trails connect the seven revitalized communities and give visitors a reason to stay overnight and spend money locally.

EXHIBIT S



THE YADKIN-PEE DEE LAKES PROJECT

ANNUAL REPORT

2005

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STATEMENT OF PURPOSE

FROM THE CHAIR

FROM THE EXECUTIVE DIRECTOR

OFFICERS, TRUSTEES, STAFF

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- SMALL TOWN AREA REVITALIZATION AND STARWORKS INCUBATOR
- CENTRAL PARK BRANDING AND IMAGING INITIATIVE

SPECIAL FOCUS PROJECTS:

- UWHARRIE CYCLING CENTER AND TRAILS
- OUTDOOR RECREATION INITIATIVES
- UWHARRIE CHAUTAUQUA
- SUSTAINABLE AGRICULTURE INITIATIVE

MAJOR FUNDERS

STATEMENT OF PURPOSE

The Yadkin-Pee Dee Lakes Project was formed in 1993 by a consensus of leaders from Anson, Davidson, Montgomery, Randolph, Richmond, Rowan and Stanly Counties to develop a strategy to preserve the natural and cultural assets of central North Carolina, using them to create a sustainable local economy. In 2000, the Yadkin-Pee Dee Lakes Project published "A Strategy for North Carolina's Central Park" – a blueprint for the development of a new economy for our region based on heritage and cultural tourism development and outdoor recreation opportunities. The strategy focuses on small businesses development complementary to heritage and cultural tourism, and also developing the regional infrastructure for increasing overnight tourism. The implementation of this strategy will result in a doubling of overnight visitation to the region from 20% to 40% by focusing on scenic natural areas, driving/sightseeing, nature walks, historic sites, and zoos/wildlife observation and will create an additional 25,700 jobs above the benchmark forecast and an incremental positive net annual economic impact of $2.1 billion.

In 2002, the Yadkin-Pee Dee Lakes Project began the "Green Light" campaign to raise the necessary funds to begin the implementation of the strategy. The success of the Green Light campaign enabled the Project to develop a professional staff, obtain permanent offices, and most importantly, initiate a series of programs aimed at accomplishing the objectives set out in the Central Park strategy: Conservation and Preservation, Rural Development, Tourism Development, and Organization Development. The following report describes how the Yadkin-Pee Dee Lakes Project is working to carry out the implementation of the Central Park Strategy.

FROM THE CHAIR

The United States, as never before, must rethink its economic role in the world. Americans demand cheap food, cheap energy and a bargain on everything they buy, but this has serious economic consequences. American farmers increasingly find it more and more difficult to make a living, and have turned to nonfarm jobs to supplement their incomes. Nonfarm jobs—many in rural manufacturing—now account for more than 90 percent of farm households' incomes according to the USDA. This trend has hit North Carolina farmers doubly hard since our region has been steadily losing manufacturing jobs at an alarming rate. In fact, within one month of the lifting of textile quotas with China, imports of Chinese cotton knit shirts jumped 1,836 percent from the previous year and the United States lost 12,200 jobs in the apparel and textile industries according to the US Bureau of Labor Statistics. As a result, the next two decades will almost certainly see us constantly redefining where we fit into the global economy.

A billion people—nearly one-sixth of the world's population—live at roughly our standard of living. As another billion people, mostly in Asia, begin to move rapidly toward that same standard, they are becoming strong competitors for raw materials, food, and energy—markets in which the US has always been strongly competitive. As competition for these resources increases and prices go up, we must be far more careful and diligent about preserving our own resources because they will become much more vulnerable to exploitation. We see that already happening in the gas and steel industries, for example.

A key strategy to keeping a desirable quality of life in our region will require high quality local food production, well managed forest resources and a means to attract the most entrepreneurial business thinkers into our region and keep them here. We must plan development much more carefully to keep our working lands working. We will need to create communities that are more self supporting and more efficient to develop infrastructure and services. Such communities exist in harmony with their natural environment to maintain clean air, clean water and fertile soils.

The Central Park Strategy will create a sustainable rural economy that includes our surrounding cities, and that is not constantly vulnerable to all these global changes. It is a plan to become sustainable largely through our own resources rather than depending heavily on outside inputs. It is one that encourages new businesses to focus on the assets we have in the region to create strong, place-based businesses that will not migrate elsewhere.

Dr. David M. Jones, Chair

FROM THE EXECUTIVE DIRECTOR

Two years ago the economic downturn that had been unfolding since mid-2001 had temporarily staved off the unwanted and inappropriate development of our rural landscape – a landscape that is singularly important to the creation of North Carolina's Central Park™. Today, the urban gateways that surround us are rebounding fairly well and their future looks even more promising.

However, the situation for our rural communities is very different. The rural core of the Central Park has not only failed to rebound from the general economic downturn but is also facing fundamental restructuring of their traditional manufacturing based economies. Actual unemployment is nearly double the reported rate. Median family incomes are in decline and the gains that were being made in addressing endemic poverty in our region in prior years are now a fading memory.

The tension between the rebounding urban crescent that surrounds us and the increasing economic downturn in our rural core is being resolved in many unhealthy and unsustainable ways. Of particular concern, is that we are increasingly seeing investors from both inside and outside of our region and our state speculatively purchasing large tracts of land. These lands are critical to the development of the Central Park but they are more important to the potential revitalization of healthy and sustainable rural communities.

Never has there been a better time or greater need for the Central Park Strategy. I hope that you will embrace the virtue and wisdom of this comprehensive vision and that you will be heartened by what has been accomplished these past two years. The next year promises to be even more fulfilling as the momentum behind existing initiatives continues to build and our newer endeavors gain traction.

I look forward to continuing the good work that has been so carefully and thoughtfully nurtured in the past, and with your help, realizing the creation of North Carolina's Central Park.

William W. Medlin, Executive Director

OFFICERS, TRUSTEES, AND STAFF

OFFICERS

DR. DAVID M. JONES, CHAIR	ASHEBORO, NC
MARIANNE BRIGHT, VICE CHAIR	ALBEMARLE, NC
BUD MICKLE, SECRETARY/TREASURER	SALISBURY, NC

EXECUTIVE COMMITTEE

KEITH CRISCO	ASHEBORO, NC
BILLY JOE KEPLEY	LEXINGTON, NC
STEVE LEARY	WADESBORO, NC

TRUSTEES

GUY CORNMAN	LEXINGTON, NC
ANNE M. COVINGTON	WADESBORO, NC
REPRESENTATIVE ARLIE F. CULP	RAMSEUR, NC
ROGER DICK	ALBEMARLE, NC
TOM GARRISON	BADIN, NC
BUDDY GETTYS	SPENCER, NC
ANDY HONEYCUTT	PINEHURST, NC
HARRY MYRICK	BISCOE, NC
SENATOR AARON PLYLER	MONROE, NC
RICK SAGO	ROCKINGHAM, NC
GREG SPAINHOUR	ASHEBORO, NC

ADVISORY

JUDY STEVENS	STAR, NC
J.D. BRICKEN	PEACHLAND, NC

STAFF

WILLIAM W. MEDLIN	EXECUTIVE DIRECTOR
DR. NANCY C. GOTTOVI	ASSOCIATE DIRECTOR
MARLA COULTHARD	RURAL DEVELOPMENT
TAKURO SHIBATA	STARWORKS CERAMICS
SUSAN HENNESSY	OFFICE AND PROJECT MANAGER

MAJOR INITIATIVES AND PROGRAMS

There are three core elements to the Central Park strategy: 1) developing the necessary social capital, capacity and support in the region, 2) revitalizing many of the 30 plus small, rural towns in the region so that they can provide the necessary visitor hospitality infrastructure, and 3) creating a branded image for the region based on existing and new regional destination infrastructure. The following projects address these strategic elements:

THE 1000/100 PROJECT / THE CENTRAL PARK LEADERSHIP INSTITUTE

The 1000/100 Project is a statewide partnership with the Heritage and Cultural Tourism Partnership of NC and the NC Museums Council. In its



third year of programming, the 1000/100 Project has trained more than 150 people in 30 central North Carolina counties in heritage and cultural tourism development and marketing. In 2005, we are taking the experience we have gained from this highly successful program, and adapting it to meet the cultural tourism development needs for the Central Park. The Central Park Leadership Institute will educate participants about the Central Park strategy and equip them to effectively advocate for, and facilitate heritage and cultural tourism development within their home communities.

SMALL TOWN AREA REVITALIZATION (S.T.A.R.) AND STARWORKS INITIATIVES

In 2004, the Yadkin –Pee Dee Lakes Project began two major initiatives aimed at revitalizing our region's small towns and their surrounding farm communities.

The Small Town Area Revitalization Project (STAR) was inaugurated appropriately enough in the Montgomery town of Star. The STAR project builds on the success of HandMade in America's Small Town Renewal Program, the Center for Rural Pennsylvania's rural town revitalization program, and the National Main Street Program. But the program goes beyond these programs to emphasize creative economic restructuring strategies based on entrepreneurial development. Key to the STAR project is the creation of high-quality communities that will help buildings and business districts retain their economic vitality over time. The

STAR project will serve as a model that will be spread throughout the unique communities of our region. The STARworks Incubator is a project that serves the Central Park Strategy by providing a focused means of growing and developing creative enterprises and entrepreneurs to move into the downtowns of our small communities and to develop agricultural entrepreneurs to replace the farmers in our region who are retiring.



The Yadkin-Pee Dee Lakes Project is now undertaking the transformation of a former textile mill in Star to create STARworks Incubator, a multi-faceted entrepreneurial business development center and new home to the Yadkin-Pee Dee Lakes Project. Job creation programming at STARworks is entrepreneurial in nature, and designed to serve the creative, agricultural and tourism sectors of our regional economy.

THE CENTRAL PARK BRANDING AND IMAGING INITIATIVE

With support from the Golden LEAF Foundation, the Yadkin-Pee Dee Lakes Project is beginning a major branding and imaging campaign for the Central Park with unique linkages to each town that participates in the STAR program.

Branding and imaging will include creating a logo system for North Carolina's Central Park, developing a network of four themed heritage trails along the nine state Scenic Byways in the region with signage and interpretive stations and creating a website, guide and map to enhance the visitor experience. The interpreted scenic heritage trails will include the Settlers Trail, the Birding and Natural History Trail, the Transportation and Industry Trail, and the Agriculture Trail. These trails will physically link the historic sites and communities of the Central Park and provide a consistent image for the Central Park to visitors.

SPECIAL FOCUS PROJECTS:

In 2003, the Green Light Campaign challenged the Yadkin-Pee Dee Lakes Project to develop at least five additional publicly accessible recreational facilities, trails, festivals or attractions by 2007. To meet that challenge, we have undertaken the development of these several projects.

UWHARRIE CYCLING CENTER

Cycling is America's fastest growing active outdoor pursuit, and the creation of a major cycling center will help to leverage the road cycling and mountain biking opportunities that abound throughout North Carolina's Central Park. The project intends to develop competitive

(collegiate and amateur), recreational, and tourism based cycling for the Central Park region. Early attention will be given to indoor track cycling (velodrome), BMX, road cycling, and mountain biking. These four facets of cycling represent the fastest growing subsets of what has become the fastest growing active outdoor pursuit in our country – cycling. Current forecasts are for the number of active cyclists to double over the next decade. The demographic associated with cycling is very attractive and compatible with the overall Central Park strategy.

Future development includes the Central Park Bike Map and the Central Park Cycling Center.

OUTDOOR RECREATION INITIATIVE

This initiative includes the development of projects that will enhance significantly the Central Park as a destination in North Carolina. Outdoor recreation events and destinations will include:



- The Central Park Splash! – a three-day event that will bring paddlers from around the state and southeast to the Central Park,
- An enhanced Yadkin-Pee Dee River Trail,
- The connection of the Birkhead Wilderness Trails in Randolph County to the Uwharrie Trails in Montgomery County by acquiring additional lands for the National Forest,
- A new education center that will provide exciting birding-relating activities at the Pee Dee National Wildlife Refuge in Anson and Richmond counties.

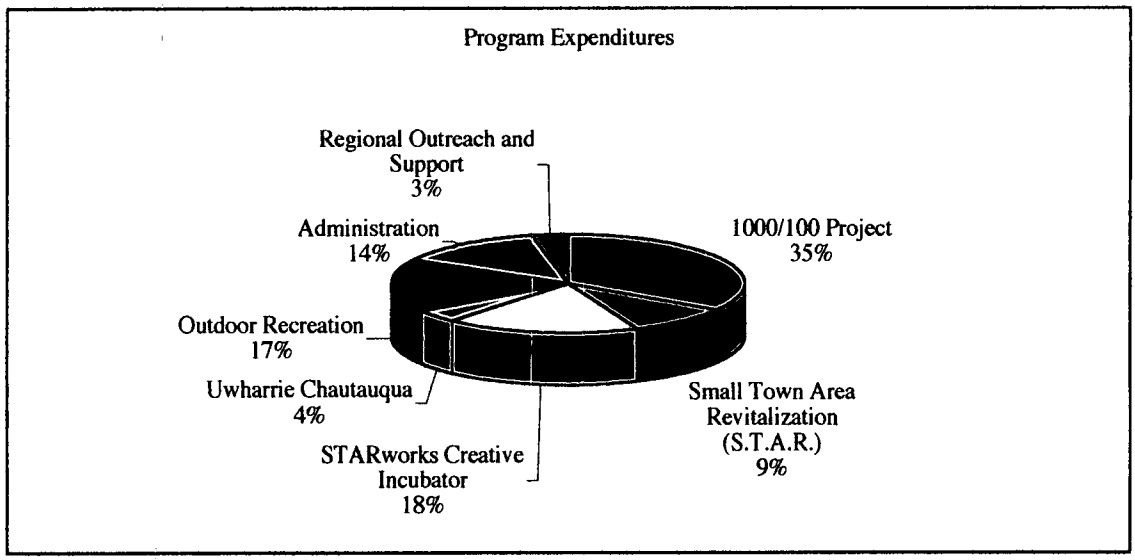
UWHARRIE CHAUTAUQUA

The Yadkin-Pee Dee Lakes Project is also working to catalyze the development of the Uwharrie Chautauqua based upon the model of the 130 year-old Chautauqua Institution in western New York state that attracts 150,000 visitors over nine weeks of programming each year. We believe that a permanent Chautauqua can provide an appropriate sustainable economic development strategy for the town of Badin and surrounding area by relying on the area's unique outdoor recreation, and heritage and cultural opportunities, and close proximity to over 3.5 million people within the urban crescent that extends from Charlotte along the major interstate corridors to Raleigh. The Uwharrie Chautauqua will be an important component of the Lakes' Project's Central Park strategy and will help to draw visitors into the region. The

Yadkin-Pee Dee Lakes Project, Inc.
Statement of Assets, Liabilities and Net Assets
As of June 30, 2005

Assets:		
Cash and Marketable Securities	15,273	
Pledges and Grants Receivable	163,298	
Fixed Assets & Equipment (less depreciation)	55,688	
Total Assets		234,259
Liabilities:		
Accounts Payable	5,446	
Accrued Annual Leave	18,360	
Note Payable	20,000	
Total Liabilities		43,806
Net Assets:		
Net Assets - beginning	224,646	
Net Increase (Decrease)	(34,193)	
Total Net Assets		190,453
Total Liabilities & Net Assets		234,259

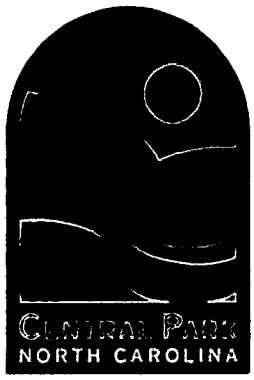
Program Expenditures:	Amount	% of Total Expenditures
1000/100 Project	159,931	34%
Small Town Area Revitalization (S.T.A.R.)	44,219	9%
STARworks Creative Incubator	83,736	18%
Uwharrie Chautauqua	19,898	4%
Outdoor Recreation	80,675	17%
Regional Outreach and Support	15,549	3%
Administration	65,184	14%
Total Expenditures	469,192	100%



The above figures are preliminary and are subject to final audit

Major Funders

Alcoa Foundation
Asheboro Elastics Corporation
BB&T Foundation
Effie Allen Little Foundation
Ellerbe Telephone Corporation
Golden LEAF Foundation
Institute of Museum and Library Services
Klaussner Foundation
Myrick Construction
National Trust for Historic Preservation
North Carolina Natural Heritage Trust Fund
North Carolina Rural Center
Progress Energy Foundation
Toleo Foundation
USDA Rural Development
Uwharrie Capital Corporation
Wachovia Foundation
William A. Smith Trust
Z. Smith Reynolds Foundation



The Yadkin-Pee Dee Lakes Project
PO Box 159
Star, NC 27356
(910) 428-9001 (T)
(910) 428-1001 (F)
www.centralparknc.org

North Carolina LAND TRUSTS

Saving the Places You Love

STATEWIDE

Conservation Trust for North Carolina

North Carolina Rail-Trails

COAST

Northeast New Hanover Conservancy

North Carolina Coastal Land Trust

Smith Island Land Trust
(a subsidiary of Bald Head Island Conservancy)

MOUNTAINS

Blue Ridge Rural Land Trust

Carolina Mountain Land Conservancy

Foothills Conservancy of North Carolina

High Country Conservancy

Highlands-Cashiers Land Trust

Land Trust for the Little Tennessee

National Committee for the New River

Pacolet Area Conservancy

Southern Appalachian Highlands Conservancy

PIEDMONT

Catawba Lands Conservancy

Davidson Lands Conservancy

Eno River Association

LandTrust for Central North Carolina

Lumber River Conservancy

Piedmont Land Conservancy

Sandhills Area Land Trust

Tar River Land Conservancy

Triangle Greenways Council

Triangle Land Conservancy

www.ctnc.org

EXHIBIT T

Land Trust Services

- Legislative Advocacy/Government Relations
- Management of State Conservation Program Contracts
- Coordinated Public Relations
- Grants and Loans
- Training
- Land Protection

Land Trusts and State Government Conservation Programs

Clean Water Management Trust Fund

Ecosystem Enhancement Program

Natural Heritage Trust Fund

Farmland Preservation Trust Fund

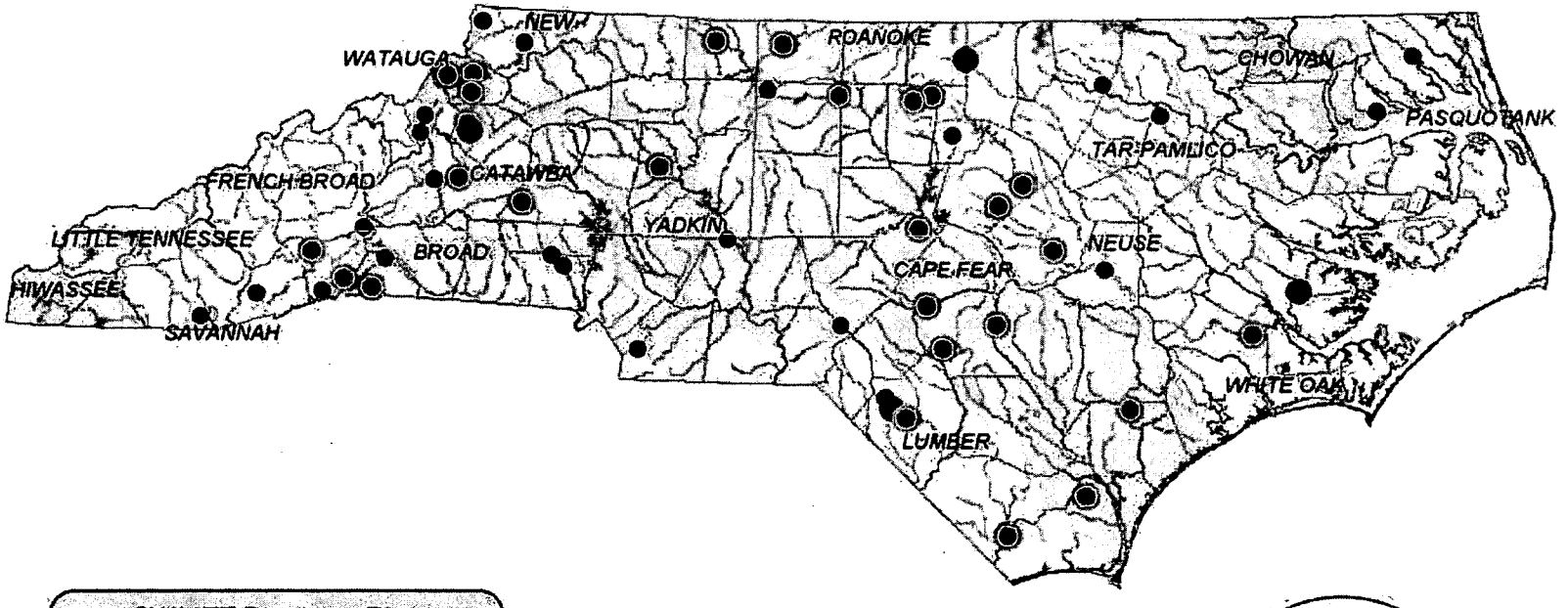
Tobacco Trust Fund Commission

Land Trusts and CWMTF Riparian Corridor Conservation Plans

Partnership among local land trusts, CTNC, and CWMTF to:

- Create detailed conservation plans for targeted streams and river segments
- Implement those plans by reaching out to willing landowners re: conservation options
- Close on land protection projects to protect water quality, as identified in the plans

CWMTF Riparian Corridor Conservation Plans Phases I-V & Approved Plans Phase VI



CWMTF Riparian Plans

- Approved Phase VI Plans
- Phases I - V Plans
- Received CWMTF implementation funds
- Rivers and Streams

CONSERVATION TRUST FOR NORTH CAROLINA

Saving the Places You Love

Quick Facts, Phases I - IV

- Number of conservation plans created = 41
- CWMTF planning investment = $1,123,000
- Acres protected = 30,635 (888,256 stream ft, 183 tracts)
- Acres of donated land or easements = 12501
- CWMTF acquisition funds = $23,860,653
- Funds leveraged = $37,605,110

Land Trusts' Legislative Priorities

- Land for Tomorrow
- Full Funding for Trust Funds
- Present Use Value Tax Program
- Conservation Tax Credit

Present Use Value

- HB 1722, introduced by Reps. Hackney, Brubaker, Gibson, Harrison:
- Would allow landowners who place a conservation easement on their land to remain in the PUV program
- Would clarify eligibility to 25% or more donation
- Would create new wildlife habitat/conservation category
- Would maintain property tax exemptions for land trusts on conservation properties they own

Conservation Tax Credit

- S 521, introduced by Sen. Clodfelter, would:
- Authorize limited refundability of the tax credit by making 50% of the credit remaining after two years eligible to be requested as a refund
- Establish the maximum tax credit that may be taken by a "pass-through entity" to be $500,000.

EXHIBIT M

Editorial Excerpts from North Carolina ...

Asheville Citizen Times / March 4, 2006
Closer look at money trail behind public land sale plan should doom it

"Politicians and the public are beginning to line up in droves to oppose a Bush administration plan that could sell off as much as 300,000 acres of public forest nationwide, including 10,000 acres in North Carolina."

"The best arguments against this plan are the obvious ones. The land, once sold, is gone; the kids, however, will keep coming to those rural schools. The land, once sold, will pass forever out of the public realm. In some cases around here, that land has been hunted or hiked on by generations."

"This can't be shot down fast enough."

Charlotte Observer / February 16, 2006
A crazy idea: It's nuts to sell national forest lands to finance schools

"The Bush administration has announced plans to sell off 307,000 acres of national forest across the country to pay for rural schools. There's a good word for that idea: Crazy."

"President Bush's plan would reverse some of this state's hard-fought gains."

Raleigh News & Observer / March 2, 2006
Saving precious land

"Rather than looking to sell land that is part of our country's very history and character, the White House might look to more responsible budget policy that improved school funding without putting public property on the block."

Winston-Salem Journal / March 5, 2006
A Lousy Land Deal

"A government plan to sell 9,828 acres of national forest land in North Carolina is bad national policy and a lousy deal for North Carolinians."

"... North Carolina should be accumulating open, unused land so that it can meet the recreational and environmental needs of this growing state for years to come."

USFS Region	State	Acres for sale	2006 Allocations (in millions)	Total NF lands in state
1	Idaho	11,370	$5,208,590	6,915,403
1	Montana	13,948	14,341,159	16,932,447
	Totals	**25,318**		**23,847,850**
2	Colorado	21,572	$6,275,924	13,868,484
2	Nebraska	866	55,043	257,628
2	South Dakota	13,961	3,878,788	1,148,041
2	Wyoming	16,780	2,402,919	4,815,743
	Totals	**53,179**		**20,089,896**
3	Arizona	1,030	$7,737,443	11,263,640
3	New Mexico	7,447	2,359,977	9,091,897
3	Texas	400	See Region 8	0
	Totals	**8,877**		**20,355,537**
4	Idaho	14,094	See Region 1	13,496,948
4	Nevada	2,146	$404,788	5,841,209
4	Utah	5,998	1,853,992	8,138,796
4	Wyoming	839	See Region 2	3,875,675
	Totals	**23,077**		**31,352,628**
5	California	79,825	$68,931,821	20,752,006
6	Oregon	10,581	$162,825,661	15,548,851
6	Washington	7,516	46,906,013	9,276,196
	Totals	**18,097**	**209,731,674**	**24,825,047**
8	Alabama	3,220	$2,112,714	667,272
8	Arkansas	3,612	6,828,277	2,582,932
8	Florida	973	2,479,700	1,113,052
8	Georgia	4,522	1,291,680	864,489
8	Kentucky	4,518	675,396	560,418
8	Louisiana	3,895	3,689,244	603,393
8	Mississippi	7,503	8,457,066	1,170,888
8	North Carolina	9,828	1,010,791	1,254,315
8	Oklahoma	3,572	1,272,940	354,132
8	South Carolina	4,665	3,255,650	628,222
8	Tennessee	2,996	554,709	637,016
8	Texas	4,413	4,873,623	641,574
8	Virginia	5,717	931,333	1,663,904
	Totals	**59,434**	**37,433,123**	**12,741,607**
9	Illinois	191	$301,235	268,302
9	Indiana	869	128,932	200,903
9	Michigan	5,880	781,947	2,862,075
9	Minnesota	2,622	1,454,237	2,761,487
9	Missouri	21,566	2,739,813	1,489,824
9	Ohio	420	68,107	235,792
9	West Virginia	4,836	1,986,458	1,023,461
9	Wisconsin	80	571,843	1,527,300
	Totals	**36,464**	**8,032,572**	**10,369,144**
10	Alaska	99	$9,687,064	21,973,139
TOTAL		**304,370**		

Prepared by SELC 2/28/06

EXHIBIT W

PROPOSED SALE OF UWHARRIE FOREST LANDS COMMENTS

The President's FY 2007 Budget includes a legislative proposal to fund the reauthorization of the Secure Rural Schools and Community Self-Determination Act from the sale of small isolated tracts of National Forest lands including about 2,300 acres (4.4%) of the Uwharrie National Forest's 50,189 acres. The Uwharrie National Forest is the youngest created in 1961 and the smallest National Forest encompassing only 23% of lands within the forest boundary. For this reason, it is fragmented and inaccessible in many areas. Despite its small size, the Uwharrie NF is located within a two-hour drive of over 5 million people and functions as a little island of public land in the center of North Carolina. The section of the Forest located in Montgomery County is heavily used for outdoor recreation and the demand is expected to grow.

The Uwharrie NF has significant natural resources including the Birkhead Mountains Wilderness and the historic 50-mile Uwharrie National Recreation Trail. The Randolph County's Natural Heritage Inventory completed in 1996 identified more than seven biologically significant sites owned by the US Forest Service. They include Birkhead Mountain Wilderness area, Harvey's Mountain, Cedar Rock Mountain, the Monadnock forest between Pinson and Charles Mountains and properties along the south prong of the Little River, Uwharrie River and Walker's Creek. The Uwharrie National Forest region has been identified in the NC's Wildlife Action Plan, the Nature Conservancy's Piedmont Ecoregional Plan and One North Carolina Naturally as one of the highest priority areas for conservation efforts in the Piedmont. National Forest status protects these heritage lands, rare biological communities, significant wildlife habitats and rare plant sites.

The Uwharrie National Recreation Trail is a 50-mile trail between Randolph to Montgomery counties utilized by local citizens and many civic organizations, including the Boy Scouts. Unfortunately, the trail has major gaps in Randolph County making it fragmented and inaccessible. The Randolph County Board of Commissioners passed a resolution in November 1999 requesting the US Forest Service to seek funds to acquire land from willing sellers along the Trail. For the last five years, a partnership of organizations including the NC Zoo, the Land Trust for Central NC, and Uwharrie Trail Club have worked to obtain funds to acquire land to fill the gaps along the Uwharrie Trail to provide nature-based recreation as well as protect heritage lands and rare biological communities. Through the efforts of Congressman Howard Coble, $500,000 in Land and Water Conservation Funds was appropriated in the FY 2004 Budget for land acquisition which was used to fill the first of four gaps. A request for LWCF monies in the FY 2007 Budget to acquire land for a second portion of the Trail is in process.

The partnership grew into the Greater Uwharrie Conservation Partnership composed of thirteen partner organizations including the N C Zoo, Land Trust for Central North Carolina, Piedmont Land Conservancy, North Carolina and South Carolina Chapters of The Nature Conservancy, Yadkin/Pee Dee Lakes Project, NC Department of Environment and Natural Resources, NC Plant Conservation Program, NC Wildlife Resources Commission, US Fish and Wildlife Service, USDA Natural Resources Conservation Service, NC Environmental Defense Fund and US Forest Service. GUCP was formed in recognization of the high biological diversity and natural resource based outdoor recreational opportunities in a region experiencing rapid population growth to provide a forum for coordination and collaboration of conservation efforts.

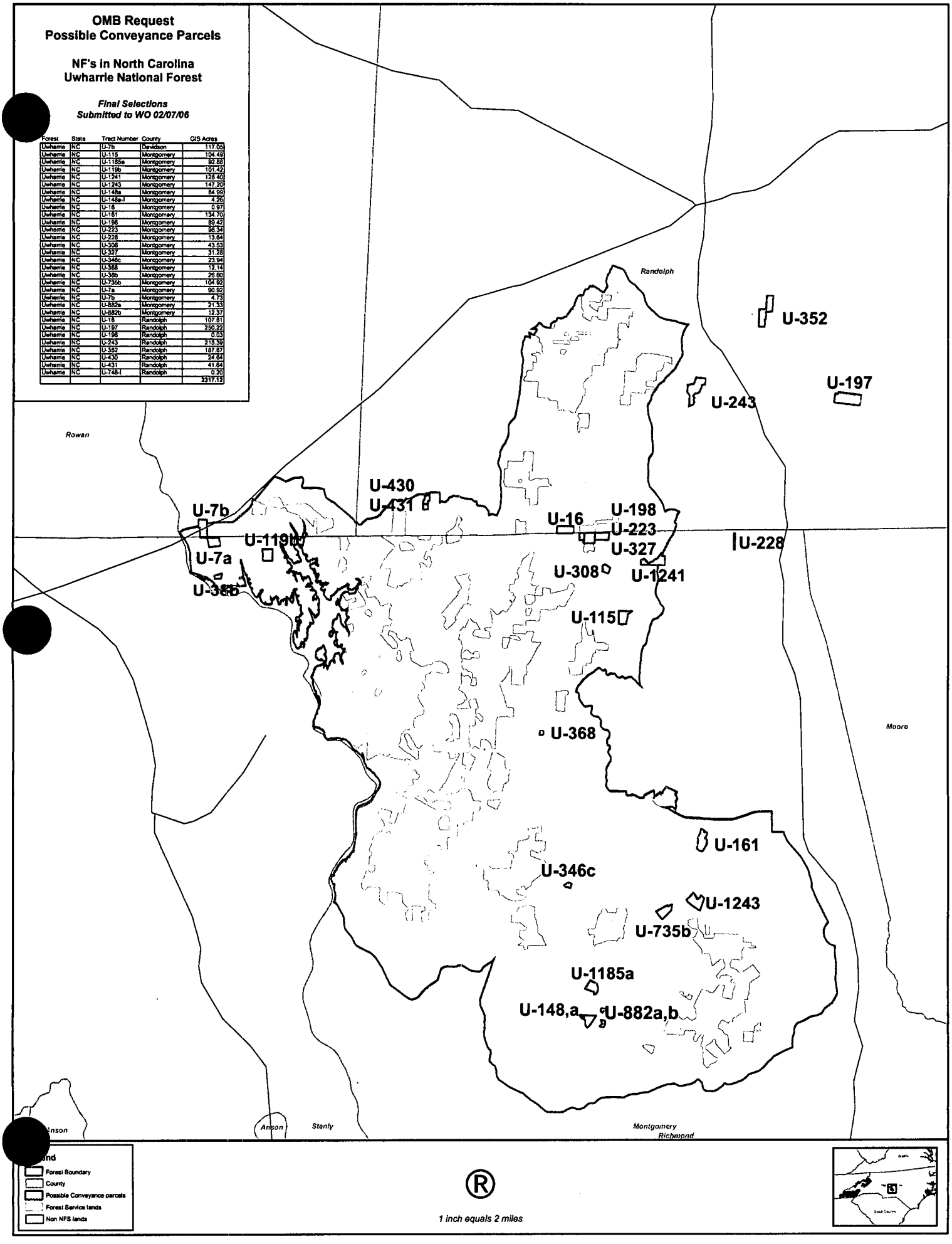
The proposed sale of tracts in the Uwharrie National Forest runs contrary to these efforts to consolidate the scattered ownership pattern through land acquisition and thereby protect the high biodiversity and nature based recreation opportunities in a region surrounded by high population centers. Attached are comments on the importance of the specific tracts proposed for sale.

OMB Request
Possible Conveyance Parcels

NF's in North Carolina
Uwharrie National Forest

Final Selections
Submitted to WO 02/07/06

Forest	State	Tract Number	County	GIS Acres
Uwharrie	NC	U-7b	Davidson	117.05
Uwharrie	NC	U-115	Montgomery	104.49
Uwharrie	NC	U-1185a	Montgomery	92.88
Uwharrie	NC	U-119b	Montgomery	101.42
Uwharrie	NC	U-1241	Montgomery	128.40
Uwharrie	NC	U-1243	Montgomery	147.20
Uwharrie	NC	U-148a	Montgomery	84.99
Uwharrie	NC	U-148a-I	Montgomery	4.26
Uwharrie	NC	U-16	Montgomery	0.97
Uwharrie	NC	U-161	Montgomery	134.70
Uwharrie	NC	U-198	Montgomery	89.42
Uwharrie	NC	U-223	Montgomery	98.34
Uwharrie	NC	U-228	Montgomery	13.84
Uwharrie	NC	U-308	Montgomery	43.53
Uwharrie	NC	U-327	Montgomery	31.28
Uwharrie	NC	U-346c	Montgomery	23.94
Uwharrie	NC	U-368	Montgomery	12.14
Uwharrie	NC	U-38b	Montgomery	26.80
Uwharrie	NC	U-735b	Montgomery	104.92
Uwharrie	NC	U-7a	Montgomery	90.92
Uwharrie	NC	U-7b	Montgomery	4.73
Uwharrie	NC	U-882a	Montgomery	21.33
Uwharrie	NC	U-882b	Montgomery	12.37
Uwharrie	NC	U-16	Randolph	107.81
Uwharrie	NC	U-197	Randolph	250.22
Uwharrie	NC	U-198	Randolph	0.03
Uwharrie	NC	U-243	Randolph	213.39
Uwharrie	NC	U-352	Randolph	187.87
Uwharrie	NC	U-430	Randolph	24.84
Uwharrie	NC	U-431	Randolph	41.84
Uwharrie	NC	U-748-I	Randolph	0.20
				2317.13



INFORMATION ON UWHARRIE NATIONAL FOREST TRACTS PROPOSED FOR CONVEYANCE

Prepared by Gin Wall 3/14/06

- **U 7b:** This tract is part of the Stokes Ferry Basic Forest (Alcoa subset) Secondary Boundary which is listed in the Davidson County Natural Heritage Inventory as a biological community of regional significance. Stokes Ferry Basic Forest is a site of large high quality basic oak-hickory forests. Plant species not typically seen elsewhere in Davidson County indicate a lack of disturbance and reinforce the unique nature of this forested site. The site supports unusual assemblages of infrequently encountered and rare plants.
- **U7b & U38b & U119b :** U7b is near Tucker Town Lake (4079 feet). U38b and U119b are near Baden Lake (U38b @ 1339 feet; U119b @ 1997 feet). All three tracts are "gateway" property to the lakes and pose such issues as view-shed, tourism, development suitability, and water quality. Assessment, connections and specific parcel significance cannot be adequately addressed in the 30-day comment period. Selling it off before all criteria is assessed properly is not good business.
- **All tracts except U28b and U119b:** All tracts except U28b and U119b are in The Nature Conservancy's Piedmont Plan Corridor. U352 and U197 are in TNC's Piedmont Plan Heart of the Uwharries/ Eastern Uwharries Corridor. The rest are in Heart of Uwharries/Middle Uwharries Corridor. Heart of the Uwharries is a high priority area for North Carolina in the TNC's Plan for the Piedmont Region of the US.
- **U198, U223, U327 and U16:** These tracts except for U16 which is less than a mile away are contiguous with the Abner bog listed on Montgomery County Natural Heritage Inventory as a biological community of regional significance. There are very few of these unique wetlands in the region. The Nature Conservancy owns most of Abner Bog so as to protect this unique and significant wetland. More acquisition around Abner Bog is needed rather then selling off these NF tracts that provide protection of the bog's boundaries. These tracts have good partnership potential for the US Forest Service to develop community involvement and partnership initiatives. All four of these tracts are on Barnes Creek which is classified as a NC Outstanding Resource Water. These are in a priority watershed project area for acquisition by the US Forest Service and the Land Trust for Central North Carolina. These tracts were identified with Clean Water Management Trust Fund project monies and should not be taken lightly when determining their value or significance.
- **U16:** This tract is also in proximity to many of the Randolph County Helianthus schweintizii (a Federal listed rare plant species) sites. NC Department of Agriculture Plant Conservation Program recently acquired property within 2 miles of this site to protect and fill in gaps for better management and buffer protection of this Federal listed rare plant.
- **U352:** This tract is Harvey's Ridge Mountain which is listed in the Randolph County Natural Heritage Inventory as a biological community of county significance. It is also in the viewshed of the approach to the NC Zoo and provides a scenic view from the Zoo's Uwharrie Vision viewing area. Uwharrie Vision is an art piece dedicated to Wes Moser who loved the Zoo and the Uwharrie region. Harvey's Ridge parcel has strategic location importance for the Randolph County Parks and Recreation Master Plan as a future extension of the historic 50-mile Uwharrie Trail and as a connector between the Uwharrie Forest and the NC Zoo. This tract should be included when considering a wildlife corridor connection and land bridge for wildlife trying to cross US 220 (future I73/I74).
- **U243:** This tract is upstream from the Pisgah Covered Bridge in the head waters of Little River. The Bridge is one of only two covered bridges remaining in NC and the surrounding area is listed in the Randolph County Natural Heritage Inventory as a biological community of county significance. The water quality is essential for rare mussels that live downstream of this tract. This parcel has strategic location importance for the Randolph County Parks and Recreation Master Plan as a future extension of the historic 50-mile Uwharrie Trail and as a connector between the Uwharrie Forest and the NC Zoo.
- **U115:** This tract is in the head waters of an unnamed tributary that flows into the West Fork of the Little River and is in close proximity to the Upper Densons Creek and Abner Mountain. The Denson's Creek Macrosite is listed in the Randolph County Natural Heritage Inventory as a biological community of state significance in that it provides protective buffer to the creek waters which support four rare mussels and provide habitat for three rare plants. Abner Mountain is listed in the Randolph

County Natural Heritage Inventory as a biological community of state significance in that it provides habitat for three rare mussels and the road and power line rights-of-way support three rare plants. Selling off the headwaters for such critical habitat means the risk of pollution, increased sedimentation if developed, or any number of changed land use practices could mean increased threat or even loss of these important biological indicators.

- **U1185a and U148a:** These tracts are listed in the Montgomery County Natural Heritage Inventory as the Little River Basic Macrosite which is a biological community of state significance in that a large number of rare aquatic fauna (eight mussels, one fish and one macro-invertebrate caddisfly are found) attest to water quality, and as the Little River Buffer and Cliffs Section 1A Piedmont Mafic cliff site which is a biological community of regionally significance due to its riparian buffer, steep cliffs, and rare plants. **U882a and U822b** are in close proximity (around 1000 to 2000 feet) to both these sites.
- **U346c:** This tract is in close proximity (approximately 4090 feet) to the Rocky Creek Longleaf Pine Macrosite which is listed as a site of nationally significance in that it has a large number of the Helianthus schweintizii elemental occurrences of this federally rare plant. This tract is located between this site and the Little River Basic Macrosite. Given its location it has potential as wildlife corridor connector and buffer protection potential between these sites of rare plants and the Uwharrie Forest.

EXHIBIT X

NC ZOO





Project: Pachyderms Progress

January 1, 2003

Drylands and African additions and renovations.....$3.3 million

January 22, 2003

Society Board of Directors committed to:

- **$6,000,000 goal for Elephant/Rhino expansion campaign**
- **Secure approval of Drylands donors for funds transfer to Elephant/Rhino campaign**
- **Raise and/or provide the remaining $2.7 million**
- **Guarantee up to $2.7 million (if needed) from Lion's Pride Fund**

January, 2004 – December, 2004

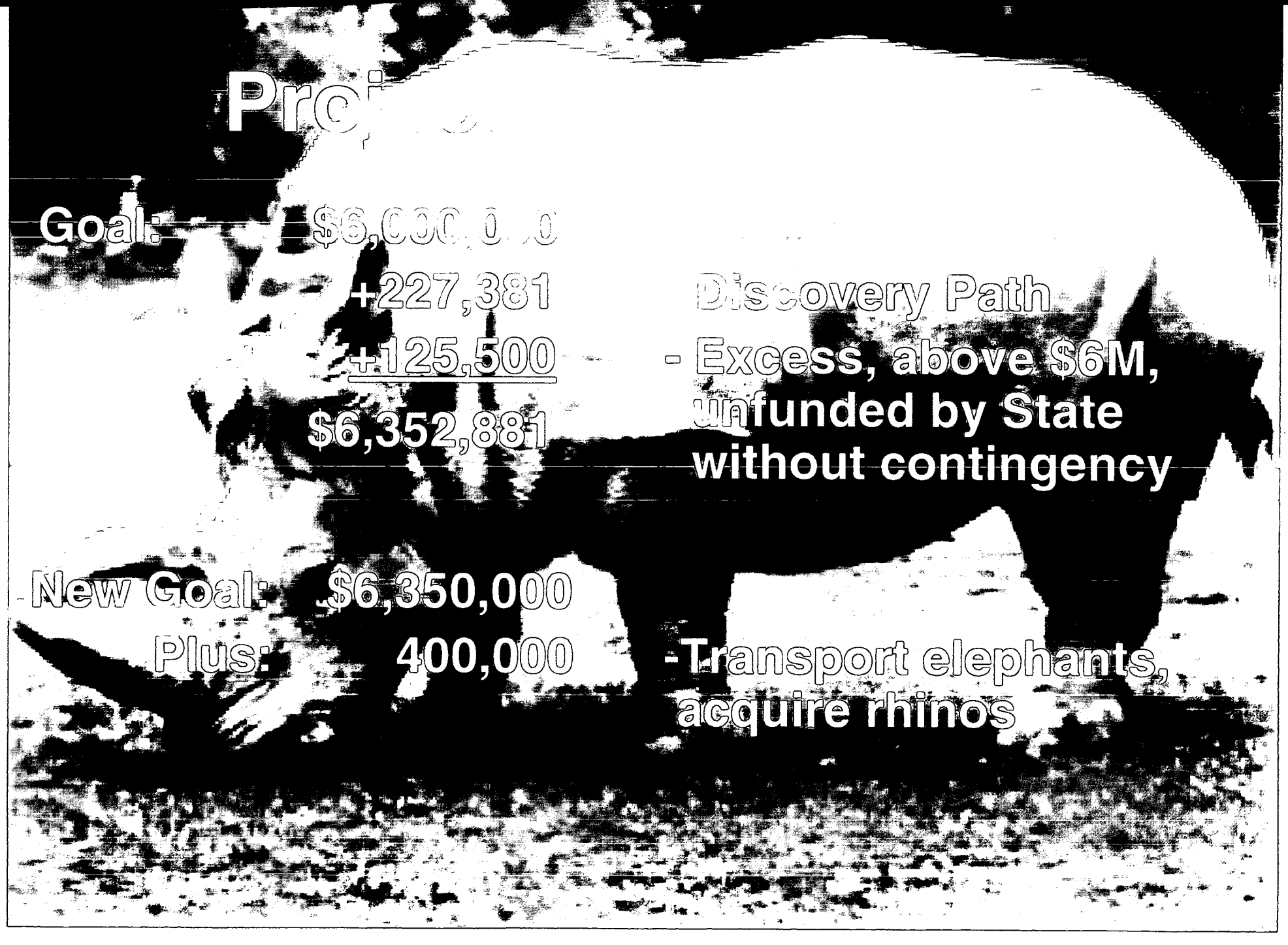
Elephant/Rhino Expansion (including Drylands transfer).....$3.7 million

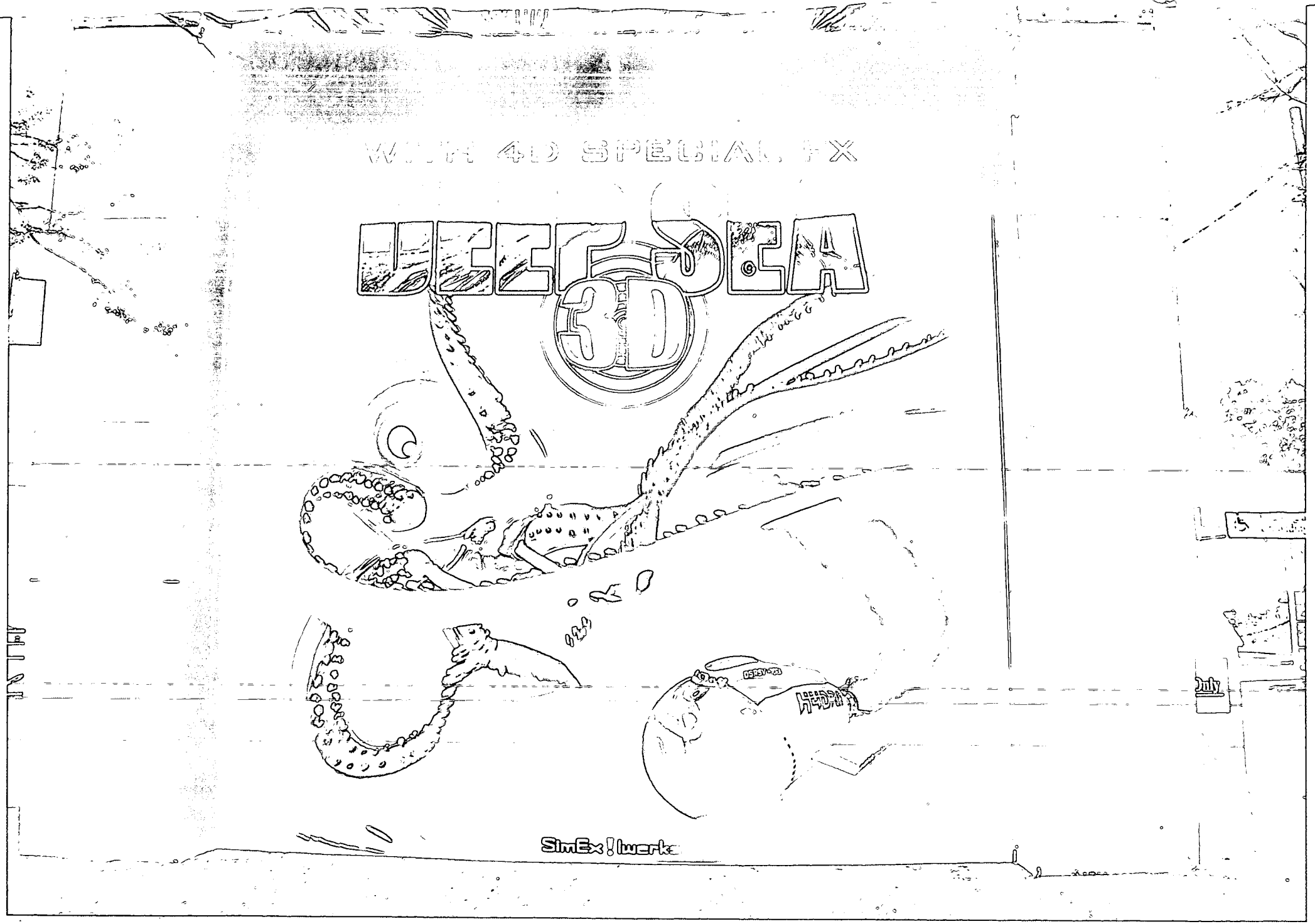
January, 2005 – December 31, 2005

Project: Pachyderms Kickoff

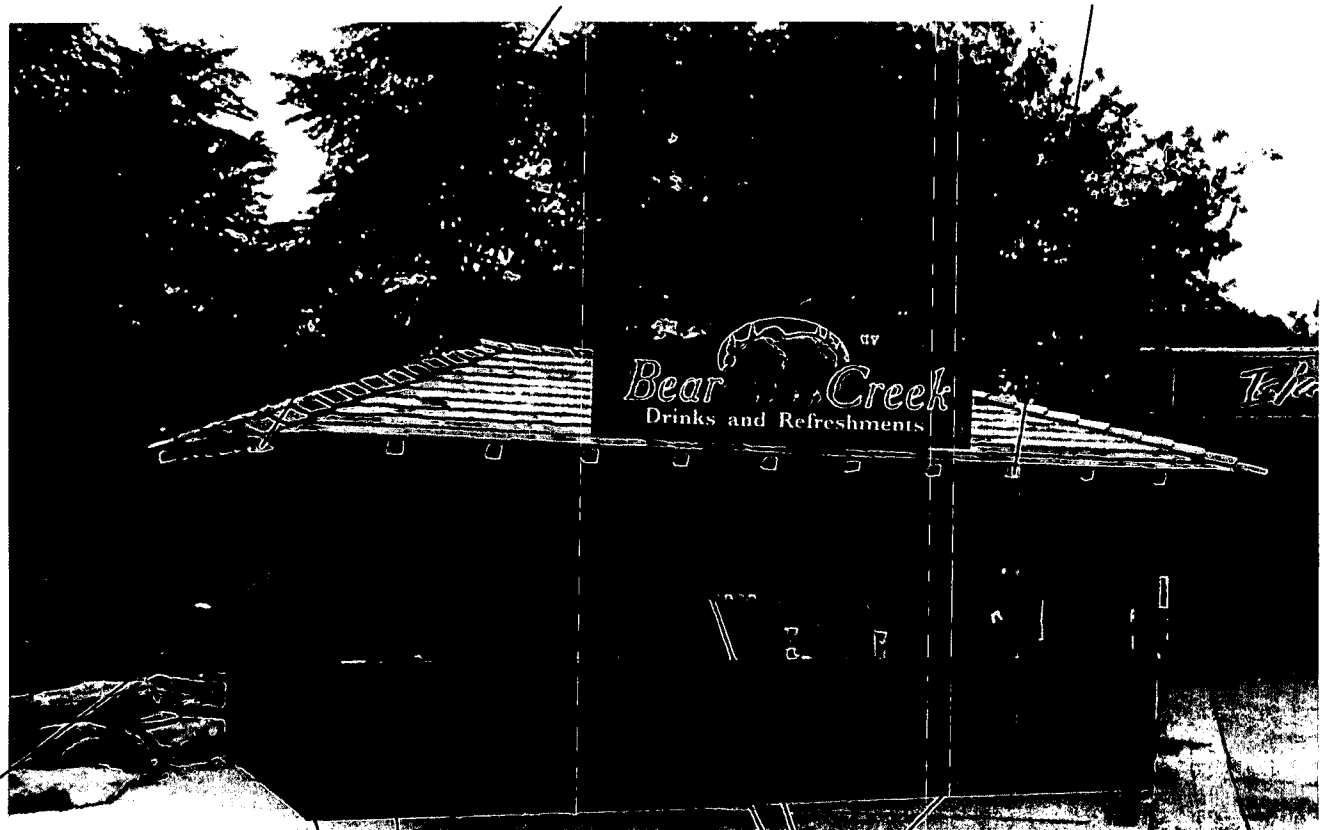
- **Zoo Family Campaign.....$48,000**
- **Society Board and Council.....$180,250**
- **Individual, Organization, Foundation and other Project Giving...$2,023,936**

Total Raised for Project: Pachyderms.....$5,952,186


Pro
Goal: $6,000,000
+227,381
+125,500
$6,352,881
Discovery Path
- Excess, above $6M, unfunded by State without contingency
New Goal: $6,350,000
Plus: 400,000
-Transport elephants, acquire rhinos


WITH 4D SPECIAL FX
DEEP SEA
3D
SimEx-Iwerks

Paint white support poles Pantone #167 C also

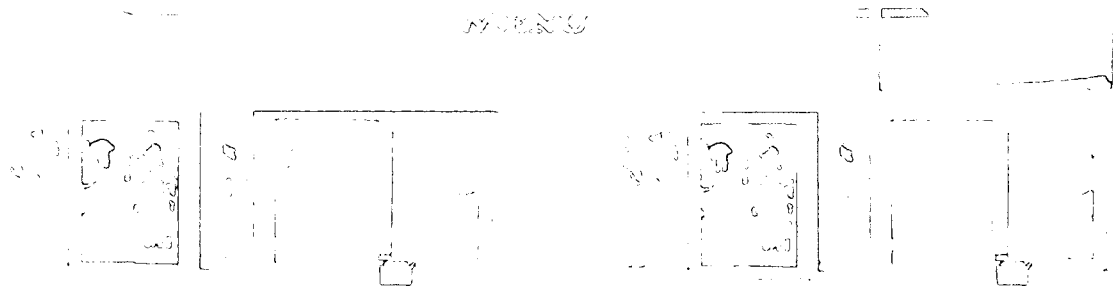


ides
M 91 Y 100 K 0
% Drk. Brown

All Trim Pantone # 1525 C orange-rust

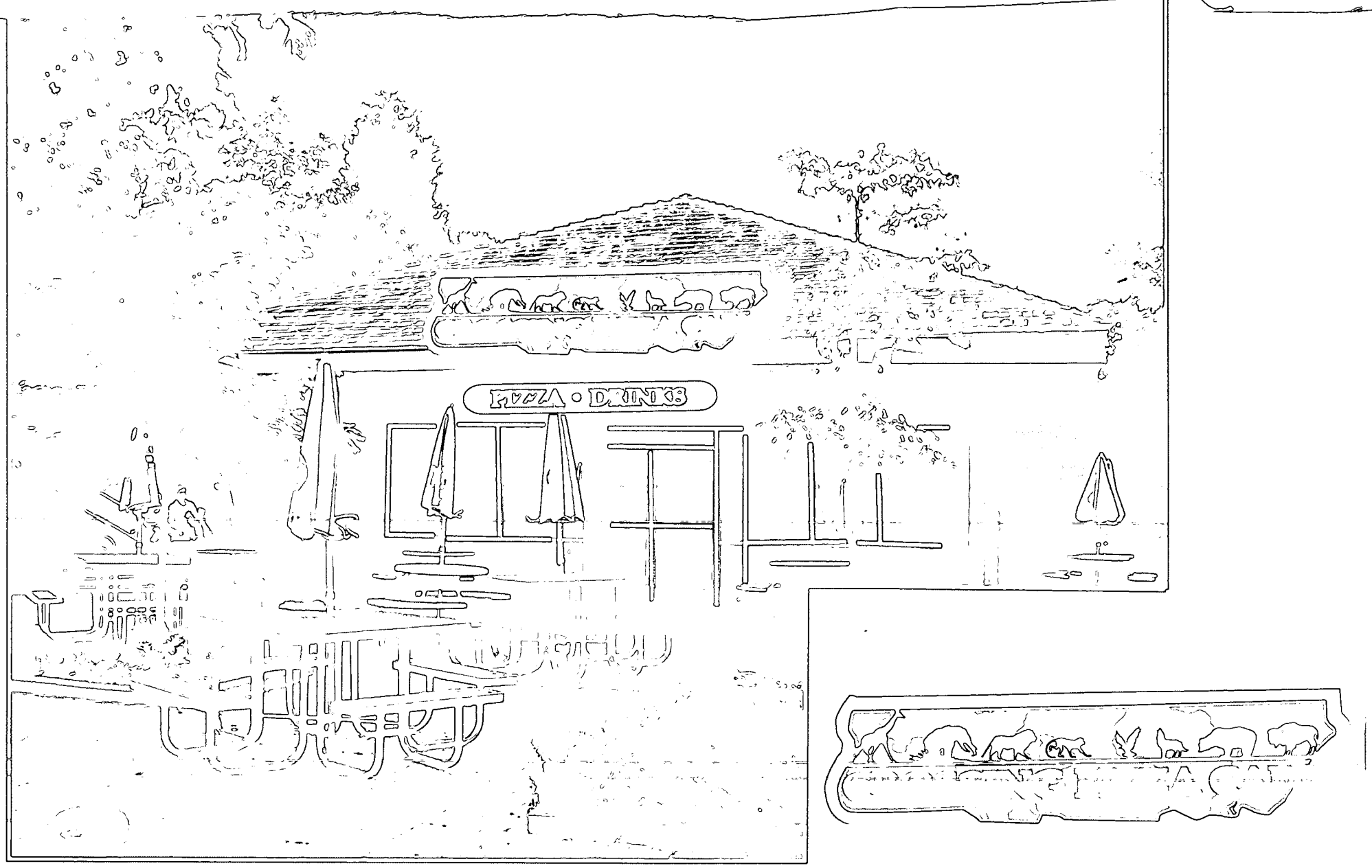
Bottom and side
C 80 M 91 Y 100 K 0 @100% Drk. Brown







Designed by Randy Slamowitz Graphics



Designed by Randy Slamowitz Graphics

Yellow PMS129 C

Drk. Red PMS1807 C

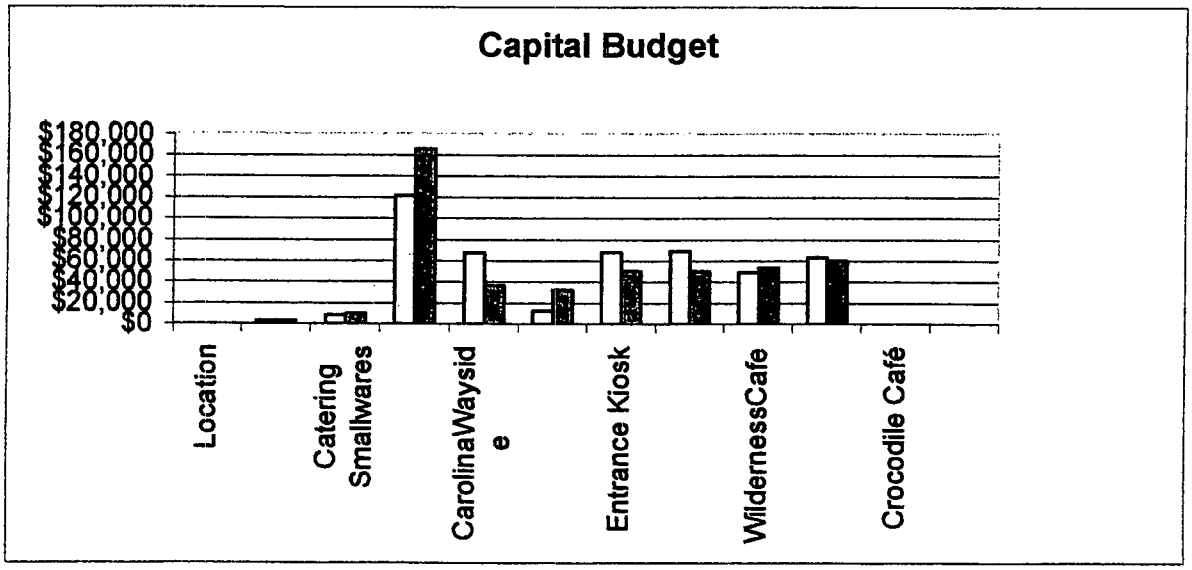
Light Blue PMS284
c50 m15 y0 k5

Ivory/Cream PMS614
c0 m5 y20 k3

Capital Budget Update

NC Zoo Investment Outlay		
Location	**Current Outlay**	**Proposed Outlay**
Office / Distribution	$3,000	$3,000
Catering Smallwares	$8,500	$10,000
Junction Café	$121,400	$165,500
CarolinaWayside	$67,396	$37,000
PrairieOutpost	$12,400	$32,876
Entrance Kiosk	$67,696	$50,024
PlazaKiosk	$69,296	$50,024
WildernessCafe	$49,000	$53,500
Junction Pizza	$62,800	$59,900
Crocodile Café	$0	
Total Investment	461,488	

Total Investment Budget $461,000





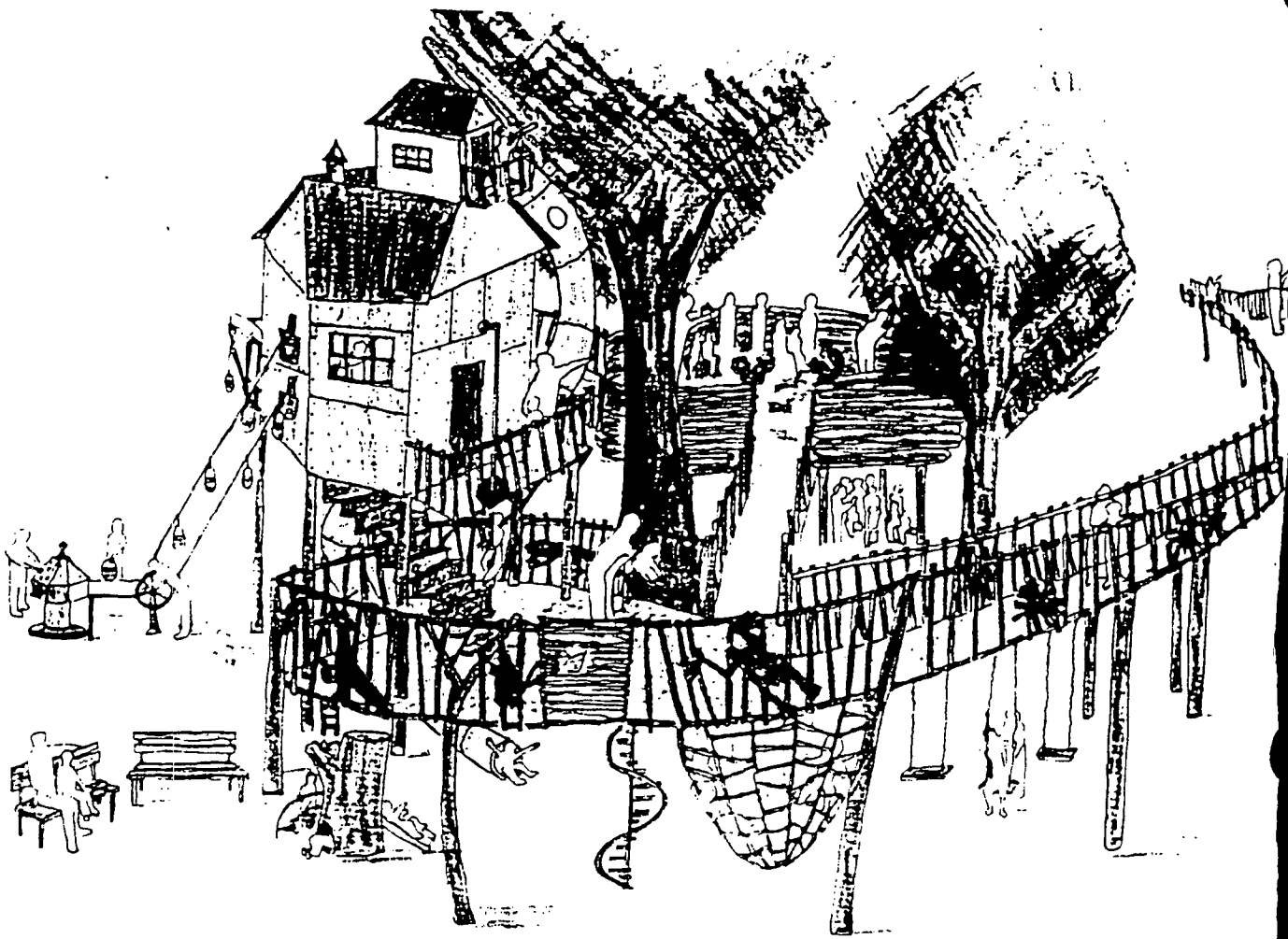
Design	March – September, 06
Bid to GC	October, 06
On-site demolition (in-house)	January – April, 07
Construction	April, 07 – February, 08
Landscaping (in-house)	May, 07 – April, 08
Exhibit Work (in-house)	October, 06 – April, 08
Animal Acclimation	February – April, 08
Open to Public	May, 2008

the Treehouse

discover • nature • play

A Experiential Children's Exhibit at the North Carolina Zoological Park

What is the Treehouse?



the Treehouse: creating play experiences foster the love of nature

Project Goals

- Provide play experiences in a natural environment

- Develop empathy between the child and the natural world through experienceof a variety of sensory activities including close encounters with native animals and plants.

- Develop comfortable experiences for all visitors, with opportunities for decision-making by children

- Provide meaningful, relevant programs that the children can apply in their daily lives.

- Engage all Levels of Participation: Watching, doing, story-telling, quiet exploration, imaginative play, role-playing, empathizing, taking things apart, engaging with real people, taking charge, documenting their experience

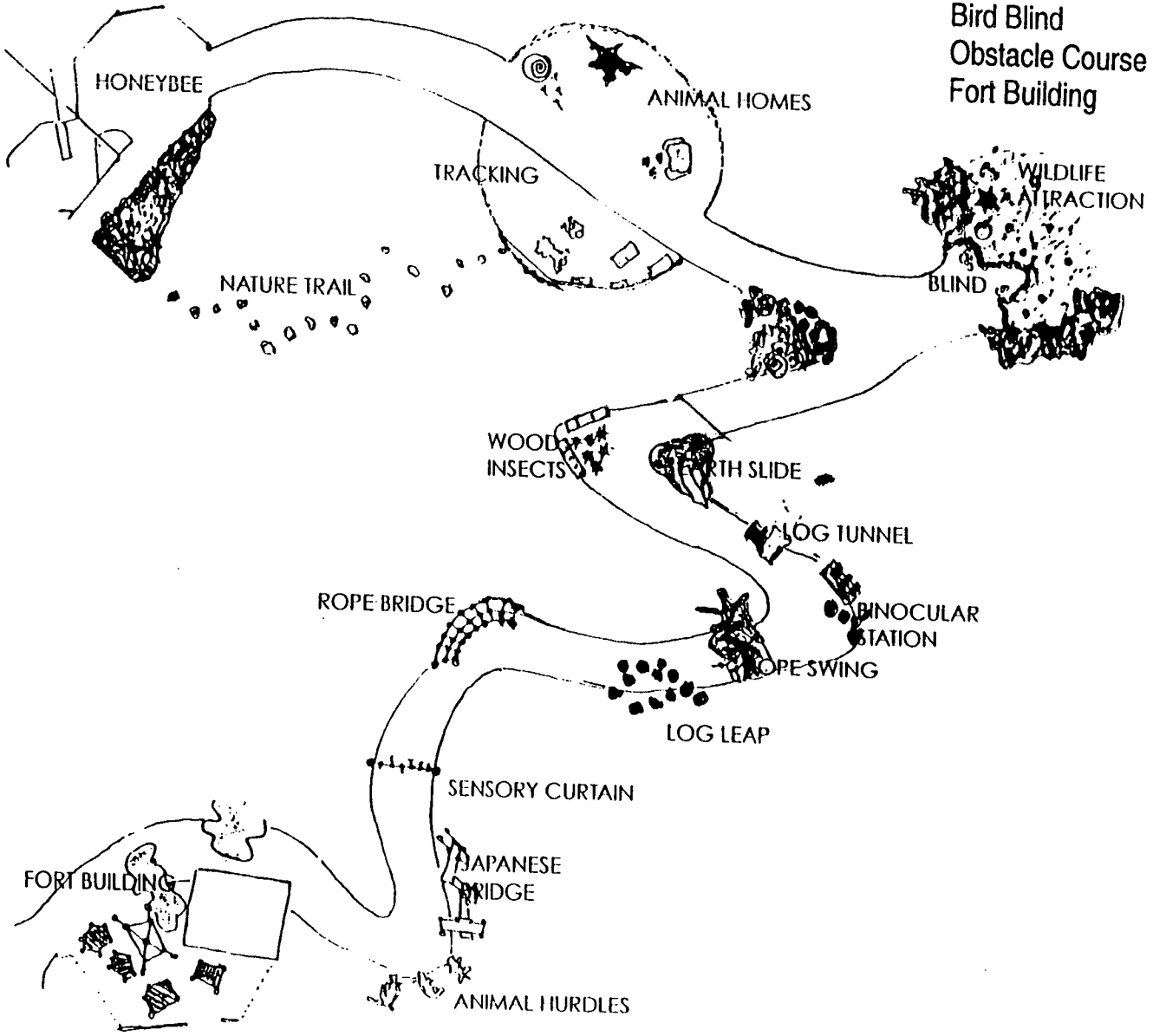
- Engage all the Senses

- Make opportunities for use of large motor skills

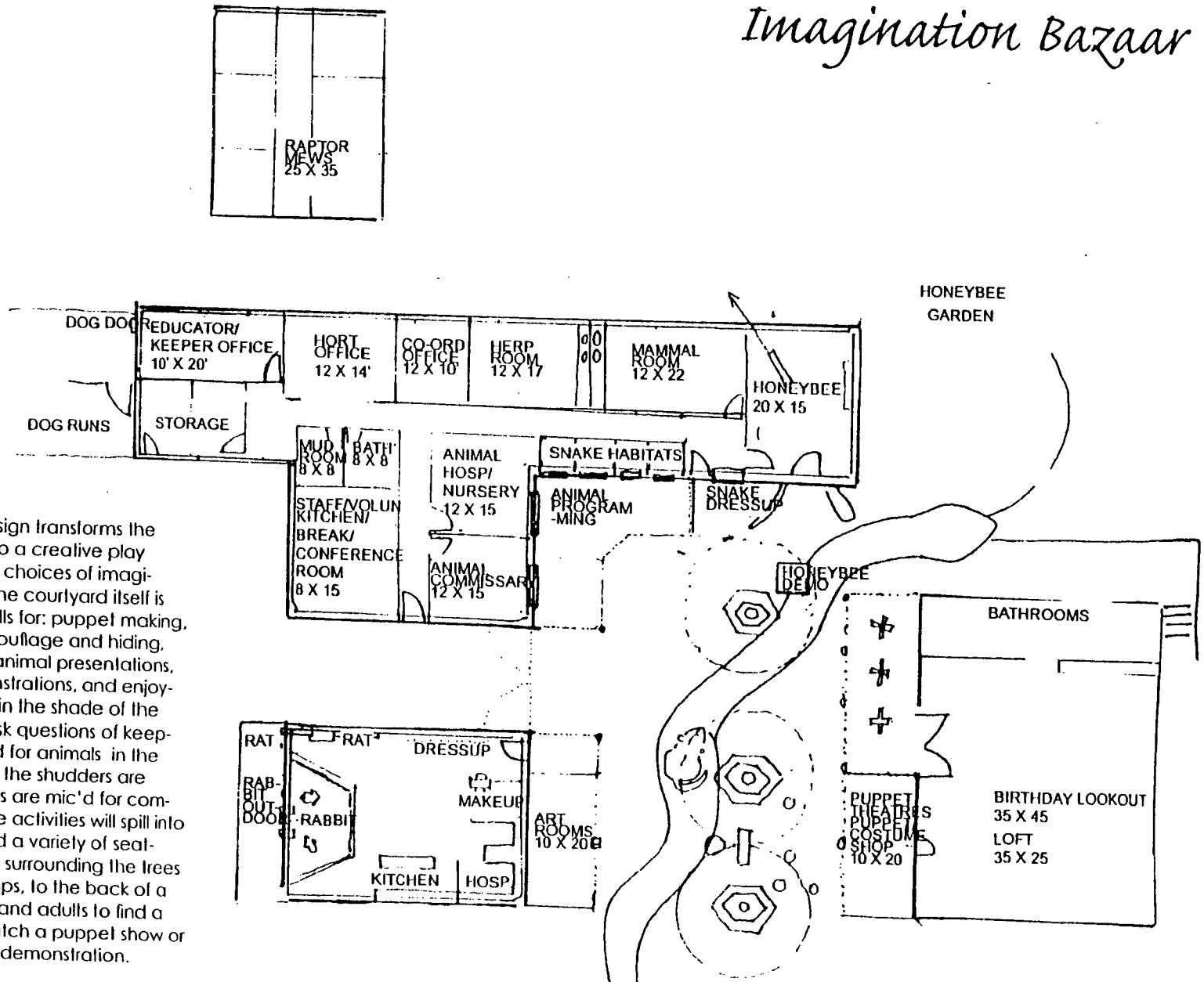
- Provide clear indications for child and parent behaviorcharge, taking things apart, engaging with real people, documenting their experience

Woodland Play

Tracking
Animal Homes
Bird Blind
Obstacle Course
Fort Building



Imagination Bazaar



The Treehouse design transforms the paddock area into a creative play space, with many choices of imaginative activities. The courtyard itself is surrounded by stalls for: puppet making, art creation, camouflage and hiding, snake watching, animal presentations, honeybee demonstrations, and enjoying an ice cream in the shade of the porch. Kids can ask questions of keepers preparing food for animals in the commissary when the shudders are open. (These areas are mic'd for communication). Some activities will spill into the courtyard, and a variety of seating, from benches surrounding the trees to moveable stumps, to the back of a rat allow children and adults to find a good place to watch a puppet show or parade or animal demonstration.



PICNIC PAVILIONS AND WETLAND MASTERPLAN

NORTH CAROLINA ZOOLOGICAL PARK

EXHIBIT Y

MONTGOMERY HERALD
March 22, 2006

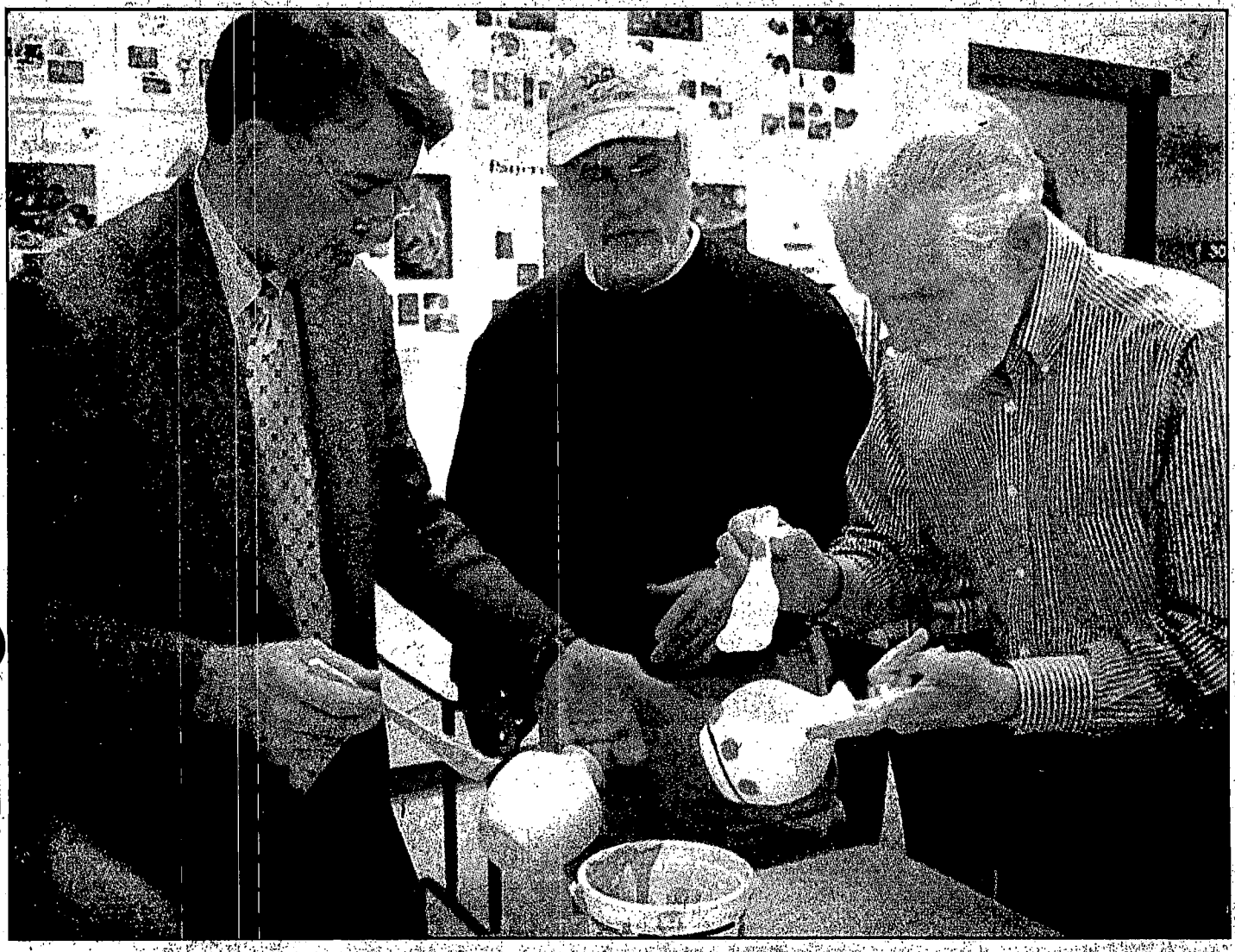


Photo by Tammy Dunn/staff

GLAZING – Montgomery Community College pottery instructor Mike Ferree watches as Representative Joe Hackney, left, and Senator Charles Albertson, right, put the final glazing on a piece of pottery. The group was part of the General Assembly's Environmental Review Commission visiting Montgomery County last week. Story, additional photos on A-12.

ENVIRONMENTAL REVIEW COMMISSION
2005-2006
MEMBERSHIP LIST

Senator Charlie Albertson, Co-chair
525 Legislative Office Building
Raleigh, NC 27603-5925
(919) 733-7505; Fax (919) 715-8329

Senator Stan Bingham
292 North Main Street
Denton, NC 27239
(336) 859-0999; Fax (336) 3939

Senator Daniel G. Clodfelter, Co-Chair
110 North Tryon Street
Charlotte, NC 28202-4003
(704) 331-1041; Fax (704) 378-2041

Senator Katie Dorsett
1000 N. English Street
Greensboro, NC 27405
(336) 275-0628; Fax (336) 272-6853

Senator James S. Forrester
P. O. Box 459
Stanley, NC 28164
(704) 263-8603; Fax (704) 263-8169

Senator Eleanor Kinnaird
207 West Poplar Avenue
Carrboro, NC 27510
(919) 929-1607; Fax (919) 856-2223

Senator A. B. Swindell
P. O. Box 788
Nashville, NC 27856
(252) 462-0190; Fax (252) 459-4385

Senator David Weinstein
204 Walnut Cove Drive
Lumberton, NC 28358
(910) 739-3048; Fax (910) 608-0034

Representative Pryor Gibson, III, Co-chair
P. O. Box 1010
Wadesboro, NC 28170
(704) 694-5957

Representative Joe Hackney
P. O. Box 1329
Chapel Hill, NC 27514
(919) 929-0323; Fax (919) 929-3960

Representative Jim Harrell
PO Box 626
Elkin, NC 28621
(336) 902-0276; Fax (336) 835-1241

Representative Pricey Harrison
PO Box 9339
Greensboro, NC 27429
(336) 292-1953; Fax (919) 856-0417

Representative Howard Hunter
146 NC 461
Winton, NC 27986
(252) 332-3130; Fax (252) 332-7580

Representative Carolyn H. Justice
P. O. Box 964
Hampstead, NC 28443
(910) 270-4604; Fax (910) 270-3455

Representative Daniel F. McComas
P. O. Box 2274
Wilmington, NC 28402
(910) 343-8372; Fax (910) 343-8003

Representative Edith Warren
P.O. Box 448
Farmville, NC 27828
(252) 753-4198; Fax (252) 753-5603

STAFF

George F. Givens, Commission Counsel
Jeffrey Hudson, Assistant Commission Counsel
Jennifer McGinnis, Assistant Commission Counsel
Tim Dodge, Commission Analyst
Research Division
545 Legislative Office Building
(919) 733-2578

Susan Iddings, Assistant Commission Counsel
Bill Drafting Division
401 Legislative Office Building
(919) 733-6660

Dot Waugaman, Commission Clerk
309 Legislative Office Building
(919) 715-2525; Fax (919) 754-3232

North Carolina General Statutes
ARTICLE 12D.

Environmental Review Commission.

§ 120-70.41. Commission established.

The Environmental Review Commission is hereby established.

§ 120-70.42. Membership; cochairs; vacancies; quorum.

(a) The Environmental Review Commission shall consist of six Senators appointed by the President Pro Tempore of the Senate, six Representatives appointed by the Speaker of the House of Representatives, who shall serve at the pleasure of their appointing officer, the Chair or a Cochair of the Senate Committee on Agriculture, Environment, and Natural Resources or the equivalent committee, the Chair or a Cochair of the House of Representatives Committee on Environment and Natural Resources or the equivalent committee, the Chair or a Cochair of the Senate Committee on Appropriations – Natural and Economic Resources or the equivalent committee, and the Chair or a Cochair of the House of Representatives Committee on Appropriations – Natural and Economic Resources or the equivalent committee.

(b) The President Pro Tempore of the Senate shall designate one Senator to serve as cochair and the Speaker of the House of Representatives shall designate one Representative to serve as cochair.

(c) Except as otherwise provided in this subsection, a member of the Commission shall continue to serve for so long as the member remains a member of the General Assembly and no successor has been appointed. A member of the Commission who does not seek reelection or is not reelected to the General Assembly may complete a term of service on the Commission until the day on which a new General Assembly convenes. A member of the Commission who resigns or is removed from service in the General Assembly shall be deemed to have resigned or been removed from service on the Commission. Any vacancy that occurs on the Environmental Review Commission shall be filled in the same manner as the original appointment.

(d) A quorum of the Environmental Review Commission shall consist of nine members.

§ 120-70.43. Powers and duties.

(a) The Environmental Review Commission shall have the following powers and duties:

(1) To evaluate actions of all boards, commissions, departments, and other agencies of the State and local governments as such actions relate to the environment or protection of the environment, including but not limited to an evaluation of:

a. Benefits of each program relative to costs;

b. Achievement of program goals;

c. Use of measures by which the success or failure of a program can be measured; and
d. Conformity with legislative intent;

(2) To study on a continuing basis the organization of State government as it relates to the environment or to the protection of public health and the environment, including but not limited to:
a. Improvements in administrative structure, practices, and procedures;
b. Increased integration and coordination of programs and functions;
c. Increased efficiency in budgeting and use of resources;
d. Efficient administration of licensing, permitting, and grant programs;
e. Prompt, effective response to environmental emergencies;
f. Opportunities for effective citizen participation; and
g. Broadening of career opportunities for professional staff;

(3) To make any recommendations it deems appropriate regarding the reorganization and consolidation of environmental regulatory agencies and the recodification of statutes relating to the environment, including but not limited to:
a. Ways in which agencies may operate more efficiently and economically;
b. Ways in which agencies can provide better services to the State and to the people; and
c. Instances in which functions of agencies are duplicative, overlapping, incomplete in scope or coverage, fail to accomplish legislative objectives, or for any other reason should be redefined or redistributed;

(4) To review and evaluate changes in federal law and regulations, relevant court decisions, and changes in technology affecting the environment or protection of the environment;

(5) To review existing and proposed State law and rules affecting the environment or protection of the environment and to determine whether any modification of law or rules is in the public interest;

(6) To make reports and recommendations, including draft legislation, to the General Assembly from time to time as to any matter relating to the powers and duties set out in this section; and

(7) To undertake such additional studies as it deems appropriate or as may from time to time be requested by the President Pro Tempore of the Senate, the Speaker of the House of Representatives, either house of the General Assembly, the Legislative Research Commission, the Joint Legislative Commission on Governmental Operations, the Joint Legislative Utility Review Committee, or the Joint Select Committee on

Low-Level Radioactive Waste and to make such reports and recommendations to the General Assembly regarding such studies as it deems appropriate; provided that the Environmental Review Commission shall not undertake any study which the General Assembly has assigned to another legislative commission or committee.

(b) The Environmental Review Commission may continue the study of environmental agency consolidation and reorganization. The study of environmental agency consolidation shall include, but is not limited to:

(1) Monitoring the implementation of Session Laws 1989, c. 727;

(2) Evaluation of the organization, programs, and operation of the Department of Environment and Natural Resources;

(3) Evaluation of the organization, functions, powers, and duties of the components of the Department of Environment and Natural Resources, including boards, commissions, councils, and regional offices; and

(4) Recodification of the General Statutes relating to the environment and environmental agencies.

(c) In addition to its general powers and duties, the Environmental Review Commission shall have the following powers and duties with respect to hazardous waste management:

(1) To study the current and projected need for hazardous waste treatment, storage, and disposal capacity in the State in light of anticipated generation of hazardous waste and alternatives for hazardous waste treatment and disposal;

(2) To evaluate the potential for the development of additional hazardous waste treatment, storage, and disposal capacity by the private sector;

(3) To study the necessity for and scope of hazardous waste treatment, storage, and disposal facilities which are sited, owned, or operated by the State;

(4) To review progress in securing a volunteer county to host a hazardous waste treatment facility;

(5) To study incentives and compensation for the community which hosts, either voluntarily or involuntarily, a hazardous waste treatment facility, including any additional incentives and compensation which may be needed, whether there should be differential compensation for a volunteer county, options for use of funds by local governments, distribution of compensation among local governments, and methods of providing flexibility in the development of an incentives and compensation package for a particular local community;

(6) To review progress in developing interstate agreements for the treatment, storage, and disposal of hazardous waste;

(7) To assist in the development of cooperative, comprehensive regional approach to hazardous waste treatment and disposal;

(8),(9) Repealed by Session Laws 2001-474, s. 12.

(10) To study the capacity assurance requirement under the Comprehensive Environmental Response, Compensation and Liability Act of 1980, Pub. L. No. 96-510, 94 Stat. 2767, 42 U.S.C. 9601 et seq., as amended, and the Superfund Amendments and Reauthorization Act of 1986, Pub. L. No. 99-499, 100 Stat. 1613, as amended as it relates to the continued eligibility of North Carolina for remedial actions under Superfund;

(11) To study alternatives available to the State for dealing with hazardous waste and the ramifications of those alternatives; and

(12) To receive and evaluate reports of every State agency, board, and commission which has any power or duty with respect to hazardous waste management.

§ 120-70.44. Additional powers.

The Environmental Review Commission, while in the discharge of official duties, may exercise all the powers provided for under the provisions of G.S. 120-19, and G.S. 120-19.1 through G.S. 120-19.4. The Environmental Review Commission may meet at any time upon the call of either cochairman, whether or not the General Assembly is in session. The Environmental Review Commission may meet in the Legislative Building or the Legislative Office Building upon the approval of the Legislative Services Commission.

Notwithstanding any rule or resolution to the contrary, proposed legislation to implement any recommendation of the Environmental Review Commission regarding any study the Environmental Review Commission is authorized to undertake or any report authorized or required to be made by or to the Environmental Review Commission may be introduced and considered during any session of the General Assembly.

§ 120-70.45. Compensation and expenses of members.

Members of the Environmental Review Commission shall receive subsistence and travel expenses at the rates set forth in G.S. 120-3.1.

§ 120-70.46. Staffing.

The Legislative Services Officer shall assign as staff to the Environmental Review Commission professional employees of the General Assembly, as approved by the Legislative Services Commission. Clerical staff shall be assigned to the Environmental Review Commission through the offices of the Supervisor of Clerks of the Senate and Supervisor of Clerks of the House of Representatives. The expenses of employment of clerical staff shall be borne by the Environmental Review Commission.

§ 120-70.47. Funding.

From funds available to the General Assembly, the Legislative Services Commission shall allocate monies to fund the work of the Environmental Review Commission.

MINUTES
ENVIRONMENTAL REVIEW COMMISSION
11 April 2006

The Environmental Review Commission (ERC) met on Tuesday 11 April 2006 at 9:30 a.m. in Room 544 of the Legislative Office Building. Representative Gibson presided.

The following members were present: Senators Albertson, Bingham, Clodfelter, Dorsett, Forrester, Kinnaird, Swindell and Weinstein; and Representatives Gibson, Hackney, Harrell, Harrison, Hunter, Justice, and McComas. Mr. George Givens, Commission Counsel; Mr. Jeffrey Hudson, Assistant Commission Counsel; Ms. Jennifer McGinnis, Assistant Commission Counsel; Ms. Susan Iddings, Assistant Commission Counsel; Mr. Tim Dodge, Commission Analyst; and Ms. Dot Waugaman, Commission Clerk, were also present.

On 27 March 2006, notice was sent to members and interested parties via e-mail and regular mail. A copy of the notice of the meeting is included in the attachments to these minutes as **Exhibit A**. Copies of the agenda for the meeting and visitor registration sheets are included in the attachments as **Exhibits B** and **C**.

Representative Gibson welcomed the members and audience and recognized Mr. Givens for his comments. Mr. Givens reported that the planning meeting for this meeting was held on Monday 3 April. He welcomed Senator Stan Bingham to the commission as a replacement for Senator Hamilton Horton. He indicated to members there was a packet of reports at their desks. Some reports relate to the meeting's agenda items (see **Exhibit D** and **Exhibits D-1 through D-5**) including two quarterly reports from the Environmental Management Commission (EMC) (Agenda Item 4), two reports pursuant to the Drinking Water Reservoir Protection Act (Agenda Item 5), and a report related to the dry cleaning solvent cleanup program (Agenda Item 10). There is one read only report (see **Exhibit D-6**) on the desirability of acquiring and the feasibility of attaining reductions in emissions of oxides of nitrogen and sulfur dioxide beyond those required by the Clean Smokestacks Act.

Mr. Givens referred to the scheduled working group meetings on the agenda. He announced the next meeting of the ERC will be Wednesday 3 May in Room 544 of the Legislative Office Building. Three items deleted from today's agenda may or may not appear on the 3 May agenda: further discussion of animal waste management technologies, potable water from private drinking water wells, and issues related to actions available to government to respond to violations and noncompliance by licensed environmental professionals and consultants. Mr. Givens stated he hopes Commission members will look at some legislative proposals for the Commission to recommend to the 2006 session at the beginning of the next meeting. He announced that Dr. Moreau, on the agenda at Item 4, with the quarterly reports from the Environmental Management Commission, was not able to be at the meeting and the agenda item will be rescheduled. Agenda Item 8 has been presented to the Joint Legislative Commission on Seafood and Aquaculture, and because it relates directly to an important issue under discussion in the Phase 2 Stormwater Management Working Group [stormwater controls on land that drains into Class SA (shellfish) waters] it was considered important that the ERC also hear the report.

Representative Gibson recognized Ms. Dianne Reid, Environmental Supervisor, Division of Water Quality (DWQ), Department of Environment and Natural Resources (DENR), to give the Commission an update on the EMC's implementation of the Drinking Water Supply Reservoir Protection Act (Session Law 2005-190) (see **Exhibit E** for a copy of her PowerPoint presentation, and **Exhibit E1** for a copy of S.L. 2005-190). Section 2(a) of the Act requires a study of existing data to determine if North Carolina's drinking water reservoirs meet water quality standards with a report required by 1 May 2006. Section 2(b) of the law requires adoption of reservoir nutrient control criteria by May 2010 and quarterly progress reports. Section 3 requires the development and adoption of nutrient rules for specific reservoirs. Quarterly progress reports will be made and a nutrient management strategy will be completed by 1 July 2008. Section 4 permits no new or increased nutrient discharge allocations to the Jordan Reservoir until nutrient rules are effective. Ms. Reid is presenting a progress report on that Section today. The above-

referenced handout included copies of two reports designed to meet all reporting requirements for the ERC (**Exhibits D-3** and **D-4)**.

Ms. Reid reviewed some terms that relate to water quality assessment. The first, eutrophication, is human-induced increases in nutrient loading above natural levels. The next is nutrients, specifically nitrogen and phosphorus, that have a big impact on plant growth. Chlorophyll-a, a measure of the algal volume present in a water body; and pH, a measure of how acidic or basic a substance is, are what is measured to determine if the water quality standards for eutrophication are being met. When a water body experiences algal blooms, the pH will increase (become more basic) due to the increased photosynthesis that is occurring. At higher pH values, people can experience a burning sensation, which causes restrictions on the recreational uses of bodies of water. The change in pH also results in chemical reactions that can result in the release of metals and other compounds into the water, such as manganese, which can make the water taste bad and give it a bad odor.

Another measurement is turbidity. Turbidity refers to how clear the water is. Algae can make up the major portion of the turbidity in a lake. Sediment-laying runoff and stirred-up bottom sediment in shallow areas also contribute to increased turbidity.

Dissolved oxygen refers to the oxygen in the water. All living things need oxygen, and in an utrophic system (one that has too many nutrients) there is an overabundance of dissolved oxygen in the upper waters during the day when photosynthesis is occurring. However, the algae falls to the bottom as it dies and joins other organic matter resulting in low or no dissolved oxygen because the bacteria that break the algae down use oxygen for that process. At night there is more of a problem during algal blooms because the algae take up oxygen at night and the entire water body can be at a concentration that will kill fish and other aquatic species.

There are surface water quality standards for chlorophyll-a, pH, turbidity, and dissolved oxygen. These standards were used to determine if water quality was being met in the reservoirs.

DWQ did a screening level sample of 100 lakes in North Carolina that are classified as water supply. In compiling the report, they looked at the years of 1995 to 2005. During that time period the Division sampled 95 reservoirs. Five were not sampled due to lack of resources, higher priorities or water constraints. Every five years DWQ staff go to a different set of river basins and sample between 20-30 lakes. The sample time period is May through September, when the algae is in greatest bloom. If there is a lot of rain, a whole summer of data can be lost. The Intensive Surveys Unit is also responsible for other sampling to support a variety of other DENR needs such as permitting and the development of management strategies.

Thirteen lakes that do not meet eutrophication-related standards were identified. For those lakes, two types of actions were taken: either adapted management strategies have been put in place or additional sampling has been recommended. Lake Sequoyah has local management efforts underway. The city of Highlands has sedimentation and erosion control ordinances and buffers in place that were adopted in 1992 and 1994. Cedar Cliff had one low pH reading in 1999 at one station. The DWQ went back and re-sampled in 2004 and found no exceedance of any standards including the pH standard. They will sample the lake again in 2009. Additional sampling has been planned for Lake Lee and Lake Twitty because they found pH values above 9 in both lakes during the summer of 2000. In addition, the elevated pH values and dissolved oxygen concentrations were high, indicating the possibility of algal blooms. The data were insufficient to evaluate the systems, so the Division will sample them at least ten more times to be sure they do a good evaluation.

The other nine lakes have actions under way to address water quality issues. Some of the actions are in the process of being modified. There are six lakes already classified as nutrient-sensitive waters, requiring the development of a nutrient management strategy: Graham-Mebane, Jordan, McIntosh, Pittsboro, Stony Creek, and Falls of the Neuse. Graham-Mebane, McIntosh, Pittsboro, and Stony Creek are in the Jordan Lake watershed and will benefit from the updating of the Jordan nutrient management strategy, especially since there is no direct discharge to these waters. The modification of

the Jordan nutrient management strategies will include addressing non-point sources such as stormwater. Three of the water supply reservoirs have or are in the process of receiving management strategies based on total maximum daily load. When a lake reaches a level of impact where it is determined to be impaired due to a violation of surface water quality, standards or a loss of uses, defined by the water quality classification, the DWQ is required by law to develop a total maximum daily load for the pollutant of concern. That calculation is the maximum amount of a pollutant that a water body can receive and still meet water quality standards. It includes the allocation of that loading between the various sources that contribute the pollutant to the water body. The waters in the Total Maximum Daily Loads (TMDL) process now are Jordan, Pittsboro, and High Rock.

In addition, there are a couple of lakes that are being added to the impaired waters list. When a water body is found to exceed standards, or to have a loss of use, under federal law it is put on the impaired waters list. High Point and Rhodhiss are being added to the impaired waters list, due to exceedance of a chlorophyll-a standard in High Point, and exceedance of the pH standard, in Rhodhiss. Water supply users in both lakes have complained of a bad taste and odor, which relates back to algal blooms.

In addition to the findings specific to water quality standards, there are a couple of issues to be presented to Commission members. Only 30 lakes a year can be sampled based on current resources. In some cases DWQ is not able to determine whether or not a water body is or is not meeting water quality standards They look for downward trends to trigger special studies to verify what their limited amount of data seems to indicate. In some cases, the water suppliers are taking actions to address problems they are experiencing with their water supplies so that water can still meet its use as a water supply. Lake Rhodhiss and Lake Hickory have already installed activated carbon filters to remove taste and odor.

The Act requires the EMC to provide recommendations based on data review and findings. The Jordan and Falls Lake watersheds are already classified as nutrient sensitive and have management strategies in place. Data supports current actions to update the existing management strategies. DWQ is not proposing specific management strategies for Graham-Mebane, Stony Creek, McIntosh, or Pittsboro, as they are in the Jordan watershed and they do not have direct dischargers. The Jordan management strategy will address nonpoint pollutants. High Rock is another major water supply reservoir currently listed as impaired and for which continued monitoring is important and model development is required. Lake Lee and Lake Twitty will be sampled again this summer.

The next section of the Act requires EMC to look at nutrient control criteria. Ms. Reid showed two photographs using a Secchi disc to estimate water clarity by measuring how far light penetrates into the water. Light penetration can be reduced by sediment and by algae, although at mid-lake stations where samples are usually taken, algae are usually the main cause of reduced light penetration. In a low nutrient environment such as Phelps Lake, the Secchi disk is highly visible just below the surface; but in the nutrient rich Haw River arm of the Jordan reservoir, the white portion turns a greenish color, and as the disk is lowered, it becomes invisible sooner than in Phelps Lake.

There are a variety of reasons to control nutrients. You can reduce taste and odor problems because algae can give water a musty taste and a bad smell. Large blooms can change the chemistry in the reservoir so that manganese is released. Manganese stains sinks and clothing and gives water a bad taste and smell. The cost of treating drinking water can be reduced as nutrients are controlled. When activated carbon has to be added to the water, it increases the cost of treatment, but it can reduce the production of disinfectant by-products that with chlorine interact with the algae. It can protect the drinking water supply from toxins associated with blue-green algae and it can protect recreational uses. During extreme algal blooms, there can be fish kills.

In addition to the above, during regular drought periods, cities may not be able to switch to water supplies to get away from algal blooms. In a drought, alternative water supplies may dry up and the algal blooms may increase. We do not want to control nutrients to a sterile condition, but we do want to reduce

the occurrence of the blooms to make sure that drinking water supply reservoirs are usable. Clean surface water also keeps the cost of drinking water down.

There are current nutrient control standards for chlorophyll-a, pH, dissolved oxygen, and turbidity. Under an EPA approved plan, and in conjunction with the Act, DWQ is reviewing the current standards and lake data to update the nutrient control standards as necessary. The deadline for the EPA plan, and for the development of the nutrient control criteria for the lakes needing them, is 2010. DWQ expects to meet the deadlines, even in the face of some challenges.

Not only has monitoring equipment been abused or totally removed, there have been some analytical problems. In the past year, the Division lost a summer's worth of chlorophyll-a data due to laboratory problems. Steps are being taken to prevent the analytical problems and they are making their sampling equipment less of a target. Fortunately, no equipment has been lost in a reservoir targeted for nutrient control rules under Section 3. Under Section 3, the Division is required to adopt nutrient rules for certain drinking water reservoirs. Falls of the Neuse reservoir is the only lake that met the criteria laid out in the act. The requirements include no new or increased nutrient allocation until rules are effective. DWQ is required to base the rules on a calibrated nutrient response model. They can use mandatory measures to meet the goals, and they are to consider cost and effectiveness as they develop the rules by 1 July 2008.

In March of 2005 DWQ began a field study to provide additional water quality data and put together a technical advisory committee consisting of representatives of the City of Raleigh, Durham, Wake County, the Neuse Riverkeeper, DWQ staff and others. The laboratory problems of the summer make reaching the 28 July deadline difficult, and the current drought conditions do not help. If the drought continues into the summer of 2006, the DWQ may be forced to delay data collection for modeling purposes. With these situations in mind, the technical advisory committee is forming a request for the legislature to extend the current deadline by two years, to 1 July 2010.

There are requirements that no new or increased nutrient allocations are to be allowed for the Jordan Reservoir until the nutrient rules become effective. The Town of Pittsboro has requested an expansion; however, under the current act, the DWQ cannot give a go ahead for expansion. The Division began meeting in 2005 to work up the concept of the rules. When the members of the community being regulated by the rules raised concern, the EMC began delving back into their rules in their January and March meetings. They have directed staff to bring rules to them in July/September of 2006, following opportunities to meet with the interested parties. DWQ projects that EMC will move forward by the Fall of 2006 with a set of rules for public hearing with final rules approved by Summer of 2007.

Representative Hackney asked if there is any testing for organics or chemical substances. Ms. Reid said DWQ did their analysis based on nutrient enrichment as that was the focus of the act. She added that they do some sporadic sampling for organics; however, it is not done regularly for any lake. Senator Bingham asked how deep they go to sample in a lake. She replied they do depth profiles for the physical parameters for dissolved oxygen, pH, temperature and conductivity on one-meter increments from the top of the lake to the bottom. For the chemical sampling, they use the photic zone, the measure of how deep the light penetrates. In High Rock Lake, they probably get samples from two meters through the water column. As far as mercury sampling for Abbott's Creek, they have an ambient station there. There will be some sediment sampling this summer on High Rock Lake, mainly looking at oxygen consumption in the sediment and the nutrients released in the sediment. They usually take metal samples from the surface.

Senator Bingham asked if the results of their studies will have any impact on local governments. Ms. Reid said DWQ will include local governments and agencies in the process. In High Rock Lake, they have a technical advisory committee that has worked with the Division on the plan for modeling and for additional sampling. The Committee includes people who live on the lake, representatives of local governments that get water from the reservoirs, and others.

Representative Gibson asked for a layman's definition of "strategy." Ms. Reid said strategy could refer to rules that might already be in place, or rules that are being developed. She said the concept of "nutrient sensitive waters" is a form of a strategy. There are rules that determine who can discharge and how much can be discharged into the water. She said DWQ is developing an overall plan for High Rock Lake.

Representative Gibson asked if any towns other than Pittsboro are affected for expansion by the legislation. Ms. Reid said any town in the Jordan and Falls watersheds cannot expand before the new rules are in place.

Senator Albertson asked if DWQ is doing enough sampling to assure the water is safe. Ms. Reid responded if DWQ wants to do a "really good job of determining if water quality standards are being met in the lakes" they would need to do additional sampling. However, water supply facilities do test to assure good water. DWQ does not use their data because the sampling is not done for regulatory purposes, but to determine how to treat the water. The ambient program was designed to answer the question of the status of the lakes, and using the resources they have, they designed the five year rotation, choosing to sample in the summer when the worst case conditions occur. Out of 100 lakes classified as water supplies, there are quite a few that have "hits" for some of the parameters they sample for, but they don't have enough samples to confirm whether or not they are experiencing significant problems that need to be addressed.

Representative Gibson asked what resources DWQ would need to do the job the way they would like to do it. Ms. Reid replied that it would be useful to have more resources in water quality to do a better job of determining the water quality in surface waters. For public drinking water supplies there is also a need to support the surface water assessment program, where the potential problems in watersheds are being identified. Six staff members sample 160 lakes. They also support sampling for permitting purposes, conduct special studies, help regional offices respond to complaints, and perform additional samplings for the development of management strategies. Sampling of ambient lakes is all done by in-house staff.

Representative Hackney commented that DWQ samples for things that affect the appearance of the lake, the recreational quality of the lake, and turbidity, but are not in any systematic way testing for things that might give a person cancer. Ms. Reid said that is true for what DWQ does.

Representative Gibson asked if the water treatment plants are testing for the type of water quality Representative Hackney asked about. Ms. Reid said the plants do have some monitoring requirements. Representative Hackney asked what they monitor. Ms. Reid said she did not know. Representative Gibson asked staff to provide the answer for that question.

Representative Hackney said that the drinking water for people in Chatham County comes from the Haw River and the Jordan Reservoir. It comes from the effluent from Reidsville, Greensboro, Burlington, Chapel Hill and Durham. It is reasonable to think that the people who drink the water want to know what is in the water from the wastewater treatment plants. Mr. Givens said that the testing for public water systems (any system of 15 or more service connections or 25 or more people) is done under the Safe Water Treatment Act, implemented by the Division of Environmental Health (DEH). Tests are run for bacteria, for heavy metals and some other things. The testing requirements vary depending on the size of the system. At the May meeting, the ERC will hear a proposal from the Department about the testing of private wells by DEH, and the answer to this question will be added to the information we will request.

Representative Justice asked if it is up the public water system to be sure the water is safe, or does someone oversee them. Mr. Givens said there are publicly-owned and privately-owned systems. For the privately-owned systems, samples are pulled and sent to an independent laboratory. How large municipal systems assure the quality of their water will be answered at the May meeting. There is a constant tension between what is required and the costs.

Senator Kinnaird asked about the Town of Rolesville expanding into the Falls Lake area. Rolesville is directly in the Falls watershed. When the rules are adopted, the local municipalities that are trying to start new development will know whether they can or cannot. Ms. Reid replied that each permit would be individually reviewed. Once the rules are in place, DWQ can begin allowing new discharges into the watershed.

Representative Gibson recognized Dr. Linda Stroud, Consultant, Science & Safety Consulting Services, to speak about the prevalence of mercury and other hazardous substances in public schools. Dr. Stroud taught in public schools for 34 years, and now consults with school systems (see **Exhibit F** for a copy of her PowerPoint presentation). Her remarks were pre-approved by the Department of Public Instruction (DPI) and the North Carolina Division of Public Health.

Dr. Stroud had to fully retire from teaching in 2002. She had taught in a school since 1984 that had no ventilation in her office, which was located next to the chemical storage room. Near the end of 2001, began to experience health problems. By May 17, she was diagnosed with multiple sclerosis (MS). She retired in early June, and in September she learned from her neurologist that she did not have MS. In fact, her physical condition had improved. She believes the reason for her deteriorating health was because she inhaled chemicals over a period of many years. Once she left that environment, she began to get better.

Dr. Stroud made the following recommendations for public schools:

- Get rid of mercury, mercury compounds, and mercury containing instruments.
- Get rid of hazardous and unwanted chemicals.
- Require LEAs to have a comprehensive chemical management system to prevent buildup of hazardous waste.
- Require DPI and LEAs to follow the State Board of Education Policy HSP-F-017.
- Hire someone at DPI to assist LEAs in developing the program to rid the schools of chemicals.
- Provide financial support to get rid of the chemicals.
- Develop a five-year plan to bring all LEAs into compliance with OSHA laboratory standards.

There is federal money available from the Environmental Protection Agency and the Department of Homeland Security, but DPI needs to have a person who will write grants to obtain the money. DPI currently has no one with the background to lead the chemical management program.

Representative Harrison asked why the schools have not gotten rid of the hazardous chemicals. Dr. Stroud said it is because they do not have the financial means to do so. She suggested a state-wide sweep, pulling all the chemicals together so when a waste disposal company comes to an LEA, they can go to every school at the same time to minimize the cost. She added that with a chemical management program in place, the individual schools would not obtain the hazardous chemicals that they do not need and that require costly disposal.

Senator Kinnaird asked when and how superintendents and principals are informed about this situation. Dr. Stroud said schools hire her to do assessments of their facilities in regard to hazardous materials. Before she does assessments, she holds an awareness session with central office personnel, a principal and a lead science teacher from each classroom she is going to assess to make them aware of the problems and what she will be looking for when she walks through the schools. The same group meets after her walk through and prioritizes the clean up needs. Meeting some of the needs does not cost much, such as making an inventory of the chemicals. Disposing of the chemicals and adding ventilation to the schools, however, cost a lot of money.

Representative Gibson recognized Mr. Keyes McGee, Environmental Engineer, Division of Pollution Prevention and Environmental Assistance (DPPEA), DENR, to discuss measures to reduce the

quantity of mercury released into the environment that impacts natural resources and harms the public health of the citizens of the State (see **Exhibit G** for a handout on mercury education and awareness).

Common household products that contain mercury do not individually contribute significantly to the total concentration of mercury in domestic waste water (about 15 percent). Part of the remaining 85 percent comes from excreted dental amalgam mercury in human waste, improper disposal of mercury thermometers into the collection system, mercury-containing pharmaceutical formulations, and the like. Publicly owned treatment systems have been impacted by the medical sector as a contributor of elemental mercury into the sewer system.

To decrease the amount of mercury in the environment, the Division asks people to use less energy, since coal-fired electric power is the largest source of mercury emissions. The use of fluorescent lamps is encouraged, because even though they contain mercury, they use less energy. The Division also works to reduce the use of mercury-containing products to eliminate accidental release and the problems associated with responsible disposal. They encourage recycling of mercury containing products and educate people to never dispose of mercury containing products in municipal solid waste collections. They have a webpage to educate the public at www.p2pays.org.

Senator Kinnaird asked if mercury on fruits, vegetables, and grains comes from the coal fired power plants. Mr. McGee said it is possible that mercury deposition has settled onto the crops as they grow. He added that there is a theory that any time we extract material from the surface of the earth, mercury is liberated, and it is very difficult to sequester the mercury once it is liberated.

Representative Gibson recognized Ms. Fran Preston, President of the North Carolina Retail Merchants Association, to speak to issues of interest to the retail merchants in regard to mercury. She found that members of the Association were unaware that they sell articles that contain mercury. Legislation currently under consideration would authorize a civil penalty against retailers (see **Exhibit G-1** for a copy of HB 1531, Mercury Reduction and Education). Ms. Preston said she would like to include language similar to the language in a bill concerning adulterated food in which when inspectors, for instance, found baby formula past its expiration date, the inspector would notify the store and the store would be allowed to remove the out of date food from the shelves without penalty. She stated that the retail merchants are not knowingly trying to sell products with mercury. In a situation in 2004, Ms. Preston told the committee about a toy placed in boxes of Rice Krispies that contained a mercury button battery. Neither the store nor the producer knew the toy included a mercury button battery.

Representative Harrison requested Dr. Lu Ann Williams, State Toxicologist with the North Carolina Department of Health and Human Services be given a chance to speak on the issue of mercury in public schools. She reported that she had received a call from a director of a pre-K to middle school in Chapel Hill (referred to by Dr. Stroud above). The director had hired a consultant at the direction of emergency management officials after pulling a trap out of a sink and noticing there was mercury in the trap. The mercury went all over the floor and the counter, contaminating the room. Emergency crews went into the room, got it on their shoes, tracked it all the way to the door, contaminating the carpet as well.

Although the school used one of the two companies in the state that do this type of cleanup, the company they selected inappropriately used the wrong instrument to measure the mercury and actually made the problem worse. The only instrument to measure mercury effectively is the Lumex and only one person in the state, Mr. Ron Howell, has one. Mr. Howell was called in and monitored all the rooms with the Lumex. In the meantime, the children had been in the classroom for two days.

Representative Gibson asked if there is a protocol that can be distributed to all schools. Dr. Williams said the protocol is not well established. She added that she is requesting that the legislators pass HB 1531 (see **Exhibit G-1**) to require all mercury be removed from schools. She would like other hazardous chemicals to be removed from the schools as well. She added that communicating the seriousness of the problem to superintendents and principals has been difficult.

Representative Gibson recognized Dr. Courtney Hackney, Chairman of the Coastal Resources Commission, to discuss the desirability of requiring a seller of real property in a coastal hazard area to provide a prospective purchaser with a disclosure statement of coastal natural hazards prior to the sale of the property. Dr. Hackney spoke in favor of HB 1512, Coastal Hazards Disclosure (see **Exhibit H** for a draft of the disclosure form, **Exhibit I** for a copy of HB 1512, and **Exhibit I-1** for a copy of aletter to legislators requesting support for HB 1512). He said the current rules allow a coastal homeowner whose home is imminently threatened to place sandbags to protect the home while it is being moved or dismantled, or hopefully while the beach is renourished. It is a one-time allowance, and after two years, the sandbags have to be removed. Someone who would buy the home after the sandbags were gone and would go to apply for another permit would not be allowed to install the sandbags.

Representatives Justice, McComas and Harrell said they were surprised that the buyers were not aware of the prospective problems of beach homes and that banks were willing to loan money to buyers to buy homes in precarious situations. Dr. Hackney said some people buy property with cash and do not even purchase flood insurance. He also said that the hazards do not keep the appraisals' values from going up. Representative Harrison said some times the original developer has information about the hazards but does not pass it on to first-time or subsequent buyers.

Representative Gibson recognized Mr. Richard Gatlin, Chair, North Carolina Beach, Inlet, and Waterway Association, to discuss the desirability of requiring a seller of real property in a coastal hazard area to provide a prospective purchaser with a disclosure statement of coastal natural hazards prior to the sale of the property. He said his organization is a state-wide organization that grapples with solutions for the sand management problems, to keep the beaches sandy, the waterways open, and the inlets safe. The Association has 24 directors representative of geographic diversity, mayors, county commissioners, town managers, coastal engineers, realtors, resort owners, chambers of commerce representatives and concerned citizens. In July of 2005, the board of directors voted unanimously to endorse HB 1512.

Mr. Gatlin stated that North Carolina has lost its federal funding for beach renourishment, to keep the intercoastal waterway open, and to keep the shallow draft inlets that connect the ocean to the waterway safe and navigable. Any time a developed coastal area is threatened by a coastal hazard, it diverts federal and state attention away from a planned and responsible sand management approach. In addition to that, the coastal hazard problems focus negative public opinion on how North Carolina deals with our coastal resources. There was some concern if notification would dissuade someone from purchasing real estate in coastal hazard zone. It is incumbent on those who understand coastal dynamics and the problems associated with them that potential homeowners be informed of the issues. He said that some realtors and sellers are not coastal experts and they may not be aware of what is occurring. They should be able to rely on determinations readily available without having to assume any liability for the accuracy of that information.

Representative Harrison said the bill as envisioned would impose no liability on realtors. She added that there is now a significant detailed database of coastal hazards on the web. Among other things, it shows the rate of erosion at various properties. The form would list various coastal hazards and if the seller has specific knowledge of a specific permit condition or some hazard unique to the property, that information should be conveyed to the buyer. She went on to say that Sea Grant works with the Real Estate Commission to train realtors on the coast. There is also a booklet published by the Real Estate Commission about transactions at the coast.

Representative Gibson recognized Mr. James Stephenson, Program Analyst of the North Carolina Coastal Federation, to continue the discussion of coastal and natural hazards and the desirability of requiring the seller of real property in a coastal hazard area to provide a prospective purchaser with a disclosure statement of coastal natural hazards prior to the sale of the property.

Mr. Stephenson said that after Hurricanes Fran and Bertha, the state developed a North Carolina Disaster Recovery Task Force to look at what the state could do to limit its exposure to disasters in the future. In 1997, the task force released a report. Some of the recommendations of the report related directly to coastal hazards. Three of the recommendations are to enact legislation which: (1) requires full

disclosure and hazard notification to persons acquiring property on barrier islands should be enacted, (2) restricts future state subsidies and support of development in designated high hazard areas on barrier islands, and (3) establishes a state hazard area acquisition program. The easiest step is the coastal hazards disclosure. North Carolina's coasts are constantly in motion as beaches erode and inlets wigwag. As a state we have chosen to live with these natural processes rather than turning our beaches into hardened seawalls as some other east coast states have done.

Mr. Stephenson went on to say that many owners of coastal real estate are unaware of the natural hazards and of state environmental rules that have been adopted to protect the coast. As a result, some purchasers buy land not realizing that it will erode and expect that they can use the property in ways that are not permitted. The Coastal Hazards Disclosure concept in HB 1512 would require that landowners selling property on the oceanfront or near inlets tell the buyer about known hazards or environmental rules that apply to the property. The information would be provided by the Division of Coastal Management at no cost to the buyer or the seller. The bill would not prevent buyers from purchasing any property that is for sale, but it would insure that every purchaser will know what natural hazards and legal constraints the property faces.

Representative Gibson recognized Mr. Richard Zechini, Director of Regulatory Affairs, North Carolina Association of Realtors, to continue the discussion of coastal natural hazards and the desirability of requiring a seller of real property in a coastal hazard area to provide a prospective purchaser with a disclosure statement of coastal natural hazards prior to the sale of the property. He said that the Association of Realtors is very supportive of coastal issues and of the disclosure requirements under existing law. He added that they do not endorse HB 1512 for several reasons.

There are 37,000 members in the Association, and a significant number of them serve coastal communities. They work on behalf of both buyers and sellers. The Association has polled the membership on this issue, and the overwhelming result is that they see no problem that needs to be solved. They have also gone to the Real Estate Commission to ask for their counsel on the issue. The response from the Commission is that there is no need for action. There are layers of obligation in place already, beginning with the Residential Property Disclosure Statement. All real estate licensees in the state have certain duties and obligations, not only to their principal (the person they are representing), but also to anyone involved in the transaction. A listing agent has the duty to disclose material facts about the property to prospective purchasers, not just to the one they are representing. There is also a prohibition about willful or negligent misrepresentations about the property by real estate licensees. They are subject to the realtor code of ethics, which states that they have a duty to discover and disclose adverse factors about the property. Finally, Mr. Zechini said that the seller should use common sense, and common sense cannot be legislated.

The Association believes the proposed legislation would cause problems for the property owners. They would have to determine whether or not the property was subject to the requirements, and research the specific and detailed information required to be disclosed under the legislation, including erosion rates, location of vegetation lines, storm rescission estimates, flood levels and inlet movement. The obligations in the legislation would be duplicative of many of the requirements already in the Residential Property Disclosure Statement, specifically soil stability, flood zone or flood hazard information and violations of current land use law. He added that they believe vesting this type of authority in the Coastal Resources Commission is setting a bad precedent. Historically that authority has been vested exclusively with the Real Estate Commission.

Mr. Zechini said the Association would like to educate people about the issue. Currently, there is a Q and A on the issue in partnership with Sea Grant. They would like to continue and expand that approach and they encourage the Coastal Resources Commission to seek out the Association of Realtors and the Real Estate Commission as partners in coastal hazards education.

Representative McComas asked about the difference in provisions from the bill as introduced and in a draft that is being worked on. Mr. Zechini said there were some stakeholder meetings last summer that have resulted in two additional drafts. They include a provision that expands an existing requirement

to disclose land use and zoning issues. That provision would apply state-wide. Representative McComas asked if there is a due diligence provision in the contracts, so that if the buyer finds something while doing due diligence the buyer could nullify the contract. Mr. Zechini said there is a provision in the standard Offer to Purchase and Contract that provides for inspections of the property and provides the buyer the opportunity to back out of the contract should something material be discovered during the inspection.

Senator Kinnaird asked about the liability of the real estate agent. Mr. Zechini said there is a provision that mirrors the provision in the Residential Property Disclosure Statement statutes that says that if the real estate licensee describes the duties and obligations to the sellers and buyers, and if they do that, they are insulated from liability. He expressed two concerns about that provision. The first is that if a party to the deal decides to sue, they sue everyone who had anything to do with the deal. The second is that, practically speaking, the sellers depend on their agents for assistance in working on the forms, so despite the language in the legislation, there is a liability issue.

Representative Harrison said that when she was on the Coastal Resources Commission, homeowners would come to every meeting with a detrimental situation about their property that was not disclosed to them before purchase. She added that the original intent of the bill was to cover the 20 coastal counties with areas of environmental concerns. It was problematic because of the level of knowledge required, so the area covered was scaled back to include oceanfront and inlet hazard area property only. Information required by the legislation is kept on file with the Clerk of Court and on a website, and it is updated regularly.

Representative Harrison asked if transactions that do not involve real estate agents are covered by real estate regulations. Mr. Zechini said if there is not a real estate licensee involved in the transaction there is not. The Residential Property Disclosure Statement would apply if it is residential property, but the duties applicable to real estate licensees would not.

Representative Harrison asked if it would be appropriate to request a bill be drafted for consideration by the Commission because HB 1512 is not eligible for consideration during the short session. Representative Gibson said it is appropriate to ask, but he would have to consult with the co-chairs to determine if it would be made eligible.

The Commission recessed for lunch at 12:15 p.m.

The Commission reconvened at 1:05 p.m. Mr. Givens announced that a copy of a letter to Mr. Mark E. Rey, Under Secretary of the U. S. Department of Agriculture, was at each member's seat. The letter, signed by the three co-chairs of the ERC, requests that the proposal to dispose of National Forest lands in North Carolina be abandoned, and an appropriate source of revenue to fund the Secure Rural Schools program be found (see **Exhibit J)**.

Representative Gibson recognized Ms. Edythe McKinney, Director, Customer Service Center, Small Business Ombudsman, DENR, to report on the Express Permit and Certification Review Program (see **Exhibit K** for a handout for consumers on the One-Stop Permit Assistance and Coordination and Express Permit Review Programs of DENR, and **Exhibit L** for a copy of the report on the success of the Express Permit Review Program). Ms. McKinney said attention is continually paid to the program and as they learn from their experience, they perfect the program

One of the primary goals for the program was to reduce the processing time without in any way compromising the environmental quality and review. The program began in 2004 in the Wilmington Regional Office. There have been reductions in processing time from 50 to 90 percent.

Changes have been made to address several concerns that have been raised. Certain types of projects were excluded because they were not appropriate for the Express program. There were also some concerns on coastal projects. One modification made in the program was that if the project involved new dredging or if there were more than 4 boat slips for piers or docks, the project was excluded

from the Express program. Large complicated coastal permits needed to have a longer scrutiny. The other point is the question of incomplete applications. Incomplete applications have been an obstacle in the Express Permitting program, but two factors in the Program have been beneficial to address the problem. First there is the front end involvement. There is a submittal meeting at which expectations are discussed. The other is that it costs more money to go through the Express Program. If an applicant has to substantially redo their submission, the Express Program can charge them another 50 percent of the application fee. The applications that come into the Express Program have improved. The second time they come in, they are better. They are also training consultants, focusing on frequent mistakes. They have found that the training is helping get better applications the first time in their regular permitting program as well.

Representative Harrison had a copy of a letter to Secretary William Ross of DENR from the North Carolina Fisheries Commission expressing concern about the Express Permit Program handed out to Commission members (see **Exhibit M**). Ms. McKinney responded that some of the changes that had been put in place were as a result of the letter from the Fisheries Commission. Representative Harrison commented on two large projects in Brunswick County that had gone through the Express Permit Program and her concern with such large projects being fast-tracked. Ms. McKinney said she would meet with Representative Harrison to look at the specifics of the applications. She added that the applicants advertise in the normal newspapers they use to notice all CAMA permits. There have been several meetings in the Washington area where they have meetings early in the process before an application has been made, to talk about addressing some of the wider issues. Sometimes a portion of the project will go through the Express program and other portions will not.

Representative Gibson asked if there is a way to outsource part of the permit process in the Express Permit program versus the standard permitting program. Ms McKinney replied that the review of express permitting is done by people in the normal program. The only difference is that they are paid out of the receipts from the Express Permit program. The program is continuing to expand, so they are adding on new staff as needed to meet statewide goals. By gradually adding staff, they are best able to accomplish the expansion with in-house staff. The additional fees are enabling the program to adequately provide the human resources they need. Representative Gibson asked about the difference in time between the normal permitting process and the Express Permit process. Ms. McKinney replied that a permit that could be issued in 2 days under the Express program might take 20 days through the normal process.

Representative Harrison asked how the resource agencies that comment on the permit applications factor into the Express Permit program. Ms. McKinney said the review process is the same. She does not believe the resources agencies have had to hire additional staff, but communication, coordination and focus on the Express permits has intensified and perhaps improved.

Mr. Givens asked how many additional people have been hired for the Express Program. Ms. McKinney said they have 18 staff currently in the Express program. They are in the process of setting up at least three more. In addition, they need a new stormwater engineer. The people in Wilmington have 5 staff members: coastal stormwater has two, the 401 wetlands program has one, the land quality has one, and CAMA has one. In Morrisville there are two: a land quality staff member, and a 401 wetlands staff member. Mr. Givens asked if expediting some permits makes the rest of them slower. Ms. McKinney said they have not noted that result.

Representative Gibson recognized Mr. Wayne Mobley, Chief, Shellfish Sanitation and Recreational Water Quality Section, Division of Environmental Health, DENR, to report on the shoreline survey of shellfish growing areas (see **Exhibit N** for a copy of his PowerPoint presentation). The shoreline survey is a project in which surveyors walk from house to house to see if there is any type of sewage or potential pollution sources that might discharge into the coastal water and cause problems for shellfish growing areas.

Because Section staff members go door to door, they collect and share information of importance to other parts of DENR. They also work with the NC Department of Transportation (DOT) on stormwater

issues. They have seen a lot of cooperation among state agencies, using information that their shoreline survey program provides. With their GIS mapping and database reports they can share information about environmental problems with appropriate agencies.

There are 55 areas along the coast the Section has to survey every three years. They had a grant to support intensive mapping of four of the areas: the White Oak River area around Swansboro, the area around Cape Carteret and Emerald Isle, the Newport River, and the North River. The shoreline survey with the new methodology they developed has been shown nationally. The USFDA shellfish specialist has come to North Carolina, looked at the GIS mapping they have done, and has taken the program to all other shellfish states. The Section is very proud that there have not been any food-borne illnesses tied in to North Carolina shellfish.

Representative Harrison asked about the 10 slip limitation for marinas. Mr. Mobley said several agencies are looking at how to deal with the cumulative impact. It is a major issue and they are working toward finding a solution to it. Representative Harrison also asked if fish farm discharges are regulated. Mr. Mobley replied that they are somewhat, but some of the areas on the Pamlico River do deteriorate for awhile after discharges. They do not discharge during the oyster season.

Representative Gibson recognized Mr. Jonathan Powers, Head, Special Remediation Branch, Superfund Section, Division of Waste Management, DENR, to present the annual report on the Dry-Cleaning Solvent Cleanup Program (DSCP) (see **Exhibit O** for a copy of his PowerPoint presentation). The dry cleaning solvent is heavier than water, so unlike the gasoline leaks (which stay relatively near the surface), the solvent moves until it hits bedrock and it can even flow into cracks in the bedrock. The solvent plume can move great distances from the original source.

Mr. Powers presented members a picture of a dry cleaning establishment in Fayetteville that had a solvent problem and explained what happened. The federal drinking water standard for perchlorethylene (PCE) is 5 parts per billion. Although many of the residents of the area are hooked up to city water, some use private wells. At least four wells in the area exceeded the federal drinking water standard. Some have been hooked up to public water, the others are in process. In the interim, DENR is providing the affected residents with bottled water to drink. They have gone to great lengths to determine who is using groundwater in the area, although it has not been easy. Certified letters have been sent out to all residents; they have gone door to door and left flyers, and the City of Fayetteville has worked with them to identify residents who are drinking city water, but it has been a challenge to identify all the people who rely on groundwater for drinking. In the future, the Section will address the contamination plume and its potential impact. Based on the date they have, the plume is 1100 feet long.

Mr. Powers also explained their compliance efforts to enforce the minimum management practices that were mandated by the DSCA statute and subsequent rules. Within the past year, a compliance staff has been formed, consisting of a compliance coordinator and an inspector (who began work last week). They are looking for another inspector within the next six months, to end with a staff of three to do inspections and ensure compliance for dry cleaners across the state. They will be multi-media inspectors. Three different programs in DENR will inspect dry cleaners: the hazardous waste program, the air quality program and the DSCA program. They have worked out a memorandum of agreement with the air quality program to enable the DSCA inspectors to inspect for them, and they are amending their rules to give them authority to do enforcement for air quality regulations as well as hazardous waste regulations. Soon a dry cleaner with questions about compliance will be able to talk with just one of the three programs to get answers. For the first year, they will be oriented to provide compliance assistance. Early work indicates that even though the regulations have been public for awhile, many dry cleaners are not familiar with them, and there is a lot of confusion. The staff will be focusing on education, but do have the authority to do enforcement when necessary and to issue penalties.

Senator Albertson commented he is disturbed that the State is allowing the dry cleaner industry to contaminate sites. Mr. Powers assured Senator Albertson that dry cleaning establishments can be fined up to $25,000. He said in the year since their inception, they have discovered two intentional releases. Representative Gibson recognized Mr. Dexter Matthews, Director of the Division of Waste Management.

He said the PCE is a problem, but the program is just getting under way. The best management practices have been determined and can be enforced at the facilities to be sure there are no future releases. The sites mentioned above were in existence for some time, prior to regulations such as the minimum management practices that are in effect now. Mr. Powers said there are people who purchase dry cleaning businesses who have not been made aware of the environmental requirements for their business. Another problem is incidental spills or releases that are not discovered until they cause problems in the drinking water.

Mr. Givens noted the difference between the projected cost of cleanup of sites and the amount of money projected to be available when the program ends in 2010. Representative Justice asked if the additional costs could be met by extending the program beyond 2010, but suggested that additional funds would be needed in the next few years if the cleanup was to be completed earlier. Her statement presupposed that no new contamination sites would be found in the meantime. Mr. Powers said that was correct.

Representative Gibson recognized Mr. Chris Edwards, Vice President of the North Carolina Association of Launderers and Cleaners, to speak on the issues related to the Dry-Cleaning Solvent Cleanup Program (see **Exhibit P** for a copy of his PowerPoint presentation). DSCA staff have visited dry cleaning establishments to learn about the industry so they can help them be better stewards of the environment. Mr. Edwards cited examples of contamination and successful resolutions of the situations. He expressed gratitude that the industry was allowed to be part of the solution of the problem.

Senator Bingham asked if there are new cleaning products on the market. Mr. Edwards replied there are, but most of them are petroleum-based and have a flash point. The industry has gone to the State Building Code people and asked them to revise the fire code to allow some of the alternative solvents in dry cleaners. They have denied the use Class 3A or 3B solvents in retail establishments unless there is a sprinkler system, which is very expensive to retrofit. PCE does not burn, but the newly developed petroleum solvents have a 141-147 flash point, which means under certain circumstances they can ignite and burn. Senator Bingham asked if the Association had educated their members on their environmental responsibilities. Mr. Edwards said they have, but a lot of the problems occurred before the management practices were developed. He added that most of the contamination is from incidental events, not large scale releases. Senator Bingham asked if there is a better alternative for clean-up. Representative Gibson replied that many people have worked on that solution over many years.

Agenda Item 11, the semiannual report on agency litter enforcement, litter prevention and litter removal efforts, was postponed until the 3 May meeting.

Representative Gibson reminded members of the 3 May meeting. Mr. Givens said there would be a meeting on 8 May if there was draft legislation to be considered. Representative Gibson said there might also be a meeting after the beginning of session to consider draft legislation.

The meeting adjourned at 2:35 p.m.

Senator Charlie Albertson, Co-Chair

Representative Pryor Gibson, Co-Chair
Presiding

Senator Daniel Clodfelter, Co-Chair

Dot Waugaman, Commission Assistant

LIST OF EXHIBITS

Exhibit A Notice of Meeting dated 27 March 2006

Exhibit B Agenda of Meeting

Exhibit C List of Attendees

Exhibit D Memorandum dated 11 April re Reports to the Commission, with attachments as noted

- **D-1** *Quarterly Report by the Environmental Management Commission dated January 2006*
- **D-2** *Quarterly Report by the Environmental Management Commission dated April 2006*
- **D-3** *Report to the ERC on the Status of Nutrient Management Strategies for Drinking Water Reservoirs*
- **D-4** *Report to the ERC on the Status of Water Quality in Water Supply Reservoirs Sampled by the Division of Water Quality*
- **D-5** *Dry-cleaning Solvent Cleanup Act Report, dated 1 October 2005*
- **D-6** *Emissions Reductions Beyond the Clean Smokestacks Act, memo dated 3 April 2006*

Exhibit E PowerPoint presentation by Ms. Dianne M. Reid on developing and implementing nutrient management strategies for drinking water supply reservoirs

- **E-1** *Session Law 2005-190, Senate Bill 981*

Exhibit F PowerPoint presentation by Dr. Linda Stroud, Consultant, on the availability of mercury and other hazardous substances in public schools

- **F-1** *List of Chemicals Removed from NC Schools by Private Waste Disposal Company*

Exhibit G Mercury Education and Awareness, provided by the Division of Pollution Prevention and Environmental Assistance (DPPEA)

- **G-1** *Copy of House Bill 1531, Mercury Reduction and Education*

Exhibit H Draft of a Seller's Ocean Hazards Disclosure Form

Exhibit I Copy of House Bill 1512, Coastal Hazards Disclosure

- **I-1** *Memo dated 22 August 2005 in support of the Coastal Hazards Disclosure bill (HB1512)*

Exhibit J Letter to Mark Rey, Under Secretary, U. S. Department of Agriculture regarding Proposed Disposition of National Forest Lands in North Carolina, dated 11 April 2006

Exhibit K Handout for Consumers on the One-Stop Permit Assistance and Coordination and Express Permit Review Programs of DENR

Exhibit L Report on the Success of the Express Permit Review Program, April 2006

Exhibit M Letter from James A Johnson, Jr., Chair, NC Marine Fisheries Commission, to William Ross, Secretary, DENR, regarding the Express Permitting Process

Exhibit N PowerPoint presentation by Wayne Mobley reporting on the Shoreline Survey of Shellfish Growing Areas

Exhibit O PowerPoint presentation by Jonathan Powers reporting on the Dry-Cleaning Solvent Cleanup Act (DSCA) Program

Exhibit P PowerPoint presentation by Chris Edwards on DSCA Program Highlights

EXHIBIT A

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 733-2578
FAX: (919) 715-5460

SUSAN S. IDDINGS
ASSISTANT COMMISSION COUNSEL
401 LEGISLATIVE OFFICE BUILDING
(919) 733-6660

JENNIFER L. McGINNIS
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

DOT WAUGAMAN
COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 715-2525
FAX (919) 754-3232

JEFF W. HUDSON
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

TIMOTHY R. DODGE
COMMISSION ANALYST
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

27 March 2006

TO: Members of the Environmental Review Commission
Interested Parties

FROM: George F. Givens, Commission Counsel
Dot Waugaman, Commission Clerk

RE: **Notice of Commission Meeting**
Notice of Planning Meeting
Schedule of Future Meetings
Meetings of Interested Parties (605 Working Groups)
Additional Information

COMMISSION MEETING – 11 April 2006:

The Environmental Review Commission (ERC) will meet at 9:30 a.m. Tuesday 11 April 2006 in Room 544 of the Legislative Office Building in Raleigh. The Commission will not meet on Wednesday 12 April 2006.

At the 11 April meeting, the Commission will begin or continue studies for which the Commission is responsible, hear reports from State agencies, discuss topics to be considered at future meetings, and attend to other matters. Listed below are potential agenda topics for this meeting. More specific information regarding the agenda for the 11 April meeting of the Commission will be developed at the staff planning meeting discussed below.

POSSIBLE AGENDA TOPICS:

Solid and Hazardous Waste Management:

1) Discussion of measures to reduce the quantity of mercury that is released into the environment that impacts natural resources and that harms the public health of the citizens of the State

2) Annual report on the mercury minimization plan prepared by DENR (G.S. 130A-310.57)

3) Annual report on the Dry-Cleaning Solvent Cleanup Program (G.S. 143-215.104U)

4) Semiannual report on agency litter enforcement, litter prevention, and litter removal efforts (G.S. 147-12(b))

Water Quality:

5) Reports required pursuant to S.L. 2005-190 (Drinking Water Reservoir Protection Act):

   a) Findings and recommendations of the study of water quality in drinking water supply reservoirs in the State to determine whether the reservoirs meet current water quality standards (S.L. 2005-190, Sec. 2(a))

   b) Findings on the identification and adoption of control criteria necessary to prevent excess nutrient loading in drinking water supply reservoirs; adoption of nutrient management strategies and permanent rules; and other requirements listed in S.L. 2005-190, Secs. 2.(b), 3.(e) and 3.(f)

   c) Progress in developing and implementing nutrient management strategies for drinking water supply reservoirs to which Section 4 of S.L. 2005-190 applies (S.L. 2005-190, Sec.4)

6) Discussion and comment on the findings of the evaluation of alternative animal waste management technologies to determine whether those technologies are environmentally superior and economically feasible

7) Discussion of the shoreline survey of shellfish waters by the Shellfish Sanitation & Recreational Water Quality Section of the Division of Environmental Health of the Department of Environment and Natural Resources (DENR)

8) Issues related to the safety and quality of potable water delivered from private drinking water wells in the State

General/Miscellaneous:

9) Report on the operations, activities, programs, and progress of the Environmental Management Commission (G.S. 143B-282(b))

10) Findings on the success of the Express Permit and Certification Review Program (G.S. 143B-279.13(c))

11) Discussion of coastal natural hazards and the desirability of requiring a seller of real property in a coastal hazard area to provide a prospective purchaser with a disclosure statement of coastal natural hazards prior to the sale of the property

12) Issues related to actions available to governmental agencies to respond to violations and noncompliance by licensed environmental professionals and consultants

13) Other matters related to the Commission's powers and duties under G.S. 120-10.43

PLANNING MEETING:

To facilitate development of the agenda for the 11 April meeting of the Commission, to plan for subsequent meetings of the Commission, and to receive input from interested persons regarding the work of the Commission, the Commission Counsel will hold an informal planning meeting at **2:00 p.m. on Monday 3 April 2006 in Room 605 of the Legislative Office Building**. Persons who wish to participate in the development of the agenda for meetings of the Commission, or who are interested in any matter before the Commission, are invited to attend.

SCHEDULE OF FUTURE MEETINGS:

Below is a schedule of meetings of the Environmental Review Commission for April and May 2006. This schedule is tentative and subject to adjustment. For planning purposes, however, please reserve these dates.

Commission Meeting
Tuesday 11 April 2006
Wednesday 3 May 2006
Monday 8 May 2006

Staff Planning Meeting
2:00 p.m. Monday 3 April 2006
10:00 a.m. Thursday 27 April 2006

Please note the following:

1. Commission meetings normally begin at 9:30 a.m., include a lunch break, and run until mid-afternoon. Please plan on meeting from 9:30 a.m. until at least 3:30 p.m. Unless otherwise announced, the Commission will meet in room 544 LOB.

2. To facilitate development of the agenda for meetings of the Commission and to receive input from interested persons regarding the future work of the Commission, the Commission Counsel holds informal planning meetings for staff and interested parties. Commission members are not expected to attend these meetings. Only one staff planning meeting is scheduled per month, regardless of the number of scheduled meetings of the Commission. Unless otherwise announced, public staff planning meetings will be held in room 605 LOB.

3. The 2006 Regular Session is scheduled to begin at 12:00 noon on Wednesday 9 May 2006. The Commission may meet shortly after the beginning of the session to complete work and to consider any legislative proposals and recommendations.

4. The Commission may meet while the General Assembly is in session (G.S. 120-70.44). When the Commission meets while the General Assembly is in session, written notice will not be mailed to persons on the mailing list. Rather, notice will be given at a session of the Senate and House of Representatives as provided by G.S. 143-318.12(b) and will be distributed by email, if possible. The Commission will resume a schedule of regular monthly meetings following adjournment of the 2006 Session of the General Assembly.

MEETINGS OF INTERESTED PARTIES (605 WORKING GROUPS):

The Commission Counsel will hold meetings of interested parties on specific topics as indicated below:

Phase II Stormwater Management Working Group
10:00 a.m. Monday 3 April 2006 – 605 Legislative Office Building
2:00 p.m. Monday 17 April 2006 – 605 Legislative Office Building

Risk-Based/Limit Liability for Environmental Cleanups Working Group
2:00 p.m. Monday 10 April 2006 – 605 Legislative Office Building

ADDITIONAL INFORMATION:

If you have questions related to the Commission, please feel free to contact the Commission Counsel or other Commission staff at (919) 733-2578.

EXHIBIT B

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 733-2578
FAX: (919) 715-5460

SUSAN S. IDDINGS
ASSISTANT COMMISSION COUNSEL
401 LEGISLATIVE OFFICE BUILDING
(919) 733-6660

JENNIFER L. McGINNIS
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

DOROTHY M. WAUGAMAN
COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 715-2525
FAX: (919) 754-3232

JEFF W. HUDSON
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

TIMOTHY R. DODGE
COMMISSION ANALYST
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

AGENDA
9:30 a.m. Tuesday 11 April 2006
Room 544 Legislative Office Building
Raleigh, North Carolina

1. Call to order
   Senator Daniel G. Clodfelter, Presiding

2. Introductory remarks by Cochairs
   Senator Daniel G. Clodfelter
   Senator Charles W. Albertson
   Representative Pryor A. Gibson

3. Report to the Commission and explanation of agenda items
   George F. Givens, Commission Counsel

4. Quarterly reports by the Environmental Management Commission (EMC) as to its operations, activities, programs, and progress for the period of October 2005 through April 2006 (G.S. 143B-282(b))
   Dr. David H. Moreau, Chairman
   Environmental Management Commission

5. Reports required pursuant to S.L. 2005-190 (Drinking Water Reservoir Protection Act):
   Findings and recommendations of the study of water quality in drinking water supply reservoirs in the State to determine whether the reservoirs meet current water quality standards (S.L. 2005-190, Sec. 2(a))

   Findings on the identification and adoption of control criteria necessary to prevent excess nutrient loading in drinking water supply reservoirs; adoption of nutrient management strategies and permanent rules; and other requirements listed in S.L. 2005-190, Secs. 2.(b), 3.(e) and 3.(f)

   Progress in developing and implementing nutrient management strategies for drinking water supply reservoirs to which Section 4 of S.L. 2005-190 applies (S.L. 2005-190, Sec.4)
   Dianne M. Reid, Environmental Supervisor
   Division of Water Quality, Department of Environment and Natural Resources (DENR)

6. Discussion of measures to reduce the quantity of mercury that is released into the environment that impacts natural resources and that harms the public health of the citizens of the State

Linda M. Stroud, Consultant
Science & Safety Consulting Services

T. Keyes McGee, Environmental Engineer
Division of Pollution Prevention and Environmental Assistance, DENR

Fran E. Preston, President
North Carolina Retail Merchants Association

7. Discussion of coastal natural hazards and the desirability of requiring a seller of real property in a coastal hazard area to provide a prospective purchaser with a disclosure statement of coastal natural hazards prior to the sale of the property

Courtney T. Hackney, Chairman
Coastal Resources Commission

Richard G. Catlin, Chairman
North Carolina Beach, Inlet, and Waterway Association

James H. Stephenson, Program Analyst
North Carolina Coastal Federation

Richard A. Zechini, Director of Regulatory Affairs
North Carolina Association of Realtors

LUNCH BREAK *– Estimated for 12:00 p.m. to 12:30 p.m.*

8. Report on the shoreline survey of shellfish growing areas

S. Wayne Mobley, Chief
Shellfish Sanitation and Recreational Water Quality Section, Division of Environmental Health, DENR

9. Report on the Express Permit and Certification Review Program (G.S. 143B-279.13(c))

Edythe McKinney, Director
Customer Service Center, Small Business Omsbudsman, DENR

10. Discussion of Issues related to the Dry Cleaning Solvent Cleanup Program

Annual report on the Dry-Cleaning Solvent Cleanup Program (G.S. 143-215.104U)

Jonathan A. Powers, Head
Special Remediation Branch, Superfund Section, Division of Waste Management, DENR

Comments on Dry-Cleaning Solvent Cleanup Program from interested parties

Christopher T. Edwards, Vice President
North Carolina Association of Launderers and Cleaners

11. Semiannual report on agency litter enforcement, litter prevention, and litter removal efforts (G.S. 147-12(b))

George J. Kapetanakis, Litter Programs Coordinator
Office of Beautification Programs, Department of Transportation

12. Commission discussion and announcements

13. Adjourn

SCHEDULE OF FUTURE MEETINGS:

Below is a schedule of meetings of the Commission for May 2006. This schedule is tentative and subject to adjustment. To facilitate development of the agenda for meetings of the Commission and to receive input from interested persons regarding the future work of the Commission, the Commission Counsel holds informal planning meetings for staff and interested parties. The schedule of these public Commission staff planning meetings is also set out below.

9:30 a.m. Wednesday 3 May 2006
Location: 544 LOB
Staff Planning Meeting: 10:00 a.m. Thursday 27 April 2006 – 605 LOB (This meeting will also serve as the Commission staff planning meeting for the Commission meeting scheduled for 8 May 2006.)

Monday 8 May 2006 (Time to be announced)
Location: 544 LOB

The 2006 Regular Session is scheduled to begin at 12:00 noon on Wednesday 9 May 2006. The Commission may meet shortly after the beginning of the session to complete work and to consider any legislative proposals and recommendations. The Commission may meet while the General Assembly is in session (G.S. 120-70.44). When the Commission meets while the General Assembly is in session, written notice will not be mailed to persons on the mailing list. Rather, notice will be given at a session of the Senate and House of Representatives as provided by G.S. 143-318.12(b) and will be distributed by email, if possible. The Commission will resume a schedule of regular monthly meetings following adjournment of the 2006 Session of the General Assembly

OTHER MEETINGS:

The Commission Counsel will hold meetings of interested parties on specific topics as indicated below:

Phase II Stormwater Management Working Group
2:00 p.m. Monday 17 April 2006 – 605 Legislative Office Building

Risk-Based/Limit Liability for Environmental Cleanups Working Group (HB 1778/HB 1099/SB 1121)
10:00 a.m. Tuesday 18 April 2006 – 605 Legislative Office Building

ADDITIONAL INFORMATION:

Persons having questions about the Commission meeting or other matters related to the Commission may contact Commission Counsel or other Commission staff at (919) 733-2578.

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — April 11, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Kim Hibbard	NCLM
Marianne Coats	Earthtrek Co.
Chief Michael B. Runningwolf	Uhharaki Confederacy
Richard Whisnant	UNC School of Govt
Terry L. Pierce	Div Env Hlth, DENR
Courtney T. Hacking	Coastal Resources Commission
Edythe McKinney	DENR – Customer Service Center
Cathy Akroyd	DENR – DWM
Charles Jones	NC DCM
Wayne Mobley	NCDEH/Shellfish
Mike Kelly	NC DEH

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — April 11, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Mia Bailey	Electri Cities of NC
Alan Klimek	NCDENR – DWQ
Mike Evans	NC Wildlife Federation
Erin Kinney	NC Conservation Network
Patrick Butler	NC Division of Air Quality
Michael Nelson	Conservation Council of NC
Sandra Long	Martin Marietta
Rick Zechini	NCAR
Stephanie Simpson	NC Assn. of REALTORS
Doug Lassiter	NCSTA
David McLeod	NCDA&CS

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — April 11, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Tommy Stevens	NCPC
Keyes McGee	NC DENR - DPPEA
Chris Frazier	NC DENR DPPEA
Dianne Reid	DENR DWQ
Connie Brower	DENR - DWQ
Kelly Johnson	"
FRAN PRESTON	NCRMA
Beatrice Williams	CUCA
Luanne Williams	NCDHSS
Rick Catlin	N.C. B.I.W.A
Elizabeth Self	NC Sierra Club

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — April 11, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Kyla Davidoff	NC Sierra Club
Don Webb	ARCIE
STEVE TAYLSTON	NC DPI
ROGER BALLARD	" "
GREG FLYNN	" "
GARRY COCKERHAM	" "
Christine Wunsche	Environment North Carolina
Francis M. Nevils Jr	DENR - DLR
Kamb	Smith Anderson
David Bauer	Payne Tennille
Jeff Manning	DENR - DWQ

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — April 11, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Amy Pickle	SELC
Linda M Stand	SJSCS
Johanna Reese	DENR
Bill Pate	~~DHHS~~
Cam Cover	BPMHL
Rich Gannon	NC DWQ
GARY HUNT	DENR
Theresa Rabb	SSG
George Siddall	NCBEV

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — April 11, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Dexter Matthews	DWM-ENR
John Powers	DWM-ENR
Travis Davis	DLR-DENR
Don Lee	NCDOT - REN
Jennifer Bumgarner	Governor's Office
Ngoc Nguyen	AOC

EXHIBIT D

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 733-2578
FAX: (919) 715-5460

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ASSISTANT COMMISSION COUNSEL
401 LEGISLATIVE OFFICE BUILDING
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545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

DOROTHY M. WAUGAMAN
COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 715-2525
FAX: (919) 754-3232

JEFF W. HUDSON
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

TIMOTHY R. DODGE
COMMISSION ANALYST
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

11 April 2006

MEMORANDUM

To: Members of the Environmental Review Commission
From: Tim Dodge, Commission Analyst
Re: Reports to the Commission

This memorandum lists reports that have been submitted to the Environmental Review Commission by State agencies since the last reports distribution on 8 March 2006.

A. REPORTS RELATED TO TODAY'S AGENDA

The following reports are attached to this memorandum. These reports may be referenced during the course of the 11 April 2006 Commission meeting.

Environmental Management Commission (Agenda Item 5):

1. *Quarterly report by the Environmental Management Commission (EMC) as to its operations, activities, programs, and progress during the previous quarter (G.S. 143B-282(b)).* EMC. 1 January 2006. Statutory Authority: G.S. 143B-282(b).

2. *Quarterly report by the EMC as to its operations, activities, programs, and progress during the previous quarter (G.S. 143B-282(b)).* EMC. 1 April 2006. Statutory Authority: G.S. 143B-282(b).

Status of Nutrient Management Strategies for Drinking Water Reservoirs (Agenda Item 6):

3. *Reports required pursuant to S.L. 2005-190 (Drinking Water Reservoir Protection Act.* Division of Water Quality, Department of Environment and Natural Resources (DENR). 10 April 2006.
   a) *Findings and recommendations of the study of water quality in drinking water supply reservoirs in the State to determine whether the reservoirs meet current water quality standards (S.L. 2005-190, Sec. 2(a)).*
   b) *Findings on the identification and adoption of control criteria necessary to prevent excess nutrient loading in drinking water supply reservoirs; adoption of nutrient management strategies and permanent rules; and other requirements listed in S.L. 2005-190, Secs. 2.(b), 3.(e) and 3.(f)*
   c) *Progress in developing and implementing nutrient management strategies for drinking water supply reservoirs to which Section 4 of S.L. 2005-190 applies (S.L. 2005-190, Sec. 4.*

Dry- Cleaning Solvent Cleanup Program (Agenda Item 10):

4. *Annual report on the Dry-Cleaning Solvent Cleanup Program.* DENR. 1 April 2006. Statutory Authority: G.S. 143-215.104U.

B. READ-ONLY REPORTS

The following reports are attached to this memorandum. These reports are not scheduled for oral presentation.

Air Quality:

5. *Report on desirability of requiring and the feasibility of obtaining reductions in emissions of oxides of nitrogen (NOx) and sulfur dioxide (SO2) beyond those required by G.S. 143-215.107D.* Division of Air Quality, DENR. 1 November 2005. Statutory Authority: S.L. 2002-4, Sec. 11.

Please contact George Givens, Jeff Hudson, Jennifer McGinnis, or Tim Dodge at (919) 733-2578 if you have any questions or comments.

EXHIBIT D-1

QUARTERLY REPORT

TO THE

ENVIRONMENTAL REVIEW COMMISSION

ON

ENVIRONMENTAL MANAGEMENT COMMISSION ACTIVITIES

January 2006

YEAR 2005-2006 SECOND QUARTER REPORT TO ERC IN ACCORDANCE WITH § 143B-282(b)

Table of Contents

I. STANDING COMMITTEES

A. WATER ALLOCATION COMMITTEE
B. WATER QUALITY COMMITTEE
C. GROUNDWATER COMMITTEE
D. AIR QUALITY COMMITTEE
E. STEERING COMMITTEE
F. NPDES COMMITTEE

II. SUMMARIES OF ENVIRONMENTAL MANAGEMENT COMMISSION (EMC) ACTIONS

III. EXPECTED FUTURE AGENDA ITEMS

I. STANDING COMMITTEE MEETINGS

A. WATER ALLOCATION COMMITTEE

The Water Allocation Committee conducted business in October 2005 and November 2005.

B. WATER QUALITY COMMITTEE

The Water Quality Committee conducted business in October 2005 and November 2005.

C. GROUNDWATER COMMITTEE

The Groundwater Committee conducted business in November 2005.

D. AIR QUALITY COMMITTEE

The Air Quality Committee conducted business in October 2005 and November 2005.

E. STEERING COMMITTEE

The Steering Committee did not meet during this quarter.

F. NPDES COMMITTEE

The NPDES Committee conducted business in October 2005.

II. SUMMARIES OF ENVIRONMENTAL MANAGEMENT COMMISSION (EMC) ACTIONS

Agenda Item: Hearing Officer's Report on Banking and Trading of Emission Reduction Credits Rules and Air Toxic Rules

Explanation: On June 22, 2005, Dr. Delilah Blanks held a public hearing on proposed new regulations on banking and trading of emission reduction credits and an amendment to an air toxic rule.

A new section of rules (15A NCAC 2D .2300) is being proposed to establish a system to bank emission reduction credits for use as offsets in nonattainment areas. The rules describe the types of emission reduction credits that may be banked and how they may be used. They describe the procedures used for managing the banking systems.

The air toxic modification rule (15A NCAC 2Q .0706) is proposed to be amended to clarify when emissions of unmodified sources at an affected facility needs to be reduced to achieve compliance with the air toxic rules.

Three people commented on the proposed rules. Two of these commented on the banking rules, and one on the air toxic rule amendment. The commenter on the air toxic rule noted a cross-reference error, which has been corrected. One commenter asked if emission reductions for sulfur dioxide should be retained and if emission reductions for ammonia should be added. Emission reductions for sulfur dioxide has been retained, and emission reductions for ammonia has been added. This commenter opposed banking emission reductions from mobile sources and recommended expiring banked credits in seven years. Emission reduction credits from mobile sources would not qualify for the banking system because of size. However, to make clear that emission reductions from mobile sources may not be banked, a statement is being added noting that such emission reductions are ineligible for banking. (Emission reductions from mobile sources can be used for offsets if the applicant can show that the reductions are real, permanent, quantifiable, enforceable, and surplus.) No expiration date is being added for banked credits. This commenter asked about what happens if an emission factor changes or if a new

rule requires further control after a credit is approved and banked. Language has been added requiring the Director to adjust banked emission reduction credits to account for changes in emission factors and new regulatory requirements. This commenter asks if emission reductions in South Carolina can be banked in North Carolina. A statement has been added that emission reduction credits in other states cannot be banked in North Carolina. (However, emission reductions in South Carolina may under certain conditions be used in North Carolina.) The other commenter on the banking rules asked that the restriction of seven years on using banked emission reduction credits under the prevention of significant deterioration rule and that the restriction of using banked emission reduction credits for offsets only in the nonattainment area be removed. These restrictions have been removed; the prevention of significant deterioration rule and the nonattainment area major new source review rule contain provisions on the eligibility and use of emission reduction credits.

Recommendation: The Hearing Officer recommends that the proposed amendments and new rules as presented in Chapter II of the hearing record be adopted by the Environmental Management Commission.

EMC ACTION: The EMC adopted the proposed amendments and new rules.

Agenda Item: Hearing Officer's Report on Various Air Quality Rules

Explanation: On June 22, 2005, Dr. Delilah Blanks held a public hearing on amendments to 19 air quality regulations and a proposed new regulation.

Two definition rules (15A NCAC 2A .0101 and 2Q .0103, are proposed to be amended to add a definition of "administrator."

Three rules (15A NCAC 2D .0103 and .1905 and 2Q .0105) are proposed to be amended to update the addresses of regional offices.

An incinerator rule (15A NCAC 2D .1201) is being amended to change the order of which rules apply to incinerators.

The nitrogen oxide rule on recordkeeping, reporting, and monitoring (15A NCAC 2D .1404) is proposed to be amended to remove an unnecessary reporting requirement.

Several amendments are proposed for the open burning rules (15A NCAC 2D .1902, .1903, 1904, and .1906). The air quality forecast areas have been increased to account for the new nonattainment areas including new particulate nonattainment areas. Thus, the amendments prohibits burning in nonattainment areas on days forecast to be code orange or higher. Another amendment allows burning at permanent fire training sites on code orange or higher forecast days. The waiver to allow adding material to open burning piles between 6:00 p.m. and 8:00 a.m. is removed. Also, local program names are being updated.

The applicability rule (15A NCAC 2D .2001) of the transportation conformity rules is proposed to be amended to clarify the applicability of the transportation conformity rules.

Several permitting rules (15A NCAC 2Q .0101, .0103, and .0301) are proposed to be amended to bring them in line with recent statutory changes on construction. The general statutes now allow a

certain amount of construction to occur at a permitted facility before a permit is needed.

Two permitting rules (15A NCAC 2Q .0304 and .0305) are proposed to be amended to make the emissions inventory an integral part of the permit application package.

The Title V permit content rule (15A NCAC 2Q .0508) is proposed to be amended to incorporate recent changes in the federal requirements for annual compliance certification.

The Title V permitting rule (15A NCAC 2Q .0523) that allows certain changes to be made without a permit modification is proposed to be amended to exempt notification of trades made under the nitrogen oxide budget trading program.

The exclusionary rule for peak shaving generators (15A NCAC 2Q .0808) is proposed to be amended to change the applicability limit from electrical energy produced to fuel consumption, which is more readily accessible.

A new exclusionary rule (15A NCAC 2Q .0810) is proposed for air curtain burners.

Only one person commented on the rules in this hearing. The comment was on 15A NCAC 2D .1904, Air Curtain Burners. The commenter suggested comparing the State's rule to the proposed EPA rule. Once EPA promulgates the rule on other solid waste incineration units, 15A NCAC 2D .1904 will have to be revised to incorporate new EPA requirements.

Recommendation:

The Hearing Officer recommends that the proposed amendments and new rules as presented in Chapter II of the hearing record be adopted by the Environmental Management Commission.

EMC ACTION: The EMC adopted the proposed amendments and new rules.

Agenda Item: Request to Proceed to Public Hearing on Clean Air Interstate Rules

Explanation: The Environmental Management Commission is requested to approve one or more public hearings on proposed new clean air interstate rules.

On May 12, 2005, the EPA promulgated the requirement for States to adopt rules limiting the emissions of nitrogen oxides (NOx) and sulfur dioxide (SO_2) and guideline rules for the states to use in developing their rules. The purpose of these rules are to reduce interstate transport of precursors to fine particulate and ozone.

These rules apply to (1) any stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine serving at any time, since the start-up of a unit's combustion chamber, a generator with nameplate capacity of more than 25 MWe producing electricity for sale and (2) for a unit that qualifies as a cogeneration unit during the 12-month period starting on the date that the unit first produces electricity and continues to qualify as a cogeneration unit, a cogeneration unit serving at any time a generator with nameplate capacity of more than 25 MWe and supplying in any calendar year more than one-third of the unit's potential electric output capacity or 219,000 MWh, whichever is greater, to any utility power distribution system for sale

Under the EPA rules, North Carolina has caps as follows:

1. annual NOx: 62,183 tons for 2009-2014 and 51,819 tons for 2015 and each year thereafter;
2. ozone season NOx: 28,392 tons for 2009-2014 and 23,660 tons for 2015 and each year thereafter;
3. annual SO_2: 137,341 tons for 2010-2014 and 96,319 tons for 2015 and each year thereafter.

The State's NOx allocations have been distributed among the covered facilities. EPA will determine

the SO_2 allocations, which are based on the acid rain program.

For the most part the proposed rules incorporate the model rule. The EPA model rule for definitions; permitting; monitoring, reporting, and recordkeeping; trading and banking; designated representative; opt-in provision, and new source growth are incorporated by reference.

The proposed rules require the EMC to periodically review the allocations in 2010 and every five years thereafter and to decide whether to reallocate. These rules do not preclude the EMC from adopting additional emission reduction requirements for covered sources if necessary to obtain or maintain an ambient air quality standard.

Recommendation:

The Director recommends that the Commission authorize one or more public hearings on these rules and that the Chairman appoint one or more members of the Commission to serve as hearing officers.

EMC ACTION: The EMC approved taking proposed rules to public hearing. The rules for this action are attached.

SECTION .2400 – CLEAN AIR INTERSTATE RULES

15A NCAC 02 .2401 is proposed for adoption as follows:

15A NCAC 02 .2401 PURPOSE AND APPLICABILITY

(a) Purpose. The purpose of this Section is to implement the federal Clean Air Interstate Rule and thereby reduce the interstate transportation of fine particulate matter and ozone.

(b) Applicability. This Section applies to:

(1) any stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine serving at any time, since the start-up of a unit's combustion chamber, a generator with nameplate capacity of more than 25 MWe producing electricity for sale;

(2) for a unit that qualifies as a cogeneration unit during the 12-month period starting on the date that the unit first produces electricity and continues to qualify as a cogeneration unit, a cogeneration unit serving at any time a generator with nameplate capacity of more than 25 MWe and supplying in any calendar year more than one-third of the unit's potential electric output capacity or 219,000 MWh, whichever is greater, to any utility power distribution system for sale. If a unit that qualifies as a cogeneration unit during the 12-month period starting on the date the unit first produces electricity but subsequently no longer qualifies as a cogeneration unit, the unit shall be subject to Subparagraph (1) of this Paragraph starting on the day on which the unit first no longer qualifies as a cogeneration unit; or

(3) any source identified in Rules .2403, or .2405 of this Section.

(c) Retired unit exemption. Any unit that is permanently retired and is not a opt-in unit under Rule .2411 of this Section shall be exempted from the annual trading program for:

(1) nitrogen oxides if it complies with the provisions of 40 CFR 96.105,

(2) sulfur dioxide if it complies with the provisions of 96.205, or

(3) ozone season nitrogen oxide if it complies with the provisions of 40 CFR 96.305.

(d) Effect on other authorities. No provision of this Section, any application submitted or any permit issued pursuant to Rule .2406 of this Section, or any exemption under 40 CFR 96.105, 96.205, or 96.305 shall be construed as exempting any source or facility covered under this Section or the owner or operator or designated representative of any source or facility covered under this Section from complying with any other requirements of this Subchapter or Subchapter 15A NCAC 2Q. The Environmental Management Commission may specify through rulemaking a specific emission limit

lower than that established under this Rule for a specific source if compliance with the lower emission limit is required to attain or maintain the ambient air quality standard for ozone or fine particulate (PM2.5) or any other ambient air quality standard in Section 15A NCAC 2D .0400.

History Note: *Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10);*
Eff.

15A NCAC 02 .2402 is proposed for adoption as follows:

15A NCAC 02D .2402 DEFINITIONS

(a) For the purpose of this Section, the definitions in 40 CFR 96.102, 96.202 and 96.302 shall apply.

(b) For the purpose of this Section, the abbreviations and acronyms listed in 40 CFR 96.103, 96.203, 96.302 shall apply.

History Note: *Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10);*
Eff.

15A NCAC 02 .2403 is proposed for adoption as follows:

15A NCAC 02D .2403 NITROGEN OXIDE EMISSIONS

(a) Allocations. The annual allocation of nitrogen oxide allowances are:

FACILITY	ALLOCATON FOR 2009-2014 (TONS)	ALLOCATIONS FOR 2015 AND LATER (TONS)
Butler-Warner Generation Plant	81	67
Duke Energy, Belews Creek	11407	9506
Duke Energy, Buck	1426	1188
Duke Energy, Cliffside	3087	2572
Duke Energy, Dan River	833	694
Duke Energy, G.G. Allen	4566	3805
Duke Energy, Lincoln	242	202
Duke Energy, Marshall	10175	8480
Duke Energy, Riverbend	1799	1499
Dwane Colier Battle Cogeneration Facility	850	708
Dynergy-Rockingham Power	204	170
Elizabethtown Power	91	76
Lumberton Power	127	106

FACILITY	ALLOCATON FOR 2009-2014 (TONS)	ALLOCATIONS FOR 2015 AND LATER (TONS)
NC Electric Membership Corps., Anson	7	6
NC Electric Membership Corps., Person	7	6
NC Electric Membership Corps., Richmond	7	6
NC Electric Membership Corps., Wake	7	6
Primary Energy, Roxboro	422	352
Primary Energy, Southport	173	144
Progress Energy, Asheville	2214	1845
Progress Energy, Blewett	8	7
Progress Energy, Cape Fear	1310	1091
Progress Energy, H.F. Lee	1870	1558
Progress Energy, L.V. Sutton	2259	1883
Progress Energy, Lee Wayne Co. Plant	99	82
Progress Energy, Mark's Creek Richmond Co.	394	328
Progress Energy, Mayo	4215	3512
Progress Energy, Roxboro	12188	10156
Progress Energy, Weatherspoon	709	591
Progress Energy, Woodleaf Rowan Co. Plant	27	22
Rosemary Power Station, Halifax	44	37
Westmoreland LG&E Partners Roanoke Valley I	1013	845
Westmoreland LG&E Partners Roanoke Valley II	322	269

(b) Compliance. The emissions of nitrogen oxides of a source listed in the table in Paragraph (a) of this Rule shall not exceed the number of allowances that it has in its compliance account established under Rule .2408 of this Section.

(c) Emission measurement requirements. The emissions measurements recorded and reported according to 40 CFR Part 96 Subpart HH shall be used to determine compliance by each source identified in this rule with its emissions limitation according to 40 CFR 96.106(c).

(d) Excess emission requirements. The provisions of 40 CFR 96.106(d) shall be used for excess emissions.

(e) Liability. The owner or operator of any source covered under this Section shall be subject to the provisions of 40 CFR 96.106(f).

(f) Modification and reconstruction, replacement, retirement, or change of ownership. The modification or reconstruction of a source at a facility covered under this Rule shall not make that source a "new" source. The source that is modified or reconstructed shall not change the emission allocation under Paragraph (a) of this Rule. If one or more sources at a facility covered under this Rule is replaced, the new source shall not receive an allocation under Rule .2412 of this Section, nor shall it change the allocation of the facility. If the owner of a facility changes, the emission allocations under this Rule and revised emission allocations made under Rule .2413 of this Section shall remain with the facility. If a source is retired, the owner or operator of the source shall follow the procedures in 40 CFR 96.105. The allocations of a retired source shall remain with the owner or operator of the retired source until a reallocation occurs under Rule .2413 of

this Section when the allocation shall be removed and given to other sources if the retired source is still retired using the procedure in Rule 2413 of this Section.

History Note: *Authority G.S. 143-215.3(a); 143-215.65; 143-215.66; 143-215.107(a)(5), (10);*
Eff.

15A NCAC 02 .2404 is proposed for adoption as follows:

15A NCAC 02D .2404 SULFUR DIOXIDE

(a) Applicability. This Rule applies only to facilities that meet the description in Rule .2401(a)(1) or (2) of this Section. As of January 1, 2001, these facilities included:

(1) Butler-Warner Generation Plant
(2) Cogentrix-Elizabethtown Power
(3) Cogentrix-Lumberton Power
(4) Duke Energy, Belews Creek
(5) Duke Energy, Buck
(6) Duke Energy, Cliffside
(7) Duke Energy, Dan River
(8) Duke Energy, G.G. Allen
(9) Duke Energy, Lincoln
(10) Duke Energy, Marshall
(11) Duke Energy, Riverbend
(12) Dwayne Colier Battle Cogeneration Facility
(13) Dynegy, Rockingham Power
(14) Progress Energy, Blewett
(15) Progress Energy, Cape Fear
(16) Progress Energy, Mark's Creek Richmond Co.
(17) Progress Energy, Wayne County
(18) Progress Energy, Woodleaf Rowan Co. Plant
(19) Progress, Energy, Asheville
(20) Progress, Energy, H.F. Lee
(21) Progress, Energy, L.V. Sutton
(22) Progress, Energy, Mayo
(23) Progress, Energy, Roxboro
(24) Progress, Energy, Weatherspoon
(25) Westmoreland LG&E Partners Roanoke Valley I
(26) Westmoreland LG&E Partners Roanoke Valley II

(b) Allocations. The annual allocation of sulfur dioxide allowances shall be determined by EPA. The allocations for acid rain facilities are in 40 CFR 73.10.

(c) Compliance. The emissions of sulfur dioxides of a source listed in the table in Paragraph (a) of this Rule shall not exceed the number of allowances that it has in its compliance account established under Rule .2408 of this Section.

(d) Emission measurement requirements. The emissions measurements recorded and reported according to 40 CFR Part 96 Subpart HHH shall be used to determine compliance by each source listed in this Rule with its emissions limitation according to 40 CFR 96.206(c).

(e) Excess emission requirements. The provisions of 40 CFR 96.206(d) shall be used for excess emissions.

(f) Liability. The owner or operator of any source covered under this Section shall be subject to the provisions of 40 CFR 96.206(f).

History Note: Authority G.S. 143-215.3(a); 143-215.65; 143-215.66; 143-215.107(a)(5), (10);
Eff.

15A NCAC 02 .2405 is proposed for adoption as follows:

15A NCAC 02D .2405 NITROGEN OXIDE EMISSIONS DURING OZONE SEASON

(a) Allocations. The ozone season allocation of nitrogen oxide allowances are:

(1) Facilities that meet the description in 15A NCAC 02D .2401(b)(1) or (b)(2):

FACILITY	ALLOCATON FOR 2009-2014 (TONS)	ALLOCATIONS FOR 2015 AND LATER (TONS)
Butler-Warner Generation Plant	56	46
Duke Energy, Belews Creek	5176	4314
Duke Energy, Buck	690	575
Duke Energy, Cliffside	1421	1184
Duke Energy, Dan River	459	382
Duke Energy, G.G. Allen	2207	1839
Duke Energy, Lincoln	178	148
Duke Energy, Marshall	4400	3666
Duke Energy, Riverbend	904	753
Dwane Colier Battle Cogeneration Facility	348	290
Dynergy-Rockingham Power	104	87
Elizabethtown Power	53	45
Lumberton Power	48	40

FACILITY	ALLOCATON FOR 2009-2014 (TONS)	ALLOCATIONS FOR 2015 AND LATER (TONS)
NC Electric Membership Corps., Anson	7	6
NC Electric Membership Corps., Person	7	6
NC Electric Membership Corps., Richmond	7	6
NC Electric Membership Corps., Wake	7	6
Primary Energy, Roxboro	88	73
Primary Energy, Southport	224	187
Progress Energy, Asheville	946	788
Progress Energy, Blewett	8	6
Progress Energy, Cape Fear	555	462
Progress Energy, H.F. Lee	886	738
Progress Energy, L.V. Sutton	1077	898
Progress Energy, Lee Wayne Co. Plant	67	56
Progress Energy, Mark's Creek Richmond Co.	353	294
Progress Energy, Mayo	1826	1522
Progress Energy, Roxboro	5337	4447
Progress Energy, Weatherspoon	364	304
Progress Energy, Woodleaf Rowan Co. Plant	25	21
Rosemary Power Station, Halifax	27	23
Westmoreland LG&E Partners Roanoke Valley I	407	339
Westmoreland LG&E Partners Roanoke Valley II	130	109

(2) Facilities that do not meet the description in 15A NCAC 02D .2401(b)(1) or (b)(2):

FACILITY	ALLOCATON FOR 2009-2014 (TONS)	ALLOCATIONS FOR 2015 AND LATER (TONS)
Blue Ridge Paper Products	839	839
International Paper Corp., Columbus Co.	307	307
International Paper Corp., Halifax Co.	346	346
United Cogen, Kenansville	113	113
UNC-Chapel Hill	241	241
Weyerhaeuser, New Bern Mill	193	193
Weyerhaeuser, Plymouth	404	404

(b) Ozone season defined. The ozone season is from May 1 through September 30 of each year.

(c) Change in status. If a facility named in Subparagraph (a)(2) of this Rule meets the description under Subparagraphs (b)(1) or (b)(2) of Rule .2401 of this Section, it shall lose its allocation under Subparagraph

(a)(2) of this Rule and shall receive an allocation under Rule .2412 of this Section as a new source until it receives an allocation under Rule .2413 of this Section.

(d) Compliance. The nitrogen oxide ozone season emissions of a source listed in the table in Paragraph (a) of this Rule shall not exceed the number of allowances that it has in its compliance account established under Rule .2408 of this Section.

(e) Emission measurement requirements. The emissions measurements recorded and reported according to 40 CFR Part 96 Subpart HHHH shall be used to determine compliance by each source listed in this Rule with its emissions limitation according to 40 CFR 96.306(c).

(f) Excess emission requirements. The provisions of 40 CFR 96.306(d) shall be used for excess emissions.

(g) Liability. The owner or operator of any source covered under this Section shall be subject to the provisions of 40 CFR 96.306(f).

(h) Modification and reconstruction, replacement, retirement, or change of ownership. The modification or reconstruction of a source at a facility covered under this Rule shall not make that source a "new" source. The source that is modified or reconstructed shall not change the emission allocation under Paragraph (a) of this Rule. If one or more sources at a facility covered under this Rule is replaced, the new source shall not receive an allocation under Rule .2412 of this Section, nor shall it change the allocation of the facility. If the owner of a facility changes, the emission allocations under this Rule and revised emission allocations made under Rule .2413 of this Section shall remain with the facility. If a source is retired, the owner or operator of the source shall follow the procedures in 40 CFR 96.305. The allocations of a retired source shall remain with the owner or operator of the retired source until a reallocation occurs under Rule .2413 of this Section when the allocation shall be removed and given to other sources if the retired source is still retired using the procedure in Rule 2413 of this Section.

History Note: *Authority G.S. 143-215.3(a); 143-215.65; 143-215.66; 143-215.107(a)(5), (10);*
Eff.

15A NCAC 02 .2406 is proposed for adoption as follows:

15A NCAC 02D .2406 PERMITTING

(a) The owner or operator of any source covered under this Section shall submit permits applications to comply with the requirements of this Section following the procedures and requirements in 15A NCAC 02Q .0500 (title v permitting procedures) and in:

(1) 40 CFR 96.106(a), 96121, and 96.122 for nitrogen oxide sources;

(2) 40 CFR 96.206(a), 96.221, and 96.222 for sulfur dioxide sources; and

(3) 40 CFR 96.306(a), 96,321, and 96.322 for ozone season nitrogen oxide sources.

(b) The Director shall review applications submitted under Paragraph (a) of this Rule and issue permits for compliance with this Section following the procedures and requirements in 15A NCAC 02Q .0500 (title v permitting procedures) and in:

(1) 40 CFR 96.106(a), 96.120, 96.123, and 96.124 for nitrogen oxide sources;

(2) 40 CFR 96.206(a), 96.220, 96.223, and 96.224 for sulfur dioxide sources; and

(3) 40 CFR 96.306(a), 96.320, 96.323, and 96.324 for ozone season nitrogen oxides.

History Note: *Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10); 143-215.108';*
Eff.

15A NCAC 02 .2407 is proposed for adoption as follows:

15A NCAC 02D .2407 MONITORING, REPORTING, AND RECORDKEEPING

(a) The owner or operator of a source covered under this Section shall comply with the monitoring, recordkeeping, and reporting requirements in:

(1) 40 CFR 96.106(b) and (e) and in 40 CFR Part 96, Subpart HH for nitrogen oxide sources;

(2) 40 CFR 96.206(b) and (e) and in 40 CFR Part 96, Subpart HHH for sulfur dioxide sources; and

(3) 40 CFR 96.306(b) and (e) and in 40 CFR Part 96, Subpart HHHH for ozone season nitrogen oxides.

(b) To approve or disapprove monitors used to show compliance with Rules .2403, 2404, or .2405 of this Section, the Division shall follow the procedures in:

(1) 40 CFR 96.171 for nitrogen oxides,

(2) 40 CFR 96.271 for sulfur dioxides, and

(3) 40 CFR 96.371 for ozone season nitrogen oxides.

History Note: *Authority G.S. 143-215.3(a); 143-215.65; 143-215.66; 143-215.107(a)(5), (10);*
Eff.

15A NCAC 02 .2408 is proposed for adoption as follows:

15A NCAC 02D .2408 TRADING PROGRAM AND BANKING

(a) EPA to administer. The United States Environmental Protection Agency (EPA) shall administer the allowance tracking system according to the procedures in:

(1) 40 CFR Part 96, Subpart FF and Subpart GG for nitrogen oxides;

(2) 40 CFR Part 96, Subpart FFF and Subpart GGG for sulfur dioxide;

(3) 40 CFR Part 96, Subpart FFFF and Subpart GGGG for ozone season nitrogen oxides.

(b) Compliance account. The owner or operator of each source covered under this Section shall have a compliance account in the EPA administered tracking system that satisfies the requirements of:

(1) 40 CFR 96.151 for nitrogen oxides,

(2) 40 CFR 96.251 for sulfur dioxides, and

(3) 40 CFR 96.351 for ozone season nitrogen oxides.

(c) General account. Any person may apply to open a general account to hold and transfer allowances by using the procedures and meeting the requirements in:

(1) 40 CFR 96.151(b) for nitrogen oxides and may close that account using the procedures in 40 CFR 96.157,

(2) 40 CFR 96.251(b) for sulfur dioxides and may close that account using the procedures in 40 CFR 96.257, and

(3) 40 CFR 96.351(b) for ozone season nitrogen oxides and may close that account using the procedures in 40 CFR 96.357.

(d) Allowance transfers.

(1) Any person who has a compliance or general account established under 40 CFR 96.151 may transfer allowances using the procedures in 40 CFR 96.160.

(2) Any person who has a compliance or general account established under 40 CFR 96.251 may transfer allowances using the procedures in 40 CFR 96.260.

(3) Any person who has a compliance or general account established under 40 CFR 96.351 may transfer allowances using the procedures in 40 CFR 96.360.

(e) Submittal of information. Persons with accounts shall submit information to EPA following the requirement of:

(1) 40 CFR 96.152 for nitrogen oxides,

(2) 40 CFR 96.252 for sulfur dioxides, and

(3) 40 CFR 96.352 for ozone season nitrogen oxides.

(e) Banking. Any person who has a compliance account or a general account may bank allowances for future use or transfer under:

(1) 40 CFR 96.155 for nitrogen oxides,

(2) 40 CFR 96.255 for sulfur dioxides, and

(3) 40 CFR 96.355 for ozone season nitrogen oxides.

History Note: *Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10);*
Eff.

15A NCAC 02 .2409 is proposed for adoption as follows:

15A NCAC 02D .2409 DESIGNATED REPRESENTATIVE

(a) Designated representative. The owner or operator of any source covered under this Section shall select a designated representative according to 40 CFR 96.110 for nitrogen oxide, 96.210 for sulfur dioxide, and .96310 for ozone season nitrogen oxides. The designated representative shall have the responsibilities and duties set out in 40 CFR 96.110 for nitrogen oxides, 96.210 for sulfur dioxide, and 96.310 for ozone season nitrogen oxides.

(b) Alternate designated representative. The owner or operator of any source covered under this Section shall select an alternate designated representative according to 40 CFR 96.111 for nitrogen oxides, 96.211 for sulfur dioxide, and 96.311 for ozone season nitrogen oxides. The alternate designated representative shall have the responsibilities and duties set out in 40 CFR 96.111 for nitrogen oxides, 96.211 for sulfur dioxide, and 96.311 for ozone season nitrogen oxides.

(c) Changing designated representative and alternate designated representative. The owner or operator of any source covered under this Section may change the designated representative or the alternate designated representative using:

(1) 40 CFR 96.112 for nitrogen oxides;

(2) 40 CFR 96.212 for sulfur dioxide; and

(3) 40 CFR 96.312 for ozone season nitrogen oxides.

(d) Changes in owners and operators. Whenever the owner or operator of a source covered under this Section changes, the following provisions shall be followed:

(1) 40 CFR 96.112(c) for nitrogen oxides;

(2) 40 CFR 96.212(c) for sulfur dioxide; and

(3) 40 CFR 96.312(c) for ozone season nitrogen oxides.

History Note: Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10);
Eff.

15A NCAC 02 .2410 is proposed for adoption as follows:

15A NCAC 02D .2410 COMPUTATION OF TIME

Time periods shall be determined as described in:

(1) 40 CFR 96.107 for nitrogen oxides;

(2) 40 CFR 96.207 for sulfur dioxide, and

(3) 40 CFR 96.307 for ozone season nitrogen oxides.

History Note: *Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10);*
Eff.

15A NCAC 02 .2411 is proposed for adoption as follows:

15A NCAC 02D .2411 OPT-IN PROVISIONS

(a) Opting in. The owner or operator of a source may opt into:

(1) the nitrogen oxide trading program by following the procedures in and meeting the requirements of 40 CFR Part 96 Subpart II,

(2) the sulfur dioxide trading program by following the procedures in and meeting the requirements of 40 CFR Part 96 Subpart III, and

(3) the ozone season nitrogen oxide trading program by following the procedures in and meeting the requirements of 40 CFR Part 96 Subpart IIII,

(b) Permitting. The Director shall permit opt-in sources under Paragraph (a) of this Rule according to 15A NCAC 2Q .0500 and

(1) 40 CFR 96.184 and 96.185 for nitrogen oxides and shall allocate allowances according to 40 CFR 96.188,

(2) 40 CFR 96.284 and 96.285 for nitrogen oxides and shall allocate allowances according to 40 CFR 96.288, and

(3) 40 CFR 96.384 and 96.385 for ozone season nitrogen oxides and shall allocate allowances according to 40 CFR 96.388,

(c) Withdrawing. The owner or operator of an opt-in source under Paragraph (a) of this Rule may withdraw from the trading program according to:

(1) 40 CFR 96.186 for nitrogen oxides,

(2) 40 CFR 96.286 for sulfur dioxides, and

(3) 40 CFR 96.386 for ozone season nitrogen oxides,

(d) Change in regulatory status. If an opt-in source becomes:

(1) a NOx unit under 40 CFR 96.104, then 40 CFR 96.187 shall apply,

(2) a SO_2 unit under 40 CFR 96.204, then 40 CFR 96.287 shall apply, or

(3) a ozone season NOx unit under 40 CFR 96.304, then 40 CFR 96.387 shall apply,

History Note: *Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10); 143-215.108;*
Eff.

15A NCAC 02 .2412 is proposed for adoption as follows:

15A NCAC 02D .2412 NEW SOURCE GROWTH

(a) For nitrogen oxide emissions, the procedures in 40 CFR 96.142(c) shall be used to create allocations for sources that commenced operations on or after January 1, 2001 and that are not listed in the table in Rule .2503 of this Rule.

(b) For ozone season nitrogen oxides, emissions, the procedures in 40 CFR 96.342(c) shall be used to create allocations for sources that commenced operations on or after January 1, 2001 and that are not listed in the table in Rule .2505 of this Rule.

History Note: Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10);
Eff.

15A NCAC 02 .2413 is proposed for adoption as follows:

15A NCAC 02D .2413 PERIODIC REVIEW AND REALLOCATIONS

In 2010 and every five years thereafter, the Environmental Management Commission shall review the emission allocations of sources covered under Rules .2403, .2404, and .2405 of this Section and decide if any revisions are needed. In making this decision the Environmental Management Commission shall consider the following:

(1) the size of the allocation pool for new source growth under Rule .2412 of this Section;

(2) the amount of emissions allocations requested by sources under Rule .2412 of this Section;

(3) the amount of emissions allocations available through the respective trading programs under Rule .2408 of this Section;

(4) the impact of reallocation on existing sources;

(5) the impact of reallocations on sources covered under Rule .2412 of this Section;

(6) impact on future growth; and

(7) other relevant information on the impacts of reallocation.

History Note: Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10);
Eff.

Agenda Item:	05-33 Request for Permission to take Draft Water Conservation Rules to Public Hearing
Explanation:	The Commission is responsible for developing and implementing rules governing water conservation and water reuse during drought and water emergency situations according to HB1215, Session Law 2002-167. The rules shall establish minimum standards and practices for water conservation and water reuse for all of the following classes of water users: (1) Publicly owned and privately owned water supply systems (2) State Agencies (3) Local Governments (4) Business and industrial water users (5) Agricultural and horticultural water users The public hearing will meet public comment requirement for the draft rules.
Recommendation	Recommend approval to hold public hearing to receive comment on draft rules.

EMC ACTION: THE EMC APPROVED SENDING THE RULES TO PUBLIC HEARING.

Agenda Item: Request for Approval of the Final Cape Fear River Basinwide Water Quality Plan

Explanation: The *Cape Fear River Basinwide Water Quality Plan* is in its third cycle of basinwide water quality plans that the Division of Water Quality is preparing for all 17 river basins across the state.

In March 2005, the draft basinwide plan was approved by the Water Quality Committee (WQC) to be released for public review and comment. One public information session was held during the public review process. The Division of Water Quality received written and verbal comments from both state and local agencies, as well as comments from private landowners. Revisions were made and information was added to or clarified in the draft plan. Copies of the revised plan were sent to EMC members in the EMC package.

This Basinwide Water Quality Plan is a planning document that will guide the Division's actions in this river basin over the next five years and beyond. The management actions are based on existing rules and policies. Therefore, approval and endorsement of this plan by the Commission would affirm that the management actions set forth in this plan are consistent with the rules adopted by the Commission and with the decision-making policies under which the Division has acted in the past.

Recommendation: It is recommended that the *Cape Fear River Basinwide Water Quality Plan* be approved and endorsed by the Commission as a guide to water quality program management and implementation by the Division of Water Quality as it carries out its Water Quality Program duties and responsibilities in the Cape Fear River basin.

EMC ACTION: THE EMC APPROVED THE CAPE FEAR RIVER BASINWIDE WATER QUALITY PLAN.

Agenda Item: Request for Approval of the Final New River Basinwide Water Quality Plan

Explanation: The *New River Basinwide Water Quality Plan* is in its third cycle of basinwide water quality plans that the Division of Water Quality is preparing for all 17 river basins across the state.

In July 2005, the draft basinwide plan was approved by the Water Quality Committee (WQC) to be released for public review and comment. The draft plan included language developed during an in-depth interim review process, which involved NCDENR agencies, the Soil and Water Conservation Districts, representatives of the Natural Resources Conservation Service, the regional council of governments, and several local watershed groups. One public information session was held during the public review process. The information session was requested by the High Country Council of Governments and focused on basinwide planning, classifications and standards, general permitting process, stormwater management, and local initiatives. The Division of Water Quality received written and verbal comments from both state and local agencies, as well as comments from private landowners. Revisions were made and information was added to or clarified in the draft plan. Copies of the revised plan were sent to EMC members in the EMC package.

This Basinwide Water Quality Plan is a planning document that will guide the Division's actions in this river basin over the next five years and beyond. The management actions are based on existing rules and policies. Therefore, approval and endorsement of this plan by the Commission would affirm that the management actions set forth in this plan are consistent with the rules adopted by the Commission and with the decision-making policies under which the Division has acted in the past.

Recommendation: It is recommended that the *New River Basinwide Water Quality Plan* be approved and endorsed by the Commission as a guide to water quality program management and implementation by the Division of Water Quality as it carries out its Water Quality

Program duties and responsibilities in the New River basin.

EMC ACTION: THE EMC APPROVED THE NEW RIVER BASINWIDE WATER QUALITY PLAN.

Agenda Item: 05-38 Hearing Officer's Report on Amending Rule 15A NCAC 2L .0115(c), (n) and (o)

Explanation: On June 22, 2005 the UST Section held a public hearing on amendments to rules to modify the testing requirements set out in 15A NCAC 2L.0115 (Risk-Based Assessment and Corrective Action for Petroleum Underground Storage Tanks).

This change affects 15A NCAC 2L .0115(c), (n) and (o). Part (c) is modified to only require the installation of 3 monitoring wells at registered tank facilities, meeting the high risk classification in 15A NCAC 2L .0115 (d)(1), where a release has caused the groundwater contamination in excess of the 2L standards by a factor of 10. Currently parts (n) and (o) require the referenced analyses to be conducted on each and every sample obtained and only allow the substitution of other methods in limited circumstances. The Section proposes to modify these parts to require these analyses of soil and groundwater samples for the samples used to achieve site closure. This will allow assessment and monitoring stages of remediation to use screening procedures. Screening procedures are generally cheaper and faster than laboratory procedures. The Section also expects to modify and reduce the number of constituent specific and MADEP analyses necessary to assess the release and to monitor the corrective action. Together these changes are expected to produce a more completely delineated contaminant plume at a reduced cost. This strategy will allow the Section to address more sites with the given amount of funding that is available. One person commented at the hearing and two additional persons submitted written comments. One person simply questioned whether his constituency would be affected by the amendments. The next person requested modifications to the referenced methods, but did not address the amendments. The third person expressed a concern that the language of the presentation should not refer to 'closing' and that the environment should be protected. No changes are proposed as the result of the public comments since comments either did not address the amendments or in the case of protection of the environment the amendments

should not affect the final outcome of current remediation.

Recommendation: The hearing officer recommends that the Commission adopt the proposed amendments.

EMC ACTION: THE EMC ADOPTED THE RULE AMENDMENTS AS PROPOSED BY THE HEARING OFFICER.

Agenda Item:

Request to Proceed to Public Hearing with the Proposed Reclassification of the Entire Watersheds of All Creeks that Drain to the North Shore of Fontana Lake Between Eagle and Forney Creeks (including Eagle and Forney Creeks) in Swain County (Little Tennessee River Basin) and Request for Waiver of the EMC's 30-day By-laws Rule

Explanation:

Session Law 2005-97 (House Bill 1189) states that "The Environmental Management Commission shall initiate a rule-making proceeding...to adopt rules to reclassify the entire watersheds of all creeks that drain to the north shore of Fontana Lake between Eagle and Forney Creeks, including Eagle and Forney Creeks, as outstanding resource waters...". These waters are located in Swain County in the Little Tennessee River Basin. The Outstanding Resource Waters (ORW) supplemental classification is a designation intended to protect unique and special waters having excellent water quality and being of exceptional state or national ecological or recreational significance. Water quality studies conducted in August 2005 show that the waters proposed to be reclassified meet Class ORW criteria.

Acid-producing rock in the proposed ORW area could be a threat to water quality if waters in the area receive drainage from excavation of this rock. There are plans for development in the proposed ORW area that consist of potential federal road construction and associated visitor amenities along the northern shore of Fontana Lake. Furthermore, comments on the proposed reclassification, which were received from the Southern Environmental Law Center, support an ORW reclassification as well as suggest additional management strategies necessary to protect resource values. In October 2005, the Water Quality Committee granted approval to draft rule language to incorporate staff's recommendation concerning extra protections beyond the ORW standard management strategies for the subject waters. These extra protections consist of control of stormwater generated for and by any new development and adding conditions to any 401 water quality certification in the proposed ORW area to address runoff from excavation of acid-producing rock. In addition, please note that

the ORW standard management strategies do not allow new or expanded discharges, and NC DOT regulations for many types of road and bridge activities in ORW watersheds require use of Best Management Practices (BMPs) associated with sediment and erosion control. The proposed effective date for this reclassification is September 1, 2006.

Recommendation: The Director and staff recommend that the Environmental Management Commission grant staff permission to proceed to public hearing for the above-mentioned proposed reclassification.

EMC ACTION: THE EMC APPROVED SENDING THE DRAFT RULE LANGUAGE TO PUBLIC HEARING.

Agenda Item:	Annual Progress Reports on the Tar-Pamlico and Neuse Agriculture Rules
Explanation:	The Basin Oversight Committees (BOCs) for these two basins are required to report to the Commission each October on annual progress in implementation of the Neuse and Tar-Pamlico Agriculture Rules (15A NCAC 2B .0238 and .0256 respectively). For crop year 2004, the BOCs received and approved annual reports from 17 and 14 Local Advisory Committees (LACs) in the Neuse and Tar-Pamlico Basins respectively. The two basins report cumulative nitrogen loss reductions from baseline through 2004 of 44% and 47%, respectively. Reductions were accomplished through BMP installation, fertilizer application reduction, crop shifts, and cropland reduction. Separate report documents are provided for each basin from the respective BOCs. In the Tar-Pamlico Basin, to date the EMC has granted full approval to nine local strategies and conditional approval to five. The BOC requests the EMC grant full approval to four of these conditional strategies, leaving one as conditional. Deficiencies in the remaining plan should be addressed in the coming year.
Recommendation:	That the EMC approve the staff recommendation on the Tar-Pamlico reports. No action is required by the EMC on the Neuse report.

EMC ACTION: THE EMC APPROVED THE TAR PAMLICO REPORTS.

Agenda Item :	05-45 Request to Proceed to Public Notice and Hearing with Proposed Rules for the Universal Stormwater Management Program (USMP)
Explanation:	In October of 2005 the Water Quality Committee (WQC) authorized the Division to proceed with the proposed rule 15A NCAC 2H .1020, which establishes the Universal Stormwater Management Program. The USMP is an optional program for local governments that will provide them with the opportunity to replace the post construction stormwater requirements of 14 different stormwater programs with a single, simplified set of requirements. The Universal Program will not require the implementation of new stormwater management requirements where none currently exist.
Recommendation:	That the Environmental Management Commission approve the proposed rule 15A NCAC 2H .1020 to proceed to Public Notice and Hearings.

EMC ACTION: THE EMC APPROVED SENDING THE DRAFT RULES TO PUBLIC HEARING.

IV. EXPECTED FUTURE AGENDA ITEMS

Future Air Quality Items
Future Groundwater Items
Future Water Quality Items

Jan 07	-Permit Exemption for County Grain Elevators and Mills (325) -Revision of Portable Generator Permit Exemption (420) -Clarification of Storage Tank Permit Exemption for Ethanol-Based Fuels (422)	Adoption -Revision of AAL for Carbon Tetrachloride (376) -Distributed Power Generation Using Diesel and Oth Fuels (347) -Revise AAL for 1,3-Butadiene and Carbon Tetrachloride (299) -AAL for MDI, DI, Acrylamide, Chromium VI (124) -Boilers and Industrial Furnaces Burning Hazardous Waste (330) -Amend Definition of AApplicable Requirement@ to add reference to 2D .900,.1400, and .1200 (334)
Jan 07 cont.		-Implementation of New Authority I/M Codes (323a1) -Implementation of New Authority sales and service of analyzers (323d) -Reporting Requirements Conform with General Statutes (361) -Particulate Emissions from Spray/Finish Booths and Woodworking (21, 68) -Glass Melting Furnaces (328)
Mar 07		Hearing request -Permit Exemption for County Grain Elevators and Mills (325) -Revision of Portable Generator Permit Exemption (420) -Clarification of Storage Tank Permit Exemption for Ethanol-Based Fuels (422)
May 07	-Replacement of SIC with NAICS in the Air Toxic Rules (369) -Change Definition of ASmall Facility@ and ASynthetic Minor Facility@ -Commence Construction and Operation -Elimination of 40% Opacity (349) -Good O&M Maintenance (302) -Mercury Emissions from Combustion Sources (356) -Exempt Air Curtain Burners from Air Toxic Rules (364) -Removal of Permit Exemption for Incinerators (315) -Higher Allowable Particulate Emission Rate for Small Wood Fired Indirect Heat Exchangers (286) -Deletion of Facility-Wide Language in VOC Permit Exemption (370) -Revision of Wording of Monitoring Requirements in Several Incinerator Rules (382) -Allowing Ambient Monitoring for Air Toxic Compliance Determination (404)	Adoption -Permit Exemption for County Grain Elevators and (325) -Revision of Portable Generator Permit Exemption (420) -Clarification of Storage Tank Permit Exemption for Ethanol-Based Fuels (422)
Jul 07		Hearing Request -Replacement of SIC with NAICS in the Air Toxic Rules (369) -Change Definition of ASmall Facility@ and ASynthetic Minor Facility@ -Commence Construction and Operation -Elimination of 40% Opacity (349) -Good O&M Maintenance (302) -Mercury Emissions from Combustion Sources (356) - Exempt Air Curtain Burners from Air Toxic Rules (3 -Removal of Permit Exemption for Incinerators (315on at -Higher Allowable Particulate Emission Rate for Sma.. Wood Fired Indirect Heat Exchangers (286) -Deletion of Facility-Wide Language in VOC Permit

		Exemption (370)
Jul 07 (cont)		-Revision of Wording of Monitoring Requirements in Several Incinerator Rules (382) -Allowing Ambient Monitoring for Air Toxic Compliance Determination (404)
Dec 07		-Deletion of Facility-Wide Language in VOC Permit Exemption (370) -Revision of Wording of Monitoring Requirements in Several Incinerator Rules (382) -Allowing Ambient Monitoring for Air Toxic Compliance Determination (404)

Groundwater Committee/EMC
Possible Future Items

Oct 2005	(No items scheduled)	DWM - Request to APPROVE of Proposed Rules to Modify the Testing Requirements Under Title 15A NCAC 2L .0115.
Nov 2005	DWM- SUPERFUND SECTION ITEM Information on Rulemaking for the Dry Cleaning Solvent Cleanup Act (DSCA) Program to Include Required Minimum Management Practices in 15A NCAC 2S .0202 DWQ-GW ITEM Status of the 2L Stakeholders Group	(No items scheduled)
Jan 2006	(Meeting Canceled)	(No items scheduled)
Mar 2006	(No items scheduled at this time)	DWM- SUPERFUND SECTION ITEM Request to Proceed to Public Notice and Hearing for Implementation of New Rules From the Dry-Cleaning Solvent Cleanup Fund Program
May 2006	DWQ-GW ITEM 2L Stakeholders Group Report DWM–UST ITEM Request to do rule-making	

Water Quality Committee/EMC	WQC Agenda	EMC Agenda
Jan. 2006	• Request to Proceed to EMC for Permission to go to Public Hearings on the proposed Amendments to Water Quality Standards for the 2004-2006 Triennial Review • Consideration of Trout Waters Reclassification for a Segment of the Catawba River • Request by New Bern Development LLC for a Major Variance from the Neuse Buffer Requirements for the Sky Sail Condominium Temporary Construction Activities • Request for Approval of the Coastal Habitat Protection Plans (CHPP) Annual Report to the Environmental Review Commission (ERC) and the Joint Legislative Commission on Seafood and Aquaculture • Clarification on use of Soil Survey Map for Buffer Rules	• Discussion of Water Quality Data Issues for B. Everett Jordan Reservoir • Hearing Officer's Report on Proposed Amendments to 15A NCAC 2B .0240, the Nutrient Offset Rule • Request to Send Reclassifications to Public Hearing (Broad River, WS; Broad River ORW) • City of High Point Special Order by Consent Hearing Officer's Report
Mar 2006	• Request Approval of Reports to the ERC in Accordance to Senate Bill 981 • Consideration of Water Quality Data Issues and Nutrient Management Rules for Jordan Rules • Request for a Major Variance from the Tar-Pamlico Buffer rules for PCS Phosphate Company, Inc. •	• Request Approval of Reports to the ERC in Accordance to Senate Bill 981 • Request Permission to Go to Public Hearing on Amendments to water Quality Standards in Accordance with the Federal Triennial Review • Request to Send Trout Management Strategy Rules for a Segment of the Catawba River to Public Hearing

		• Interpretive Ruling for Stormwater rules Regarding Porous Pavement
May 2006	• Clarification on use of Soil Survey Map for Buffer Rules • Kersey Valley Landfill Randleman Variance • Impaired Waters Update • Information on Collection Systems • Information on Site-Specific Management Plans for Federally-Listed Threatened and Endangered Aquatic Species • Request Permission to Send Draft Roanoke River Basinwide Water Quality Plan to Public Review	• Request to Approve the Hearing Officer's Recommendation to Reclassify Uwharrie River to Class B • Request Adoption of NonDischarge Waste (2T) Rules • Neuse River Reclassification
July 2006	• Pitt County Delegation of Tar Pamlico/Neuse Buffer • Clarification on use of Soil Survey Map for Buffer Rules • Request to Approve Jordan rules to go to EMC • Request a Major Variance from Buffer rules for	• Request adoption of USMP draft rules • Hearing Officer's Report and Request Adoption of Jordan Reservoir Nonpoint Source Management rules • Request to Approve the Hearing Officer's Recommendation to Reclassify Yadkin River to CA
Sept 2006	• Request Permission to Send Draft White Oak River Basinwide Water Quality Plan to Public Review • Request Permission to Send Final Draft Roanoke River Basinwide Water Quality Plan to EMC for Approval • Kinnakett/Avon Sand Mine • Shotwell Landuse Variance from Neuse River	• Request to Approve the Hearing Officer's Recommendation to Reclassify Waters Draining to the North shore of Fontana Lake as ORW • Request to Approve the Hearing Officer's Recommendation to Reclassify Broad River as WS and ORW • Request to Approve Final Draft of Roanoke River Basinwide Water Quality Plan • Request to Send Jordan Rules to Public Hearing
Nov 2006	• Request Approval to Send Draft Hiwassee, Savanna, and Little Tennessee Basinwide Water Quality Plans to Public Review	•

*Dates shown are projections. Actual schedules could vary 1-3 months either direction

EXHIBIT D-2

QUARTERLY REPORT

TO THE

ENVIRONMENTAL REVIEW COMMISSION

ON

ENVIRONMENTAL MANAGEMENT COMMISSION ACTIVITIES

April 2006

YEAR 2005-2006 THIRD QUARTER REPORT TO ERC IN ACCORDANCE WITH § 143B-282(b)

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II. SUMMARIES OF ENVIRONMENTAL MANAGEMENT COMMISSION (EMC) ACTIONS

III. EXPECTED FUTURE AGENDA ITEMS

I. STANDING COMMITTEE MEETINGS

A. WATER ALLOCATION COMMITTEE

The Water Allocation Committee conducted business in January 2006 and March 2006.

B. WATER QUALITY COMMITTEE

The Water Quality Committee conducted business in January 2006 and March 2006.

C. GROUNDWATER COMMITTEE

The Groundwater Committee did not meet during this quarter.

D. AIR QUALITY COMMITTEE

The Air Quality Committee conducted business in January 2006, February 2006 and March 2006.

E. STEERING COMMITTEE

The Steering Committee conducted business in January 2006.

F. NPDES COMMITTEE

The NPDES Committee did not meet during this quarter.

II. SUMMARIES OF ENVIRONMENTAL MANAGEMENT COMMISSION (EMC) ACTIONS

Agenda Item: Request to Proceed to Public Hearing on Best Available Retrofit Technology Rule

Explanation: The Environmental Management Commission is requested to approve one or more public hearings on a proposed new best available retrofit technology (BART) rule.

15A NCAC 02D .0543, Best Available Retrofit Technology, is proposed for adoption to establish best available retrofit technology requirements for certain, older sources of emissions of visibility impairing pollutants impacting visibility in federal parks and wilderness Class I areas as part of efforts required region-wide to address the regional haze problem. The requirements are proposed for adoption in response to federal requirements that states address these emissions in their state implementation plan (SIP) for regional haze.

On July 6, 2005, US EPA promulgated 40 CFR Part 51 Appendix Y, Guidelines for Best Available Retrofit Technology (BART) Determinations. The proposed rule establishes a framework for making these determinations and incorporates the 40 CFR Part 51 Appendix Y guidelines by reference.

The proposed rule applies to sources that have the potential to emit 250 tons or more of a visibility impairing pollutant, were in existence on August 7, 1977 and began operation after August 7, 1962, and fall within one of the 26 industrial source categories listed in the guidance. The visibility impairing pollutants for BART purposes are sulfur dioxide (SO2), nitrogen oxides (NOx), and fine particulate matter (PM2.5).

The proposed rule allows affected sources to demonstrate in accordance with the guidelines that the source does not contribute to visibility impairment and should be exempt. Non-exempt sources are required to undergo a determination of best available retrofit technology. For sources that are not exempted, the rule establishes a deadline of September 1, 2006 for submittal of permit applications proposing best available retrofit technology. The rule requires that BART controls be installed and begin operation by June 1, 2010.

The rule also specifies that compliance with the Clean Air Interstate Rule (CAIR) by subject electric utility sources constitutes BART for such sources for sulfur dioxide and nitrogen oxides emissions. The rule does not preclude the EMC from adopting additional emission reduction requirements for covered sources if necessary to obtain or maintain an ambient air quality standard or meet other state implementation plan requirements.

Recommendation: The Director recommends that the Commission authorize one or more public hearings on this rule and that the Chairman appoint one or more members of the Commission to serve as hearing officers.

EMC ACTION: The EMC approved sending the best available retrofit (BART) rule to public hearing.

Agenda item: Request to Proceed to Public Hearing on Amendments to Various Air Quality Rules

Explanation: The Environmental Management Commission is requested to approve one or more public hearings on the adoption of rule on sales and service of I/M analyzers and amendments to, new source performance standard, maximum achievable control technology, recordkeeping and reporting, gasoline bulk terminal, gasoline truck tank, and permitting rules.

The new source performance standards (15A NCAC 2D .0524) and maximum achievable control technology (15A NCAC 2Q .1111) rules are proposed to be amended to delegate the implementation and enforcement of the NSPS and MACT requirements for drycleaners to the Division of Waste Management.

The gasoline truck tank and vapor collection rule (15A NCAC 2D .0932) is proposed to be amended to make clarifications, corrections and updates. The definitions of "bulk gasoline plant" and " bulk gasoline terminal" are corrected. References to gasoline dispensing facilities and gasoline service stations are removed because the rule does not apply to them. The pressure standard has been updated to the current Department of Transportation standard. The requirements for gasoline truck tanks and for vapor control systems have been more clearly delineated.

The general recordkeeping and reporting requirement rule (15A NCAC 2D .0605) is proposed to be amended to prohibit falsifying information and knowingly submitting falsified information.

The gasoline bulk terminal rule (15A NCAC 2D .0927 is proposed to be amended to add details on leak inspection and recordkeeping and requirements for repairing leaks.

A new rule (15A NCAC 2D .1006) is being proposed on the sales and service of analyzers used to test automobile emissions under the inspection/maintenance (I/M) program. This rule

requires vendors to sell or lease only equipment that meet the requirements for on-board diagnostic testing equipment and has the software necessary to record and transmit data required by the Divisions of Motor Vehicles and Air Quality. The rule also requires vendors to make repairs to the hardware and software in a timely manner.

The rule that identifies permits requiring public participation (15A NCAC 2Q .0306) is proposed to be amended. The amendment requires permits with conditions that exempt a source from the 20-percent opacity standard to be noticed for public comment with an opportunity for public hearing. Also, permits using alternative monitoring procedures or methodologies than those specified in the monitoring rules would be noticed for public comment with an opportunity for public hearing.

The Title V permitting definition rule (15A NCAC 2Q .0503) is proposed to be amended to revise the definition of "insignificant activities because of category." Currently the definition does not limit the size of heating unit used for human comfort that is considered insignificant. The amendment considers only those less than ten million Btu as insignificant.

The Title V permit content rule (15A NCAC 2Q .0508) is proposed to be amended to change the requirement to report excess emissions that last less than four hours from two business days to quarterly. (Excess emissions lasting for more than four hours are covered under another rule and are required to be reported by the next business day.)

The Title V administrative permit amendment rule (15A NCAC 2Q .0514) is proposed to be amended to clarify that it is not to be used for the state-enforceable only part of a Title V permit. Administrative amendments to the state-enforceable only part of a Title V permit are to be made using the non-Title V administrative amendment permitting procedures.

Recommendation:

The Director recommends that the Commission authorize a public hearing(s) on these items and that

the Chairman appoint a member(s) of the Commission to serve as hearing officer(s).

EMC ACTION: The EMC approved sending the various air quality rules to public hearing

Agenda Item: Request to Proceed to Public Hearing on Clean Air Mercury Rules

Explanation: The Environmental Management Commission is requested to approve one or more public hearings on proposed new clean air mercury rules.

On May 29, 2005, the EPA promulgated the emission guidelines to limit the emission of mercury from coal fired electrical generation units. The State plan is due November 17, 2006. The EPA will implement these rules in states that do not require affected sources to reduce emissions of mercury necessary to meet the mercury cap in its rules.

These rules apply to (1) any stationary coal-fired boiler or stationary combustion turbine fired with coal-derived fuel serving a generator with nameplate capacity of more than 25 MWe producing electricity for sale and (2) any coal-fired cogeneration unit serving at any time a generator with nameplate capacity of more than 25 MWe and supplying in any calendar year more than one-third of the unit's potential electric output capacity or 219,000 MWh, whichever is greater.

North Carolina received an allocation of 1.113 tons or 35,616 ounces for 2010-2017 and 0.447 tons or 14,304 ounces for 2018 and each year thereafter. These allocations are distributed among the affected sources.

The EPA rules contain definitions, requirements for designated representative and alternate designated representative, permitting requirements, trading and banking provisions, and monitoring and reporting requirements.

Additionally, Rule 15A NCAC 02D .2511, Mercury Emission Limits, proposes more stringent new source mercury emission limits than the EPA rules. It also proposes reductions in mercury emissions at units at Duke Power and Progress Energy that are not being controlled to meet the Clean Smokestacks Act.

15A NCAC 2D .2500 Mercury Rules For *Electrical Generators*

15A NCAC 02D .2501, Purpose and Applicability, describes the sources cover by the Section. It also incorporates by reference the retired unit exemption, which allows retired units to discontinue participation in the trading program, i.e., to cease submitting reports, etc. This Rule also states that compliance with the EPA-CAMR rules does not relieve a source from complying with any other applicable rules or prohibit the EMC from adopting additional reduction requirements for EPA-CAMR sources if necessary to obtain and maintain compliance with the ambient air quality standards for ozone, fine particulate or other ambient air quality standards.

15A NCAC 02D .2502, Definitions, incorporates by reference, the definitions in the EPA guideline rule.

15A NCAC 02D .2503, Mercury Emissions, contains the annual allocations for mercury for facilities with sources know to be covered under this Section. This Rule allows compliance to be achieved through the trading program, specifies how emissions are to be measured and reported, and the liability of covered sources. It also describes by happens to a source's allocations when that source is modified, reconstructed, replaced, retired, or changes ownership.

15A NCAC 02D .2504, Permitting, contains the permitting related obligations of the owner or operator of a source covered under this Section and obligations of the Director of the Division of Air Quality. These obligations have been incorporated by reference from the EPA guideline rule.

15A NCAC 02D .2505, Monitoring, Reporting, and Recordkeeping, incorporates by reference the subparts of the model rule specifically dealing with monitoring, reporting, and recordkeeping.

15A NCAC 02D .2506, Designated Representative, incorporates by reference the requirements and procedures to have and designating a designated representative and an alternative designated

representative. It also incorporates by reference the procedures for changing a designated and changes in owners or operators.

15A NCAC 02D .2507, Computation of Time, incorporates by reference the EPA model rule's provisions on computation of time.

15A NCAC 02D .2508, New Source Growth, incorporates by reference the EPA model rule's procedures for establishing and using allocations for new sources.

15A NCAC 02D .2509, Periodic Review and Reallocations, requires the EMC to review the allocations contained in this Section in 2010 and every five years thereafter and decide if reallocation is needed. It also contains a DAQ reporting schedule to the EMC on updated information on the regulation of mercury emissions. The three reports are to be presented in July of 2008, 2010, and 2013.

15A NCAC 02D .2510, Trading Program and Banking, identifies the EPA as the agency to administer the allowance trading system. It also incorporates by reference the requirements and procedures for establishing a compliance account, a general account, allowance transfers, submittal of information, and banking allowances.

Rule 15A NCAC 02D .2511, Mercury Emission Limits, proposes more stringent new source mercury emission limits than the EPA rules. It also proposes reductions in mercury emissions at units at Duke Power and Progress Energy that are not being controlled to meet the Clean Smokestacks Act. An option is proposed to allowing further reduce mercury emissions at controlled units in lieu of adding controls to units that are not being controlled to meet the Clean Smokestacks Act. Additionally, source testing is proposed before and after the installation of scrubbers at a minimum of four boilers at each company.

Recommendation:

The Director recommends that the Commission authorize one or more public hearings on these rules and that the Chairman appoint one or more

members of the Commission to serve as hearing officers.

EMC ACTION: The EMC approved sending the mercury rules to public hearing.

Agenda Item:	Request for Adoption of Hearing Officers' Recommendations for Amendments to 15A NCAC 2B .0240, the Nutrient Offset Payments Rule
Explanation:	In July of 2005 the Environmental Management Commission (EMC) authorized the Division to proceed to public notice and hearings with proposed amendments to 15A NCAC 2B .0240, the Nutrient Offset Payments Rule. The notice of text for these proceedings was published in the *North Carolina Register* on September 1, 2005, and public hearings were conducted in Raleigh and Rocky Mount on October 11 and October 18, 2005, respectively. Eight oral comments regarding these proposed amendments were received at the public hearings and a total of 36 written comments were received prior to the close of the comment period. Of particular interest to the Commission, the Public Notice for this rulemaking specifically solicited data that would indicate that the proposed rate increase to $57/lb of Nitrogen per year was in error. No specific data that could be used to justify a revision to the proposed rate increase was received, so no modification to this fee increase has been recommended. All of the comments and the Hearing Officers' responses to these comments are contained in the Report of Proceedings (attached). As a result of the public comments some revision of the amendments has been recommended by the Hearing Officers. The proposed revised rule is attached.
Recommendation:	That the Environmental Management Commission adopt the proposed amendments to 15A NCAC 2B .0240 as recommended by the Hearing Officers in the Report of Proceedings.

EMC ACTION: THE EMC ADOPTED THE RULE AMENDMENTS.

Agenda Item:

Request to Proceed to Public Hearing with the Proposed Reclassifications for the North Fork First Broad River in Rutherford County (Broad River Basin) to Class Outstanding Resource Waters (ORW), and Two Segments of the Broad River in Cleveland, Polk, and Rutherford Counties (Broad River Basin) to Class Water Supply IV (WS-IV) and WS-IV CA (Critical Area)

Explanation:

•**North Fork First Broad River** (Rutherford County, Broad River Basin). A request for a High Quality Waters (HQW) reclassification of the currently Class C Tr classified North Fork First Broad River was submitted by an organization known as The Concerned Citizens of Rutherford County, as well as by two individuals, Mr. and Mrs. Rob McComas. Because the requests mentioned that the area including these waters *"contains an impressive array of high quality natural communities, rare animal populations..."* and *"...several rare or unusual benthic macroinvertebrate species..."*, as well as excellent water quality as confirmed by studies conducted by DWQ in 2004 and 2005, DWQ staff determined the ORW classification to be more suitable for recognizing existing uses.

If reclassified, regulations that affect development and wastewater discharges would apply. Regulations associated with stormwater control for new development activities in ORW areas are applied if a development requires a Sedimentation and Erosion Control Plan. No new or expanded discharges are allowed in ORWs. There are no known plans for development or dischargers in the proposed ORW area with the exception of possibly one subdivision.

•**Broad River** (Rutherford and Polk Counties, Broad River Basin) McGill Associates, P.A. and the Town of Forest City have requested that portions of the Broad River be reclassified to WS-IV Critical Area (CA) and WS-IV Protected Area (PA). The reclassification is needed in order to construct a potable water supply intake. The Division of Environmental Health granted the Town of Forest City conceptual approval for use of these waters as a potable water source. The waters to be reclassified

meet water supply water standards according to 2004 DWQ studies.

If reclassified, development and discharge restrictions will apply. There are NPDES wastewater dischargers in the proposed water supply watershed, but only one of these dischargers, Dan River Wastewater Treatment Plant, may be impacted by this reclassification. There are not any known planned dischargers and developments in the entire proposed reclassification area that would be impacted by the proposed reclassification. Polk County and Rutherford County are the local governments with jurisdiction in the reclassification area, and these local governments would need to modify water supply watershed protection ordinances within 270 days after the reclassification effective date. Both counties support this reclassification.

•**Broad River** (Rutherford and Cleveland Counties, Broad River Basin) Willis Engineers and the City of Shelby have requested that portions of the Broad River be reclassified to WS-IV CA and WS-IV (PA). The reason for the reclassification is to allow for a City of Shelby "raw water supply pipe line", which is currently under construction, and intended for use in withdrawal of water from the Broad River under conditions where the current City supply of the First Broad River is inadequate." The Division of Environmental Health granted the City of Shelby approval for emergency use of this water source. The waters to be reclassified meet water supply water standards according to 2004 DWQ studies.

If reclassified, development and discharge restrictions will apply. There are facilities that hold NPDES individual wastewater discharge permits in the proposed water supply watershed, but none of these facilities will most likely be affected by the reclassification. There are no planned dischargers and no planned development in the proposed reclassification area that will likely be affected by the proposed reclassification. Boiling Springs, Mooresboro, Lattimore, Cleveland County, and Rutherford County are local governments with jurisdiction in the reclassification area. Local governments typically need to create or modify

water supply watershed protection ordinances within 270 days after the effective date of water supply reclassification. However, when a reclassification is anticipated to not become effective before waters are to be used as a potable water supply source, DWQ staff recommends that local governments create or modify water supply watershed protection ordinances before these waters are utilized as a potable water supply source. Both counties have provided support for this reclassification, and efforts are underway with the three cities to obtain support of this proposal.

The Water Quality Committee approved these requests at their November 2005 meeting. The proposed effective date for these reclassifications is November 1, 2006.

Recommendation:

The Director and staff recommend that the Environmental Management Commission grant staff permission to proceed to public hearing for the above-mentioned proposed reclassifications.

EMC ACTION: THE EMC APPROVED THE RECLASSIFICATIONS TO GO TO PUBLIC HEARING.

Agenda Item:	City of High Point Special Order by Consent Hearing Officers Report and Recommendation
Explanation:	The City of High Point has a history of Sanitary Sewer Overflows (SSO) due to failure of parts of its aging sewage collection system. The City has undertaken a dynamic program to repair and replace this failing infrastructure. They have applied under a Special Order by Consent that outlines measures to be taken, timeframes and stipulated penalties. Based on the amount of public input a public Hearing was held in October under the provisions of 15A 2H .1203. The EMC is required to take final actions on SOCs for which a Public Hearing is held.
Recommendation:	That the EMC approve the amended SOC to allow the City of High Point to continue its Collection System rehabilitation to reduce SSOs and be allowed limited new flows based on meeting milestones.

EMC ACTION: THE EMC APPROVED THE AMENDED SOC.

Agenda Item:	Request for Approval of Reports to the Environmental Review Commission in Accordance with Senate Bill 981
Explanation:	Senate Bill 981 (Session Law 2005-190) ratified July 7, 2005 was an act directing the Environmental Management Commission: (1) to study water quality in drinking water supply reservoirs in the State, (2) to adopt nutrient control criteria for drinking water supply reservoirs, (3) to develop and implement a nutrient management strategy for certain drinking water supply reservoirs that are impaired or that may become impaired within five years, (4) not to make any new or increased nutrient loading allocation to an impaired drinking water supply reservoir until rules to implement a nutrient management strategy for that reservoir become effective, and (5) to report to the Environmental Review Commission on progress in developing and implementing nutrient management strategies for drinking water supply reservoirs with impaired water quality. The Division of Water Quality requests that the Environmental Management Commission approve the enclosed reports to meet the initial reporting requirements of SB 981 (Session Law 2005-190).
Recommendation:	That the EMC approve sending the requested reports to the ERC.

EMC ACTION: THE EMC APPROVED THE REPORTS TO GO TO THE ERC.

Agenda Item :	Request to Proceed to Public Hearing with Proposed Amendments to Surface Water Quality Standards in Accordance with the Clean Water Act 2004-2006 Triennial Review
Explanation:	The Division of Water Quality is requesting that the Environmental Management Commission grant staff permission to proceed with proposed amendments to the water quality standards as part of North Carolina's 2004-2006 Triennial Review. The Triennial Review is required under the Federal Clean Water Act to review current water quality standards and classifications. Revised numerical standards (15A NCAC 02B) are being proposed to comply with federal methodology for calculating human health protection criteria. The updated methodology revises the pollutants' toxicological risk assessments, including new or revised reference doses (RfD) and cancer potency factors. These recalculations integrate an updated national default freshwater/estuarine fish consumption rate (17.5 g/day) and, where applicable, relative source contribution (RSC) values obtained from US EPA. The water quality bacteria standard for saline coastal waters will change in direct response to the Beaches Environmental Assessment and Coastal Health (BEACH) Act of 2000. Additionally, standards are proposed for revisions due to US EPA updates to Aquatic Life Water Quality Criteria and to further clarify existing standards. Existing variances to water quality standards will also be reviewed during this Triennial Review cycle (attachments enclosed).
Recommendation:	Staff requests EMC approval to proceed to public hearings and public comment period with the proposed set of rule amendments.

EMC ACTION: THE EMC APPROVED THE PROPOSED RULE AMENDMENTS TO GO TO PUBLIC HEARING.

Agenda Item:	Request to Proceed to Public Hearing with a Proposed Trout Reclassification of a Portion of the Catawba River in Burke County
Explanation:	In January 2006, the Water Quality Committee approved the attached draft rule language to reclassify a portion of the Catawba River to the trout (Tr) waters supplemental classification. The request to reclassify the waters was received in a formal petition from the Southern Environmental Law Center on behalf of the Table Rock Chapter of Trout Unlimited, the Catawba Riverkeeper Foundation and American Rivers. The formal petition included data documenting the presence of reproducing trout in a portion of the river beginning approximately one mile downstream of the Linville Dam. The trout have been enabled by stocking practices and cold water releases from the Linville Dam entering the river. Since the trout environment is an artificially created system, the proposed rule language includes additional provisions to account for natural conditions. First, the cold water released into the river does not extend into the tributaries, therefore, the proposed rule language indicates that the tributaries are not included in the trout reclassification. Second, Muddy Creek is a large tributary to the ten mile portion of the Catawba River being proposed for reclassification, is a Class C water, and contributes considerable flow to this portion of the Catawba River. Therefore, the draft rule language includes a provision to allow for the Class C standard for dissolved oxygen during the summer months. The proposed rule language is attached.
Recommendation:	That the Commission approve the staff recommendation and the Water Quality Committee's request to proceed to public hearing with the proposed reclassification.

EMC ACTION: THE EMC APPROVED THE PROPOSED RULE AMENDMENT TO GO TO PUBLIC HEARING.

Agenda Item:

Request for an Interpretive Ruling to Clarify a Component of the Stormwater Rules and Session Law 2004-163

Explanation:

In August 2004 Session Law 2004-163 (SB1210/HB1585) was signed by Governor Easley. S.L. 2004-163 included provisions for implementing the Phase II stormwater program. The Session Law established a definition of built-upon area that is different from the definition in other parts of the EMC's rules. In addition, the Phase 2 Stormwater Rules recently approved by the EMC included a similar definition. The major difference is that this language would not consider pervious or partially pervious paving material to be "built-upon area" to the extent that the material absorbs water and allows infiltration. The Division is currently working to modify our Stormwater Best Management Practices Manual and is including design information related to how/where credit will be given for the use of these pervious materials. The Session Law is written to address stormwater management in Phase II Stormwater areas. The EMC's rules for stormwater management cover a range of areas outside of Phase II communities.

Division staff is seeking an interpretation from the EMC on whether the modified definition of built-upon area found in the session law should also be considered to apply in other regulated areas of the EMC rules. If so, this would allow pervious paving materials to be given credit (in accordance with the updated manual) as pervious area in Phase II areas and in other areas regulated by the EMC's stormwater rules.

Recommendation:

Request that the EMC provide interpretation on whether the pervious pavement credit should be allowed, as appropriate, in other EMC stormwater program areas or just in the phase II areas.

EMC ACTION: THE AMC APPROVED USING THE PHASE II DEFINITION FOR PERVIOUS PAVEMENT.

Agenda Item:

Request to Confirm Recommendation To Re-appointment Four Members and Appointment of a New Chairman for the Water Pollution Control System Operators Certification Commission

Explanation:

It is recommended that Mr. John Boykin, Mr. Karl Shaffer, Mr. Troy Perkins and Mr. C. L. Gobble be reappointed as members of the Water Pollution Control System Operators Certification Commission. All current terms will expire June 30, 2006. Mr. Boykin is President of EnviroLink Inc, a contract firm, which supervises the operations of wastewater treatment facilities, collections systems, distribution systems and well systems. Mr. Boykin fills the requirements of a North Carolina commercial contract operator. Mr. Shaffer is the Director of the NCSU Land Application Training and Demonstration Center and is responsible for publication development and training for operators of land-based waste treatment systems. Mr. Shaffer is the faculty member of a four-year college or university whose major field is related to wastewater treatment which fills the requirement for this reappointment. Mr. Perkins is currently employed as the Water Resources Systems Superintendent of the Greenville Utilities Commission. He will be the representative of a collection system operator for a North Carolina municipal collection system. Mr. Gobble is currently serving as the Town Administrator for the Town of Louisburg and also serves as the Budget Officer and Personnel Officer. Mr. Gobble fills the requirement of a manager of a North Carolina municipality having a population of less than 10,000 as of the most recent federal census for the commission. Mr. Paul Rawls is recommended to replace Mr. Arthur Mouberry as Chairman of the WPCSCOC and he fills the requirement for the Chairman of the WPCSOCC to be an employee of DENR in field of water pollution control. Mr. Rawls is the Section Chief for the Division of Water Quality's Surface Water Protection Section.

Recommendation: It is recommended by the Water Pollution Control System Operators Certification Commission that the above outlined information be confirmed by the EMC.

EMC ACTION: THE EMC APPROVED THE NEW APPOINTMENTS TO THE WPCSOCC.

IV. EXPECTED FUTURE AGENDA ITEMS

Future Air Quality Items
Future Groundwater Items
Future Water Quality Items

Air Quality Committee/EMC
Possible Future Items

Oct 05	-Best Available Retrofit Technology (263a) -NOx and VOC RACT for Charlotte Ozone Nonattainment Area (431) -Delegation of Drycleaning MACT and NSPS to DWM (432) -Clean Air Inter State Rule (426)	Adoption -Definition of Administrator (406) -Permit Exemption for Asphalt Cement Storage Tanks (407) -Intent to Construct (409) -Clarify When a Modification Must Be in Compliance with the Air Toxic Rules (397) -Update Address in 2D .0103 (392) -Revision of Ranking of Incinerators in 2D .1201 (403) -Excluding Trades Under the Nitrogen Oxide Budget Trading Program from 2Q .0523 (405) -Correct Washington Regional Office Address in 2D .1905 (410) -Make Emission Inventory Part of Permit Application (411) -Open Burning (419) -Compliance Certification for Title V Permits (408) -Exclusionary Rule for Air Curtain Burners (387) -Implementation of New Authority: Banking and Trading and Credit for Early Reductions (323c) -Elimination of an Unnecessary Reporting Requirement (421) -Clarification of Transportation Conformity Rules (423) Hearing Request -Clean Air Inter State Rule (426)
Nov 05	-Best Available Retrofit Technology (263a) -NOx and VOC RACT for Charlotte Ozone Nonattainment Area (431) -Delegation of Drycleaning MACT and NSPS to DWM (432) -Clean Air Mercury Rule (427)	
Jan 05	-Replace 08/17/71 Method 5 with Method 202 in Rule .0501(c)(3) and Stack Testing (100, 297) -Stack Testing (148a) -Leaks at Gasoline Terminal Clarification (412) -General Fugitive Dust Control (276) -Clarify Crusher Requirements to Use Wet Suppression at All Times (313)	Hearing Requests -Best Available Retrofit Technology (263a) -NOx and VOC RACT for Charlotte Ozone Nonattainment Area (431) -Delegation of Drycleaning MACT and NSPS to DWM (432) -Revision of Reporting Requirements for Excess Emissions and Deviations (424)
Jan 06 cont	-Revision of Small Definitional Level for Peak Shaving Generators (371) -Additional Permit Conditions Requiring Public Participation (428) -Prohibition of Submittal of False Information (429) -Clarification of Title V Administrative Amendments Re State Enforceable Only Conditions (430)	-Change the Definition of AInsignificant Activities Because of Category@ (425) -Clean Air Mercury Rule (427)
Mar 06		Hearing Request -Replace 08/17/71 Method 5 with Method 202 in Rule .0501(c)(3) and Stack Testing (100, 297) -Stack Testing (148a) -Leaks at Gasoline Terminal Clarification (412) -General Fugitive Dust Control (276) -Clarify Crusher Requirements to Use Wet Suppression at All Times (313)

		-Revision of Small Definitional Level for Peak Shaving Generators (371) -Additional Permit Conditions Requiring Public Participation (428) -Prohibition of Submittal of False Information (429) -Clarification of Title V Administrative Amendments Re State Enforceable Only Conditions (430) <u>Adoption</u> -Clean Air Inter State Rule (426)
May 06		<u>Adoption</u> -Best Available Retrofit Technology (263a) -NOx and VOC RACT for Charlotte Ozone Nonattainment Area (431) -Delegation of Drycleaning MACT and NSPS to DWM (432) -Revision of Reporting Requirements for Excess Emissions and Deviations (424) -Change the Definition of AInsignificant Activities Because of Category@ (425) -Clean Air Mercury Rule (427)
July 06	-Revision of AAL for Carbon Tetrachloride (376) -Distributed Power Generation Using Diesel and Other Fuels (347) -Revise AAL for 1,3-Butadiene and Carbon Tetrachloride (299) -AAL for MDI, DI, Acrylamide, Chromium VI (124)	<u>Adoption</u> -Replace 08/17/71 Method 5 with Method 202 in Rule .0501(c)(3) and Stack Testing (100, 297) -Stack Testing (148a) -Leaks at Gasoline Terminal Clarification (412) -General Fugitive Dust Control (276)
July 06 cont.	-Reporting Requirements Conform with General Statutes (361) -Particulate Emissions from Spray/Finish Booths and Woodworking (21, 68) -Glass Melting Furnaces (328) -Boilers and Industrial Furnaces Burning Hazardous Waste (330) -Amend Definition of AApplicable Requirement@ to add reference to 2D .900,.1400, and .1200 (334) -Implementation of New Authority I/M Codes (323a1) -Implementation of New Authority sales and service of analyzers (323d)	-Clarify Crusher Requirements to Use Wet Suppression at All Times (313) -Revision of Small Definitional Level for Peak Shaving Generators (371) -Revision of Reporting Requirements for Excess Emissions and Deviations (424) -Change the Definition of AInsignificant Activities Because of Category@ (425) -Additional Permit Conditions Requiring Public Participation (428) -Prohibition of Submittal of False Information (429) -Clarification of Title V Administrative Amendments Re State Enforceable Only Conditions (430)
Sep 06		<u>Hearing request</u> -Revision of AAL for Carbon Tetrachloride (376) -Distributed Power Generation Using Diesel and Other Fuels (347) -Revise AAL for 1,3-Butadiene and Carbon Tetrachloride (299) -AAL for MDI, DI, Acrylamide, Chromium VI (124) -Boilers and Industrial Furnaces Burning Hazardous Waste (330) -Amend Definition of AApplicable Requirement@ to add reference to 2D .900,.1400, and .1200 (334) -Implementation of New Authority I/M Codes (323a1) -Implementation of New Authority sales and service of analyzers (323d) -Reporting Requirements Conform with General Statutes (361) -Particulate Emissions from Spray/Finish Booths and Woodworking (21, 68) -Glass Melting Furnaces (328)

Jan 07	-Permit Exemption for County Grain Elevators and Mills (325) -Revision of Portable Generator Permit Exemption (420) -Clarification of Storage Tank Permit Exemption for Ethanol-Based Fuels (422)	Adoption -Revision of AAL for Carbon Tetrachloride (376) -Distributed Power Generation Using Diesel and Oth[redacted] Fuels (347) -Revise AAL for 1,3-Butadiene and Carbon Tetrachloride (299) -AAL for MDI, DI, Acrylamide, Chromium VI (124) -Boilers and Industrial Furnaces Burning Hazardous Waste (330) -Amend Definition of AApplicable Requirement@ to add reference to 2D .900,.1400, and .1200 (334)
Jan 07 cont.		-Implementation of New Authority I/M Codes (323a1) -Implementation of New Authority sales and service of analyzers (323d) -Reporting Requirements Conform with General Statutes (361) -Particulate Emissions from Spray/Finish Booths and Woodworking (21, 68) -Glass Melting Furnaces (328)
Mar 07		Hearing request -Permit Exemption for County Grain Elevators and Mills (325) -Revision of Portable Generator Permit Exemption (420) -Clarification of Storage Tank Permit Exemption for Ethanol-Based Fuels (422)
May 07	-Replacement of SIC with NAICS in the Air Toxic Rules (369) -Change Definition of ASmall Facility@ and ASynthetic Minor Facility@ -Commence Construction and Operation -Elimination of 40% Opacity (349) -Good O&M Maintenance (302) -Mercury Emissions from Combustion Sources (356) -Exempt Air Curtain Burners from Air Toxic Rules (364) -Removal of Permit Exemption for Incinerators (315) -Higher Allowable Particulate Emission Rate for Small Wood Fired Indirect Heat Exchangers (286) -Deletion of Facility-Wide Language in VOC Permit Exemption (370) -Revision of Wording of Monitoring Requirements in Several Incinerator Rules (382) -Allowing Ambient Monitoring for Air Toxic Compliance Determination (404)	Adoption -Permit Exemption for County Grain Elevators and [redacted] (325) -Revision of Portable Generator Permit Exemption (420) -Clarification of Storage Tank Permit Exemption for Ethanol-Based Fuels (422)
Jul 07		Hearing Request -Replacement of SIC with NAICS in the Air Toxic Rules (369) -Change Definition of ASmall Facility@ and ASynthetic Minor Facility@ -Commence Construction and Operation -Elimination of 40% Opacity (349) -Good O&M Maintenance (302) -Mercury Emissions from Combustion Sources (356) -Exempt Air Curtain Burners from Air Toxic Rules [redacted] -Removal of Permit Exemption for Incinerators (315) -Higher Allowable Particulate Emission Rate for Small Wood Fired Indirect Heat Exchangers (286) -Deletion of Facility-Wide Language in VOC Permit

		Exemption (370)
Jul 07 (cont)		-Revision of Wording of Monitoring Requirements in Several Incinerator Rules (382) -Allowing Ambient Monitoring for Air Toxic Compliance Determination (404)
Dec 07		-Deletion of Facility-Wide Language in VOC Permit Exemption (370) -Revision of Wording of Monitoring Requirements in Several Incinerator Rules (382) -Allowing Ambient Monitoring for Air Toxic Compliance Determination (404)

Groundwater Committee/EMC
Possible Future Items

Oct 2005	(No items scheduled)	DWM - Request to APPROVE of Proposed Rules to Modify the Testing Requirements Under Title 15A NCAC 2L .0115.
Nov 2005	DWM- SUPERFUND SECTION ITEM Information on Rulemaking for the Dry Cleaning Solvent Cleanup Act (DSCA) Program to Include Required Minimum Management Practices in 15A NCAC 2S .0202 DWQ-GW ITEM Status of the 2L Stakeholders Group	(No items scheduled)
Jan 2006	(Meeting Canceled)	(No items scheduled)
Mar 2006	(No items scheduled at this time)	DWM- SUPERFUND SECTION ITEM Request to Proceed to Public Notice and Hearing for Implementation of New Rules From the Dry-Cleaning Solvent Cleanup Fund Program
May 2006	DWQ-GW ITEM 2L Stakeholders Group Report DWM–UST ITEM Request to do rule-making	

Water Quality Committee/EMC	WQC Agenda	EMC Agenda
Jan. 2006	• Request to Proceed to EMC for Permission to go to Public Hearings on the proposed Amendments to Water Quality Standards for the 2004-2006 Triennial Review • Consideration of Trout Waters Reclassification for a Segment of the Catawba River • Request by New Bern Development LLC for a Major Variance from the Neuse Buffer Requirements for the Sky Sail Condominium Temporary Construction Activities • Request for Approval of the Coastal Habitat Protection Plans (CHPP) Annual Report to the Environmental Review Commission (ERC) and the Joint Legislative Commission on Seafood and Aquaculture • Clarification on use of Soil Survey Map for Buffer Rules	• Discussion of Water Quality Data Issues for B. Everett Jordan Reservoir • Hearing Officer's Report on Proposed Amendments to 15A NCAC 2B .0240, the Nutrient Offset Rule • Request to Send Reclassifications to Public Hearing (Broad River, WS; Broad River ORW) • City of High Point Special Order by Consent Hearing Officer's Report
Mar 2006	• Request Approval of Reports to the ERC in Accordance to Senate Bill 981 • Consideration of Water Quality Data Issues and Nutrient Management Rules for Jordan Rules • Request for a Major Variance from the Tar-Pamlico Buffer rules for PCS Phosphate Company, Inc. •	• Request Approval of Reports to the ERC in Accordance to Senate Bill 981 • Request Permission to Go to Public Hearing on Amendments to water Quality Standards in Accordance with the Federal Triennial Review • Request to Send Trout Management Strategy Rules for a Segment of the Catawba River to Public Hearing

		• Interpretive Ruling for Stormwater rules Regarding Porous Pavement
May 2006	• Clarification on use of Soil Survey Map for Buffer Rules • Kersey Valley Landfill Randleman Variance • Impaired Waters Update • Request Approval of Water Supply Ordinance • Information on Site-Specific Management Plans for Federally-Listed Threatened and Endangered Aquatic Species • Request Permission to Send Draft Roanoke River Basinwide Water Quality Plan to Public Review	• Request to Approve the Hearing Officer's Recommendation to Reclassify Uwharrie River to Class B • Request Adoption of NonDischarge Waste (2T) Rules • Neuse River Reclassification
July 2006	• Pitt County Delegation of Tar Pamlico/Neuse Buffer • Clarification on use of Soil Survey Map for Buffer Rules • Request to Approve Jordan rules to go to EMC • Request a Major Variance from Buffer rules for	• Request adoption of USMP draft rules • Hearing Officer's Report and Request Adoption of Jordan Reservoir Nonpoint Source Management rules • Request to Approve the Hearing Officer's Recommendation to Reclassify Yadkin River to CA
Sept 2006	• Request Permission to Send Draft White Oak River Basinwide Water Quality Plan to Public Review • Request Permission to Send Final Draft Roanoke River Basinwide Water Quality Plan to EMC for Approval • Kinnakett/Avon Sand Mine • Shotwell Landuse Variance from Neuse River	• Request to Approve the Hearing Officer's Recommendation to Reclassify Waters Draining to the North shore of Fontana Lake as ORW • Request to Approve the Hearing Officer's Recommendation to Reclassify Broad River as WS and ORW • Request to Approve Final Draft of Roanoke River Basinwide Water Quality Plan • Request to Send Jordan Rules to Public Hearing
Nov 2006	• Request Approval to Send Draft Hiwassee, Savanna, and Little Tennessee Basinwide Water Quality Plans to Public Review	•

*Dates shown are projections. Actual schedules could vary 1-3 months either direction

Report to the Environmental Review Commission on the Status of Nutrient Management Strategies for Drinking Water Reservoirs Session Law 2005-190

In July 2005, the NC General Assembly adopted an act directing the NC Environmental Management Commission (EMC) to address certain aspects of water quality in drinking water reservoirs. Session Law 2005-190, also known as Senate Bill 981, also requires reports from the EMC on four sections, which are paraphrased as follows:

- **Section 2(a)**: Conduct a study to determine whether drinking water supply reservoirs in the state meet water quality standards. Report findings and recommendations to the ERC by 1 May 2006.
  - That report is provided under separate cover, entitled *Report to the Environmental Review Commission on the Status of Water Quality in Water Supply Reservoirs Sampled by the Division of Water Quality.*

- **Section 2(b)**: Identify and adopt any nutrient control criteria needed to prevent excess nutrient loading in drinking water supply reservoirs. Report progress as part of quarterly reports to the ERC.

- **Section 3**: Develop and adopt nutrient strategies for certain reservoirs. Report progress as part of quarterly reports to the ERC.

- **Section 4**: Do not make or increase nutrient loading allocations to dischargers on certain reservoirs until nutrient rules for those reservoirs become effective. Report progress on development of nutrient rules to the ERC by 1 April 2006.

The Act is provided for reference as Attachment B. This document meets progress reporting requirements for the last three items above.

Section 2(b). Identify and adopt any nutrient control criteria needed to prevent excess nutrient loading in drinking water supply reservoirs.

DWQ has in place and relies on standards for chlorophyll *a*, pH, dissolved oxygen and turbidity that address, both directly and indirectly, excess nutrient loading to surface waters. In addition, DWQ has proposed a study process that evaluates the need for additional proactive nutrient control criteria. DWQ received US EPA approval for this *Nutrient Criteria Implementation Plan* in September 2004. The study of non-flowing waters, which includes drinking water reservoirs, includes several steps: analysis of existing data from 1980's to present to identify research needs; collection of additional data; evaluation of cause-effect relationships between nitrogen and phosphorus levels, chlorophyll *a*, trophic status, and impairment of designated uses; and potential development of site-specific phytoplankton criteria.

In 2005, staff continued data collection and funded a lakes user perception study to supplement available data. An analytical error at the DWQ laboratory invalidated chlorophyll-a results for data collected between April and August 2005. As a result, DWQ proposed to EPA in October 2005 to extend commitment dates

commensurately. Staff will continue to collect additional reservoir water quality data and is working towards the legislative deadline of May 2010 for adoption of any necessary nutrient control criteria.

Section 3. Develop and adopt nutrient strategies for certain reservoirs.

Using applicability criteria given in **Section 3(a)** of the Act, the EMC has determined that Section 3 applies to the Falls of the Neuse Reservoir in the Neuse River Basin. The following table details this determination, eliminating candidate reservoirs reading from left to right. Falls of the Neuse Reservoir is located in the piedmont physiographic region of North Carolina and supplies drinking water to the City of Raleigh and its customers. The reservoir serves a population greater than 300,000 people. It is designated as a Nutrient Sensitive Water (NSW). Available water quality monitoring data indicates that water quality in the reservoir violates the chlorophyll *a* standard (see report for Section 2(a) referenced above), and the Division of Water Quality (DWQ) has not prepared or updated a calibrated nutrient response model for the reservoir since 1 July 2002.

Municipalities Evaluated (Reservoir)	Estimated 2005 Population (a)	Reservoir Serve Population >300,000?	All/Any Part of Reservoir Designated NSW?	Data Indicate Violations of Chlorophyll *a* Standard? (b)	DWQ Not Done or Updated Calibrated Nut. Response Model Since 7/1/02?
Charlotte (Mountain Island Lake)	665,643	Yes	No		
Raleigh (Falls of the Neuse Lake)	326,653	Yes	Yes	Yes	True
Greensboro (Lakes Brandt and Townsend)	279,164	No			
Durham (Lake Michie)	231,313	No			
Winston-Salem (N/A)	229,041	No			
Fayetteville (Cross & Little Cross Cr. Res.'s)	218,074	No			
Cary-Apex (B. Everett Jordan Lake)	157,813	No			
Wilmington (N/A)	153,972	No			

N/A = A reservoir does not supply drinking water to this municipality.
(a) Source: http://money.cnn.com/best/bplive/states/NC.html

Section 3(c) of Session Law 2005-190 requires the EMC to develop a nutrient management strategy for applicable waters by 1 July 2008. This strategy "shall be based on a calibrated nutrient response model...". DWQ developed a plan to determine assimilative capacity of Falls of the Neuse Reservoir in 2005. Field studies to support the development of a calibrated nutrient response model began in March of 2005. The field study plan is available on the internet at http://h2o.ehnr.state.nc.us/tmdl/documents/MonitoringPlan.pdf. A Technical Advisory Committee was formed in July of 2005 to evaluate the existing monitoring strategy and assist with the development of a modeling strategy. This group met monthly between July 2005 and February 2006. During the summer of 2005, analytical problems at the chemistry laboratory resulted in the invalidation of a portion of the field data related to chlorophyll *a*. The Technical Advisory Committee has recognized the need for extending the field study in order to have a more complete set of data on which to base the calibrated nutrient response model, and the full TAC agreed to seek a 2-year extension during the next legislative session.

Section 4. Do not make or increase nutrient loading allocations to dischargers on certain reservoirs until nutrient rules for those reservoirs become effective. Report progress on development of nutrient rules to the ERC by 1 April 2006.

Section 4 applies to water supply reservoirs for which DWQ *has* prepared or updated a calibrated nutrient response model since 1 July 2002. The EMC has determined that B. Everett Jordan Reservoir is the only water supply reservoir in the state to which this section applies. The following status report describes events since adoption of the Act pertaining to development of Jordan nutrient management strategy rules. Also, Attachment A provides several supporting items: a water quality history and chronology of Jordan Lake: a rulemaking timetable to date: stakeholder comments on a conceptual nutrient strategy and DWQ staff responses: a listing of reports and other documents describing development of nutrient loading targets: and a map of the reservoir's watershed.

In October 2005, the Water Quality Committee of the Environmental Management Commission approved sending a comprehensive set of nutrient management strategy rules to the full Commission for approval to go to public hearings. These rules were based on a calibrated nutrient response model approved by the Water Quality Committee in July 2002 and on the recommendations of a one and one half year stakeholder process that began in 2003. Had the full Commission approved the rules going to public hearing in January 2006, the estimated effective date would be August 2007.

However, in January 2006, the Commission did not take up action on the proposed rules. Instead, at the request of the Chairman, a special session of the Commission was held to hear concerns raised by a group of municipal dischargers. Attachment A provides a chronology of events, dating back to creation of the reservoir, that lead up to the January 2006 meeting. The dischargers questioned the quality of chlorophyll *a* data upon which the calibrated nutrient response model was based. The data had been collected and analyzed by the Division of Water Quality from 1997 to 2000. The dischargers contended that additional data should be collected and that a new nutrient response model should be run before nutrient reduction goals are set and put into rules. At the close of the meeting, the Commission asked the Water Quality Committee to consider the dischargers concerns further.

The Water Quality Committee took up this issue at its March 8, 2006 meeting. Following presentations from staff and discussion, the Committee accepted staff's recommendation to resolve disputed rule content issues with various parties, revise the rules and fiscal analysis, and to return in July or Sept 2006 to seek approval for public hearings. The EMC would adopt the rules in Summer 2007 and they would reach the 2008 session of the General Assembly.

It is noted that the Town of Pittsboro, which is seeking to expand its wastewater treatment plant capacity, cannot be allowed any additional nutrient loading allocation until permanent rules adopted by the Commission become effective.

ATTACHMENT A

Jordan Water Supply Nutrient Strategy and Rules

Report to the NC Environmental Management Commission from the Division of Water Quality

January 11, 2006

The proposed Jordan Lake nutrient management strategy and TMDL (Total Maximum Daily Load) is the product of many significant events and a history of water quality problems observed or anticipated dating back over the past sixty years. Regulation of point sources began in 1983. The Clean Water Responsibility Act of 1997 (CWRA of 1997) significantly expanded regulatory requirements for the lake. The proposed strategy is required to address CWRA of 1997 and TMDL mandates. This document summarizes the history of nutrient management in the lake, provides the contents of a 2004 memorandum from the Division to Orange Water and Sewer Authority (OWASA) and the City of Greensboro responding to their concerns on the development and implementation of the nutrient strategy and TMDL, provides a list of additional information available on the internet, and includes a map of the watershed and a final stakeholders' report as appendices.

History of Nutrient Concerns in Jordan Reservoir:

Early concerns for Jordan Lake

1945: Stakeholders expressed concerns for water quality and eutrophication when Jordan Lake was first proposed.

1960s: Two major streams in the watershed, Buffalo Creek and Bolin Creek, did not support fish due to sewage pollution.

1963: U.S. Congress authorized the New Hope Dam below the confluence of the Haw and New Hope rivers. Water quality concerns continued to grow.

1970s (early): Construction was delayed by legal actions including an inadequate Environmental Impact Statement as required by the National Environmental Policy Act of 1969.

1976: The U.S. Army Corps of Engineers studied the downstream impact of water being released from the dam, but did not study nutrient content or loading in Jordan Lake.

1970s: Water quality standards were frequently exceeded at most sampling locations in the watershed.

1979: A Federal Court decision allowed completion of the lake.

1982: Jordan Lake was initially filled.

Jordan Lake declines in productivity

1980s (early): Water quality research found non-point sources to be significant contributors to lake pollution.

1983: The Commission classified Jordan Lake as Nutrient Sensitive Water (NSW), which required a plan to reduce nutrient inputs from the watershed into the lake. Total phosphorus (TP) limits of 2.0 mg/L were required for National Pollutant Discharge Elimination System (NPDES) permitted wastewater facilities with permitted flows greater than 0.005 MGD. Due to special concerns in the Upper New Hope Arm of the reservoir, NPDES permitted wastewater facilities received TP limits of 0.5 mg/L during the months from April to October.

High levels of blue-green algae were detected in the Haw River and New Hope arms of Jordan Lake.

1984: Anabaena sp. and Aphanizomenon, blue-green algae species, created nuisance algal blooms.

1985: Total nutrient load showed a 55,000 lbs increase over previous years. Researchers expressed concern for the potential development of blue-green algae.

The Haw River arm experienced a surface bloom of Anacystis cyanae, a blue-green algae species, with densities of up to 157,000 cells/ml.

1986: Available nutrients in the surface waters remained high throughout the lake despite high productivity and assimilation by phytoplankton.

The pea green color seen in parts of Jordan Lake was likely caused by Merismopedia tenuissime, a blue-green algae.

1988: It became illegal to manufacture, store, sell, or distribute phosphorous-containing cleaning agents in North Carolina in attempt to control phosphorous loading in state waters.

1991: OWASA's Mason Farm wastewater treatment plant on Morgan Creek upgraded to 8.0 MGD with biological nutrient removal completed.

1992: Elevated nutrients led to periodic blooms of blue-green algae.

1996: The town of Cary, which received drinking water from Jordan Lake, received extensive complaints about the water's taste and odor.

1997: The Clean Water Responsibility Act of 1997 (often referred to as House Bill 515) included legislation to address water quality problems in NSW waters. The act set total nitrogen (TN) and TP NPDES permit limits for facilities discharging greater than 0.5 MGD into the Jordan Reservoir/Haw River watershed. A 5-year

compliance period for limits of 5.5 mg/L of TN and 2.0 mg/L of TP was established for qualifying wastewater facilities. These facilities were required to develop plans to optimize nutrient removal in their discharged water.

1998: Amendments to the 1997 Clean Water Responsibility Act (referred to as Senate Bill 1366) provided a compliance extension to the nutrient limits, with conditions. Those wastewater facilities granted a compliance extension by the Environmental Management Commission were required to develop a calibrated nutrient response model, evaluate and optimize the operation of all facilities to reduce nutrient loading, and evaluate methods to reduce nutrient mass loading to NSW waters.

1999: In April, the Commission granted the Project Partners (the municipalities of Greensboro, Mebane, Reidsville, Graham, Pittsboro, Burlington, and OWASA), a compliance extension. Facilities that did not seek compliance extensions are the City of Durham/ Durham South wastewater treatment plant (WWTP) and Durham County/ Triangle WWTP. The compliance extension schedule allowed two years for the collection of data needed to prepare a calibrated nutrient response model, a maximum of one year to prepare the calibrated nutrient response model, the amount of time that is required for the Commission to develop a nutrient management strategy and to adopt rules or to modify discharge permits to establish maximum mass loads or concentration limits based on the calibrated nutrient response model, and a maximum of three years to plan, design, finance, and construct a facility that will comply with those maximum mass loads and concentration limits. The Commission also stated that if additional time is needed to complete the construction of a facility that they would extend the compliance date by a maximum of two years at their discretion.

The Project Partners contracted Tetra Tech to develop a lake model.

2000: Each municipality developed optimization plans and submitted summaries at the July 2000 Water Quality Committee meeting.

2002: The Upper New Hope portion of Jordan Lake was placed on the state list of impaired waters, the 303(d) list, requiring a total maximum daily load (TMDL) to be developed.

In July, the Water Quality Committee approved the results of the combined hydrodynamic and water quality lake model developed by Tetra Tech.

Jordan Lake Nutrient Management Plan

2003: The Division initiated the Jordan Lake Stakeholders Project in order to solicit comprehensive input. Through this one and a half year project, 222 people of 113 stakeholder organizations representing local governments, state and federal agencies, and non-government organizations attended 21 meetings to provide input to the Jordan Lake TMDL and nutrient management strategy.

The Division worked with Tetra Tech to enhance the lake nutrient response model for use in developing a TMDL.

2005: The Cape Fear Basin plan rated all of Jordan Lake as impaired.

Jordan Lake stakeholders issued a final report of recommendations for the TMDL and nutrient management strategy.

After considering stakeholder input, the Division issued a draft nutrient management strategy and TMDL.

The Division initiated rulemaking, which is on going. Key rulemaking events are provided in Table 1.

Table 1: DWQ Rulemaking Schedule To Date

July WQC	Summary of public comments received
October WQC	DWQ's response to public comments, request and receive permission to present to the EMC in November.
November EMC	Information item presented
January EMC	Cancelled to accommodate a separate ad-hoc EMC meeting

August 3, 2004 Memorandum, DWQ to OWASA and City of Greensboro, Response to TMDL Implementation Comments:

OWASA and the City of Greensboro had raised concerns that the proposed targets for Jordan Lake are overly aggressive and not justified by the available science, and made recommendations based on a technical memorandum prepared for the Jordan Lake Project Partners by CH2M HILL dated July 1, 2004. These concerns are provided below:

1. *There is considerable uncertainty associated with the DWQ chlorophyll a data that were used to calibrate the JLNRM and that provided an important basis for designating the Upper New Hope Creek arm as an impaired water body on the State's 303(d) list.*

Response:

The issues raised regarding data used for the Jordan Lake Nutrient Response Model are common to most complex environmental monitoring programs and do not preclude the development of a calibrated model.

Uncorrected chlorophyll *a* (chl *a*) data were used for model calibration during years 1997 through 2000. In 2001, corrected chl *a* data are available, although they were analyzed using the fluorometric non-acidified method, which reduces pigment interference and does not actually require a "correction" step. The correction is for pheophytin pigment, which is a degradation product that can interfere with the chl *a* measurement. Note that DWQ currently uses the fluorometric non-acidified method (EPA Method 445 rev 1.2). The acidification method was used from 1981 to January 2001.

As discussed in Section 2.3 of Tetra Tech (2003), there is a high correlation between corrected and uncorrected chl *a*.[1] The ratio of uncorrected to corrected chl *a* data was close to one during July-September, increasing during other seasons. Since the nutrient reduction targets are based on model predictions in the growing season, overestimation of algal biomass due to use of uncorrected chl *a* data is minimized. In fact, considering that pheophytin represents recently deceased algae, an uncorrected measurement may actually be a reasonably good indicator of algal concentrations shortly prior to the observation time (Tetra Tech 2002).[2]

There is uncertainty associated with all test methods for chlorophyll *a*. While HPLC, the analytical method used by USGS, can be more accurate, this method is also subject to analytical uncertainty and can be costly. Because of this uncertainty, it is expected that the model and individual observations will frequently differ, even in the absence of model uncertainty. Fluorometric measurement of chlorophyll *a* is an economical and reliable method commonly used in water quality management. Further, EPA (2000) indicates that if the purpose of measuring chlorophyll is to estimate biomass, the increased accuracy obtained by HPLC may not be necessary.[3]

2. *More reliable chlorophyll a data from U.S. Geological Survey (USGS) indicate that water quality in the lake is stable, and other information indicates that water quality may actually be improving under current nutrient management strategies*

Response:

The CH2M HILL report discusses USGS water quality observations collected as part of the Triangle Area Water Supply Monitoring Project as another potential source of information for evaluation of the model. The discussion is correct in stating that these data were not directly used during model calibration. Aside from concerns about method comparability, the USGS data are quite sparse, both temporally and spatially. These differences must be carefully considered when comparing data sets.

Page 12 of the CH2M HILL report states that the USGS "data contrast very sharply with data and modeling results used for the model calibration and Jordan Lake analysis." This is not the case, and is contradicted in the next paragraph: "The modeling results are more similar to the USGS chlorophyll a data." A comparison of model results to USGS and DWQ monitoring data are presented in the attached analysis by Tetra Tech. The USGS observations are in general agreement with both the DWQ observations and model predictions. Error statistics are similar for paired observations regardless of whether the model is evaluated versus DWQ or USGS data. Therefore, the USGS observations can be construed as providing further validation of the model.

Also contrary to the CH2M HILL report, a comparison of the frequency of excursions of the 40 ug/L chl *a* criterion, indicates that USGS and paired model predictions provide results similar to one another. On an annual basis, the model usually underestimates excursion frequency when compared to observed data. On a growing season basis, for segments 1-4, the frequency predicted by the model is slightly higher than observed, but for segments 14-15 the model frequency is again lower than the observed frequency, indicating no evidence of consistent bias.

The report cites trophic state index (TSI) values for Jordan Lake. The lake has experienced hypereutrophic to eutrophic conditions since its construction in the early 1980's. The lake remains eutrophic as indicated by the TSI values and monitoring data collected throughout the lake. Existing water quality conditions in the lake have prompted DWQ to list a portion of the lake on its list of impaired waters. Management strategies including reductions in existing nutrient loads are needed to improve water quality conditions.

Finally, the report from CH2M HILL also cites a letter from the NC Wildlife Resources Commission staff dated November 20, 2003. The letter supports reductions in nutrient loading to Jordan Lake and does not conflict with the currently proposed reductions for Jordan Lake.

3. *There are significant issues regarding the application of the chlorophyll a standard to a TMDL and NMS for the lake arms (New Hope and Haw arms), including the seasonal interpretation of the standard, use of the standard in the upper portions of the lakes that are hydrologically challenged, and the adequacy of the standard as an indicator of use impairment.*

Response:

The attached letter from the US Environmental Protection Agency to DWQ dated November 23, 2003 discusses application of North Carolina's chl *a* standard to Jordan Lake. The agency concurs with our use of a growing season maximum with an exceedance frequency of 10%.

The CH2M HILL report states that during 2000 and 2001, severe and prolonged drought were experienced throughout the watershed and suggests that sampling data collected during this period may not be indicative of typical conditions. These issues are discussed Section 4.3 of Tetra Tech (2003). For Jordan Lake response, the sequence of inflows and direct precipitation is more significant than the long-term moisture deficit. An examination of meteorological and hydrological records shows that, while there were deficits in precipitation and flow over this period, the low flow conditions were not extraordinary and continuous to the extent that they represent extremely rare conditions for Jordan Lake. The current nutrient reduction targets are based on an average of these years, which include wet, dry and normal years.

4. *There is a high degree of uncertainty in the complex model developed for the lake, especially for predicting frequency of exceedances of the standard.*

Response:

We agree that there is uncertainty (in data, modeling tools, and scientific understanding) in the analysis connecting specific levels of nutrient loads to predicted frequency of chl *a* concentrations greater than 40 µg/L. However, focusing exclusively on uncertainty in model predictions of point-in-time/point-in-space chlorophyll a observations is not an appropriate test of the model. Instead, the model should be judged more on its ability to replicate longer-term spatial and temporal trends and the frequency distribution of chl *a* concentrations greater than the criterion.

The last paragraph on page 5 states "model output should be viewed as a range of potential values based on their probability density functions rather than as a precise single output number." We agree with this statement, and contend that the model provides a reasonable representation of the expected distribution of concentrations. Unfortunately, the error statistics and uncertainty analysis developed by CH2M HILL contradict this statement: all are focused on evaluation of deviations between observations and predictions for individual point-in-time/point-in-space values.

The second paragraph of page 6 in CH2M HILL states, "that the model predicts chlorophyll *a* fairly well on average", but then notes that "DWQ staff has proposed that average predictions not be used in the development of the TMDL and nutrient targets." The fact that the model predicts average concentrations well *is* one component in the prediction of the distribution. In fact, the model also does a good job of predicting frequencies of concentrations exceeding the criterion.

In general, the calibration strategy for the model was to capture broad spatial trends and fit multiple parameters simultaneously. The relationships between concentrations of multiple parameters at multiple stations are more significant than the fit to individual points at individual stations. The model fit is aimed at reproducing the central tendency of trends in time and the approximate frequency distribution, rather than replicating individual observations of chl *a*. For these purposes the model performs reasonably well.

Websites for of Reference Documents on the Jordan Reservoir TMDL and Rules Development Process:

The reference documents listed in Table 2 can be found at the following websites:

- Environmental Management Commission (EMC), http://h2o.enr.state.nc.us/admin/emc/
- Division of Water Quality (DWQ), http://h2o.enr.state.nc.us/tmdl/
- Triangle J Council of Governments (TJCOG), http://www.tjcog.dst.nc.us/jorlak/jlsp.htm

Specific topics within these documents can be found at the following links within the TJCOG website:

- Chlorophyll-a Data Used for Modeling is found in Chapter 3 of "B. Everett Jordan Lake Nutrient Response Model Enhancement" at, ftp://ftp.tjcog.org/pub/jorlake/ch3-1003.pdf
- Chlorophyll-a data Used for Calibration is found in both "Jordan Lake Nutrient Response Model Report" and "B. Everett Jordan Lake Nutrient Response Model Enhancement" at http://www.tjcog.dst.nc.us/jorlak/index.htm

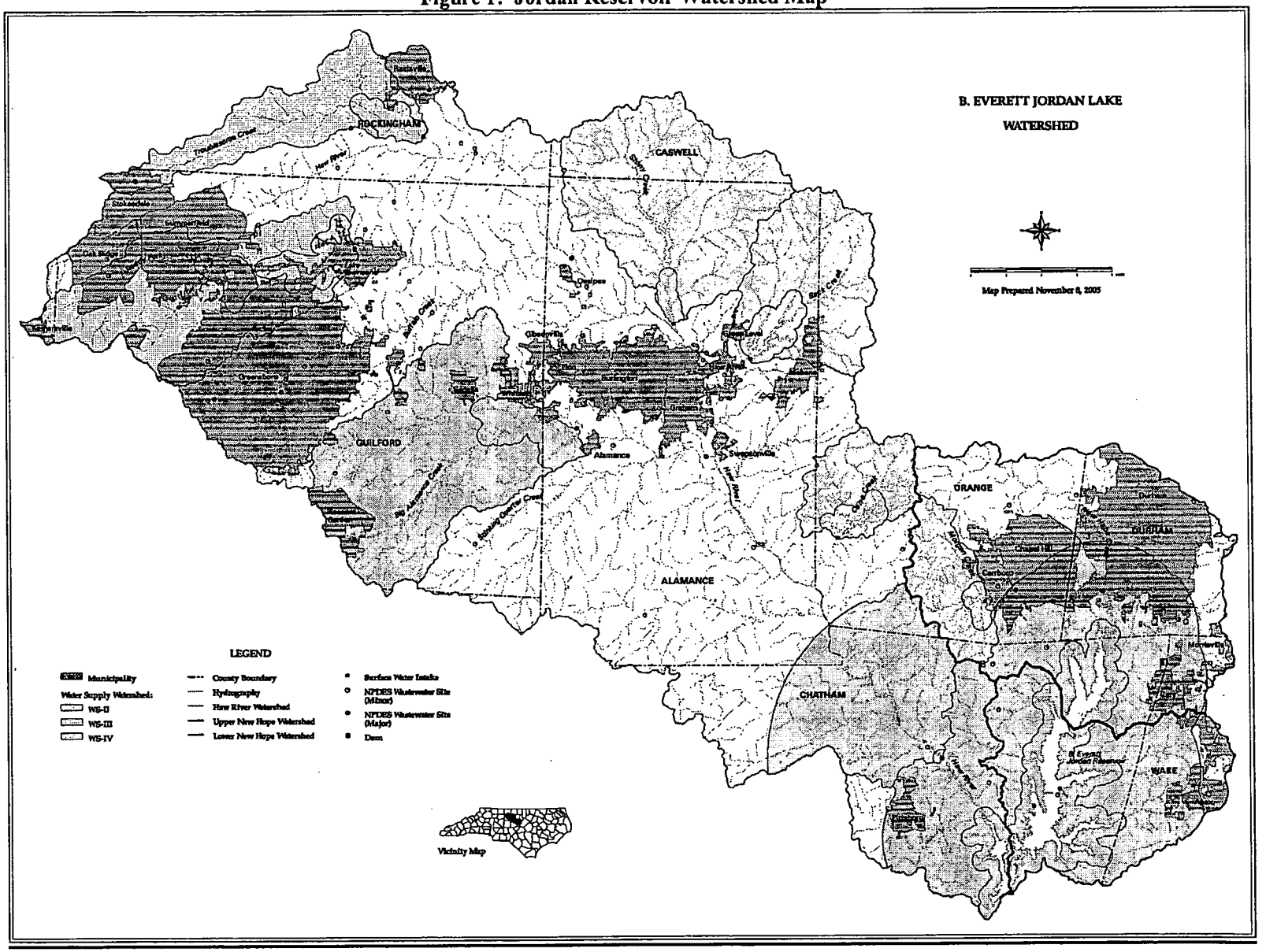
Table 2: Jordan Lake Reference Documents

	Document	EMC	DWQ	TJCOG
1	Tetra Tech, Inc. Jordan Lake Nutrient Response Modeling Project: Existing Data Memorandum *Prepared for the Triangle J Council of Governments and the Jordan Lake Project Partners.* August 2001.		X	
2	Research Triangle Institute. Point Source Nutrient Delivery Model for Jordan Lake *Prepared for Tetra Tech, Inc and the Jordan Lake Nutrient Modeling Project Partners*. January 23, 2002.		X	
3	Research Triangle Institute. Nitrogen and Phosphorus Delivery from Small Watersheds to Jordan Lake *Prepared for Tetra Tech, Inc. and the North Carolina Division of Water Quality*. June 30, 2002.		X	
4	Tetra Tech Inc. Jordan Lake Nutrient Response Model (Final) *Prepared for the Jordan Lake Project Partners*. November 13, 2002.		X	X
5	Tetra Tech, Inc. B. Everett Jordan Lake Nutrient Response Model Enhancement (Final) *Prepared for North Carolina Division of Water Quality*. September 2003.		X	X
6	Tetra Tech, Inc. B. Everett. Jordan Lake TMDL Watershed Model Development (Revised Draft) *Prepared for the North Carolina Division of Water Quality.* November 2003.		X	X
7	Tetra Tech, Inc. Memorandum to the North Carolina Division of Water Quality. Subject: Jordan Lake Additional Figures and Tables. November 7, 2003.		X	
8	Tetra Tech, Inc. Memorandum to the North Carolina Division of Water Quality. Subject: Jordan Lake Nutrient Response Model Uncertainty. July 26, 2004.		X	
9	Stakeholder Project Meeting Documents May 2003 - December 2004.			X
10	Triangle J Council of Governments. Jordan Lake Stakeholder Project Final Report. February 9, 2005.			X
11	North Carolina Department of Environment and Natural Resources. Division of Water Quality. B. Everett Jordan Reservoir, North Carolina Nutrient Management Strategy and Total Maximum Daily Load. Public Review Draft. April 2005.	X	X	X
12	North Carolina Department of Environment and Natural Resources. Division of Water Quality. Report on Jordan Lake Public Comments. A Report to the Commission of the North Carolina Environmental Management Commission from the Division of Water Quality. July 13, 2005.	X		X
13	North Carolina Department of Environment and Natural Resources. Division of Water Quality. Jordan Water Supply Nutrient Strategy and Rules. REVISED Report to the Water Quality Committee of the North Carolina Environmental Management Commission from the Division of Water Quality. October 12, 2005	X		
14	Draft Rules, October 2005.	X		
15	North Carolina Department of Environment and Natural Resources. Division of Water Quality. Jordan Water Supply Nutrient Strategy and Rules. A Report to the North Carolina Environmental Management Commission from the Division of Water Quality. November 10, 2005			X
16	Draft Rules, November 2005.			X

Figure I. Jordan Reservoir Watershed Map

The Jordan Reservoir watershed is divided into three lake arms; the Upper New Hope arm, the Lower New Hope arm, and the Haw River arm. Figure 1 displays the watershed's location, the boundaries of each lake arm, and the counties and municipalities within each arm.

Figure 1: Jordan Reservoir Watershed Map



ATTACHMENT B

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 2005

SESSION LAW 2005-190
SENATE BILL 981

AN ACT TO DIRECT THE ENVIRONMENTAL MANAGEMENT COMMISSION: (1) TO STUDY WATER QUALITY IN DRINKING WATER SUPPLY RESERVOIRS IN THE STATE, (2) TO ADOPT NUTRIENT CONTROL CRITERIA FOR DRINKING WATER SUPPLY RESERVOIRS, (3) TO DEVELOP AND IMPLEMENT A NUTRIENT MANAGEMENT STRATEGY FOR CERTAIN DRINKING WATER SUPPLY RESERVOIRS THAT ARE IMPAIRED OR THAT MAY BECOME IMPAIRED WITHIN FIVE YEARS, (4) NOT TO MAKE ANY NEW OR INCREASED NUTRIENT LOADING ALLOCATION TO ANY IMPAIRED DRINKING WATER SUPPLY RESERVOIR UNTIL RULES TO IMPLEMENT A NUTRIENT MANAGEMENT STRATEGY FOR THAT RESERVOIR BECOME EFFECTIVE, AND (5) TO REPORT TO THE ENVIRONMENTAL REVIEW COMMISSION ON PROGRESS IN DEVELOPING AND IMPLEMENTING NUTRIENT MANAGEMENT STRATEGIES FOR DRINKING WATER SUPPLY RESERVOIRS WITH IMPAIRED WATER QUALITY.

The General Assembly of North Carolina enacts:

SECTION 1. Legislative findings. – The General Assembly finds that:

(1) Drinking water supply reservoirs are an essential source of water needed to meet municipal, industrial, and agricultural needs.

(2) Drinking water supply reservoirs provide recreational opportunities and wildlife habitat and, if properly managed, improve water quality.

(3) Management and protection of the quality and quantity of water in drinking water supply reservoirs are essential to the economic vitality of North Carolina.

(4) Excessive nutrients are a major source of impairment of water quality in drinking water supply reservoirs.

(5) It would be beneficial for the State to study the condition of drinking water supply reservoirs and to develop nutrient control criteria to prevent drinking water supply reservoirs from becoming impaired.

(6) It would be beneficial for the State to develop calibrated nutrient response models and nutrient management strategies to ensure that drinking water supply reservoirs that are showing evidence of impairment are protected, as envisioned by Part 1 of Article 21 of Chapter 143 of the General Statutes and S.L. 1997-458, the Clean Water Responsibility and Environmentally Sound Policy Act.

SECTION 2.(a) Study of drinking water supply reservoirs. – The Environmental Management Commission shall study the water quality in the drinking water supply reservoirs in the State to determine whether the reservoirs meet current water quality standards. The

Commission shall analyze existing data and report its findings and recommendations to the Environmental Review Commission by 1 May 2006.

SECTION 2.(b) Nutrient control criteria. – Based on the results of the study of drinking water supply reservoirs and an evaluation of current water quality standards, the Environmental Management Commission shall identify any nutrient control criteria necessary to prevent excess nutrient loading in each drinking water supply reservoir in order to protect public health and other designated uses by 1 January 2009. The Commission shall adopt final nutrient control criteria for each drinking water supply reservoir by 1 May 2010. If the Commission finds that the nutrient control criteria for any drinking water supply reservoir are not being achieved, the Commission shall develop and implement a plan for enhanced water quality monitoring in that drinking water supply reservoir within one year of the determination. The Commission shall report its progress in implementing this section, including its findings and recommendations, to the Environmental Review Commission as a part of each quarterly report it makes pursuant to G.S. 143B-282(b).

SECTION 3.(a) Applicability of section to certain reservoirs. – This section applies only to drinking water supply reservoirs that meet all of the following criteria as of 1 July 2005:

(1) The reservoir serves a population greater than 300,000 persons.
(2) The Environmental Management Commission has classified all or any part of the water in the reservoir as a nutrient sensitive water (NSW).
(3) Water quality monitoring data indicates that water quality in the reservoir violates the chlorophyll A standard.
(4) The Division of Water Quality of the Department of Environment and Natural Resources has not prepared or updated a calibrated nutrient response model for the reservoir since 1 July 2002.

SECTION 3.(b) Temporary limitation on increased nutrient loading. – If the Environmental Management Commission determines either that water quality in all or in any part of a drinking water supply reservoir to which this section applies does not meet current water quality standards or that it is likely that water quality will not meet water quality standards at any time prior to 1 July 2010, the Commission shall not make any new or increased nutrient loading allocation to any person who is required to obtain a permit under G.S. 143-215 for an individual wastewater discharge directly or indirectly into that reservoir. This limitation on new or increased nutrient loading allocation shall not be construed to prohibit a person who holds a permit for a wastewater discharge into a drinking water supply reservoir from purchasing a nutrient loading allocation from another person who holds a permit for a wastewater discharge into the same drinking water supply reservoir. This subsection expires with respect to a drinking water supply reservoir when permanent rules adopted by the Commission to implement the nutrient management strategy for that reservoir become effective.

SECTION 3.(c) Nutrient management strategy. – The Environmental Management Commission shall develop a nutrient management strategy for drinking water supply reservoirs to which this section applies by 1 July 2008. The nutrient management strategy shall be based on a calibrated nutrient response model that meets the requirement of G.S. 143-215.1(c5). The nutrient management strategy shall include specific mandatory measures to achieve the reduction goals. The Commission shall consider the cost of the proposed measures in relation to the effectiveness of the measures. These measures could include, but are not limited to, buffers, erosion and sedimentation control requirements, post-construction stormwater management, agricultural nutrient reduction measures, the addition of nutrient removal treatment processes to point source permitted wastewater treatment plants, the removal of point source discharging wastewater treatments through regionalization and conversion to non-discharge treatment technologies, and any other measures that the Commission determines to be necessary to meet the nutrient reduction goals. To the extent that one or more other State

programs already mandate any of these measures, the nutrient management strategy shall incorporate the mandated measures and any extension of those measures and any additional measures that may be necessary to achieve the nutrient reduction goals. In making a nutrient loading allocation to a permit holder, the Commission shall, to the extent allowed by federal and State law, give consideration to all voluntary efforts taken by the permit holder to protect water quality prior to the development of the nutrient management strategy.

SECTION 3.(d) Eligibility under the Clean Water Revolving Loan and Grant Act. – The definitions set out in G.S. 159G-3 apply to this subsection. The operator of a wastewater treatment works that is owned by an agency of the State may apply for a loan or grant under Chapter 159G of the General Statutes on the same basis as any other applicant if the operator is a local government unit and if the local government unit operates the wastewater treatment works pursuant to a contract with the State agency that contemplates that the local government unit will eventually acquire ownership of the wastewater treatment works.

SECTION 3.(e) Implementation; rulemaking. – The Environmental Management Commission shall adopt permanent rules to implement the nutrient management strategies required by this section by 1 July 2008. The rules shall require that reductions in nutrient loading from all sources begin no later than five years after the rules become effective.

SECTION 3.(f) Reports. – The Environmental Management Commission shall report its progress in implementing this section to the Environmental Review Commission as a part of each quarterly report it makes pursuant to G.S. 143B-282(b).

SECTION 4. Other drinking water supply reservoirs. – The Environmental Management Commission shall not make any new or increased nutrient loading allocation to any person who is required to obtain a permit under G.S. 143-215 for an individual wastewater discharge directly or indirectly into any drinking water supply reservoir for which the Division of Water Quality of the Department of Environment and Natural Resources has prepared or updated a calibrated nutrient response model since 1 July 2002 until permanent rules adopted by the Commission to implement the nutrient management strategy for that reservoir become effective. The Commission shall report its progress in developing and implementing nutrient management strategies for reservoirs to which this section applies to the Environmental Review Commission by 1 April 2006.

SECTION 5. Effective date. – This act is effective when it becomes law.

In the General Assembly read three times and ratified this the 7th day of July, 2005.

s/ Beverly E. Perdue
President of the Senate

s/ James B. Black
Speaker of the House of Representatives

s/ Michael F. Easley
Governor

Approved 12:41 p.m. this 15th day of July, 2005

EXHIBIT D-4

Report to the Environmental Review Commission on the Status of Water Quality in Water Supply Reservoirs Sampled by the Division of Water Quality

April 2006

North Carolina
Environmental Management Commission

EXECUTIVE SUMMARY

Background

Under Section 2(a) of the 2005 Drinking Water Reservoir Protection Act (SB981), the Environmental Management Commission (EMC) is charged with analyzing existing water quality data for water supply reservoirs sampled by the Division of Water Quality (DWQ) and reporting its findings and recommendations to the Environmental Review Commission by May 1, 2006.

Data review was confined to January 1995 through May 2005 to provide the most recent assessment. Of the 160 lakes that DWQ monitors, data from the 95 reservoirs classified as water supplies and sampled during this time period were reviewed. These lakes are from 10 river basins and are located in the piedmont and mountain regions of North Carolina.

As the Act focused on elevated nutrients in water supplies, this analysis includes those standards regularly sampled by DWQ related to nutrient enrichment (also referred to as eutrophication): chlorophyll a, dissolved oxygen, pH and turbidity. In some cases, the discussions of individual lakes include discussions of water quality problems associated with parameters that have no standards such as aquatic weeds.

Findings:

- Fourteen percent of the water supply reservoirs (13 out of 95) sampled by DWQ during January 1995 through May 2005 did not meet all eutrophication related standards based on available data.
- Those lakes that did not meet all of the eutrophication-related standards are: Graham-Mebane Reservoir, High Point Lake, Jordan Lake, Stoney Creek Reservoir, Lake Mackintosh, Pittsboro Lake, Lake Rhodhiss, Cedar Cliff Lake, Lake Sequoyah, Falls of the Neuse Reservoir, High Rock Lake, Lake Lee, and Lake Twitty.
- Graham-Mebane, High Point, Jordan, Mackintosh, Pittsboro, Stoney Creek, Rhodhiss, Falls of the Neuse, and High Rock have strategies in place or under development to address their water quality concerns.
- Additional sampling is planned for Lakes Lee and Twitty.
- Six lakes had water quality problems (taste, odor, color) sufficient to require additional treatment either in-lake or at the treatment facility: High Point, Oak Hollow, Lucas, Twitty, Hickory and Rhodhiss.
- In addition to nutrients, aquatic weeds and sediment are problems in water supplies. Fourteen lakes, mainly in the Cape Fear and Catawba River basins, are currently infested with aquatic weeds at levels that require some treatment.

Recommendations

There was not sufficient data from DWQ's sampling program to determine with confidence if many of these reservoirs were meeting or not meeting surface water quality standards. The current ambient monitoring program is designed to provide snapshots of water quality during the period of the year when the effects of eutrophication are most noticeable. DWQ prioritizes additional monitoring based on the ambient lakes monitoring. The current monitoring program resources are insufficient to perform large-scale assessments of eutrophication in multiple reservoirs where additional monitoring has not been prioritized. Such evaluations are possible; however, a significant input of staff, equipment and laboratory support would be required to perform these evaluations on all water supply reservoirs.

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Section 1. Introduction and Program Overview

1.1. Introduction

Lakes and reservoirs are integral features of the North Carolina landscape, supplying water for personal, industrial and municipal users. Lakes provide recreational opportunities and aesthetic enjoyment for the public, and support rich communities of aquatic plants and animals. Public use of the state's lakes is high, and lake-related recreation provides significant revenues. The North Carolina Environmental Management Commission and Division of Water Quality are committed to protecting these valuable resources for public use.

Recognizing the importance of North Carolina's waters, the Legislature adopted the 2005 Drinking Water Reservoir Protection Act (SB981). Under Section 2(a) of this Act, the Environmental Management Commission is charged with studying the state's drinking water reservoirs, determining which reservoirs are not meeting surface water quality standards using available data, and reporting their findings and recommendations to the Environmental Review Commission.

This report was prepared to meet that requirement and to provide some additional information on the Division of Water Quality's (DWQ) Ambient Lakes Monitoring Program. An overview of the Ambient Lakes Monitoring Program (ALMP) is presented as well as an explanation of water supply classifications, standards and rules. Other programs that assist with protection of water supplies are discussed briefly. Following those sections there is a review of the data collected over the past 24 years, basin by basin discussion of lakes with exceedances of the standards and recommendations.

1.2. Division of Water Quality Ambient Lakes Monitoring Program

Assessment of water quality is necessary to determine the health of a reservoir and its suitability for public use. Reservoirs in North Carolina have been monitored for several decades; however, current electronic data only goes back to 1981 when the DWQ received federal Clean Water Act funding to classify the trophic (or nutrient enrichment) status of North Carolina's publicly owned freshwater lakes/reservoirs[1], and to prioritize them for restoration. This report looks at the most recent ten years of data as it provides a better picture of current conditions in the reservoirs.

EPA has continued to provide limited funding for monitoring lakes under Section 314 and recently 319 of the Federal Clean Water Act. The emphasis continues to be on eutrophication, where eutrophication is defined as human-induced increases in nutrient loading above natural levels in a lake. This has driven DWQ's program

[1] The terms lake and reservoir are used interchangeably throughout this report. Technically, lake refers to a natural waterbody. North Carolina has only a few natural lakes in the sandhills and coastal plain. All other "lakes" are reservoirs created by man.

to focus its monitoring toward the summer months when eutrophication impacts are most prevalent.

A total of 160 publicly owned lakes have been sampled as part of the ALMP. Those lakes are sampled once every five years per the DWQ's Basinwide Assessment Program's schedule. Data are used to prioritize lakes for restoration efforts and, starting in 2004, resources are being reorganized to provide sufficient data to determine if water quality standards are being met and to support special studies and development of lake total maximum daily loads (TMDL). A TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards and it includes the allocation of that loading between the various sources that contribute the pollutant to the water body. These calculations are required under Section 303 of the Federal Clean Water Act for any water body determined not to be attaining its uses (water supply, recreation, aquatic life).

Recent special studies include Falls of the Neuse Reservoir, Jordan Lake (B. Everett Jordan Reservoir) and High Rock Lake. The data collected will be used for analysis of water quality trends and model development/calibration (TMDLs). Other lakes have been monitored intensively to evaluate lake restoration attempts. Merchants Millpond, Big Lake, and Lake Wheeler have been monitored to assess the effects of aquatic weed control measures. Belews, Hyco and Mayo continue to be monitored because of selenium contamination. Lake Wylie was intensively monitored in 1989 and 1990 in response to problems associated with eutrophication and the results were used to implement a nutrient management strategy in the watershed.

Of the 160 reservoirs routinely sampled, 95 lakes classified Water Supply (WS) are reviewed in this report (Figure 1.1 and Table 1.1). While this report discusses only 95 water supply reservoirs, there are 101 reservoirs classified as WS that have been sampled by DWQ over the years. Some lakes classified as WS were not sampled during the 1995-2005 review period due to resource constraints.

Figure 1.1. Water Supply Reservoirs Sampled by DWQ as Part of the Ambient Lakes Monitoring Program.

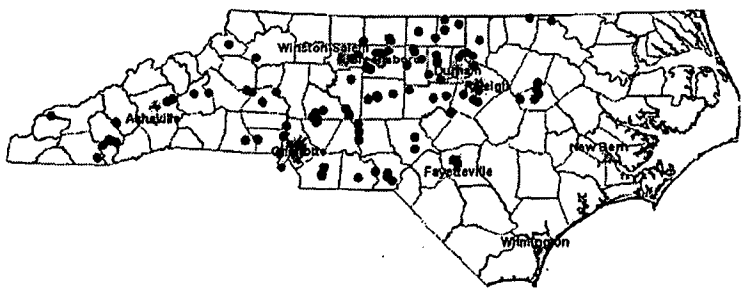


Figure 1.1 presents the distribution of the 95 lakes, while Table 1.1 provides data on characteristics, classification, and sampling history for each lake. Eighty-five of these water supplies are located in the piedmont with ten located in mountain basins. None of these surface water supplies are located in the coastal area.

Sampling for the ALMP has normally occurred in June through August targeting the critical time of year for algal activity in most lakes. Typically, 30 to 35 lakes are sampled monthly in the summer.

The number of stations per lake varies based on the morphology of the lake. Sampling may be more frequent if a special study for permitting or TMDL development is occurring.

Table 1.2 lists the parameters routinely sampled as part of the ALMP. There are 59 parameters that have numeric standards in freshwater, 29 of those parameters have standards specific to water supplies and only five WS specific parameters are regularly monitored due to resource constraints (Table 1.3).

Table 1.1. Water Supply Reservoirs Sampled by DWQ (Jan. 1995 – May 2005)

Basin/ Water body	Classification	Mean Depth (feet)	Volume ($10^6 m^3$)	Watershed Area (mi^2)	Sampling Dates* (month/year)	Number of Times Sampled
BROAD						
Kings Mountain Reservoir	WS-III CA	46	7.4	65.3	8/1989 - 5/2005	16
CAPE FEAR						
Bonnie Doone Lake	WS-IV	3	0.1	3	8/1993 - 8/2003	7
Cane Creek Reservoir	WS-II HQW NSW CA	7	11.0	32	8/1990 - 8/2003	11
Carthage City Lake	WS-III CA	3	0.1	27	8/1991 - 8/2003	8
Glenville Lake	WS-IV CA	8	0.2	10	8/1991 - 8/2003	7
Graham-Mebane Reservoir	WS-II HQW NSW CA	10	8.7	66	8/1993 - 8/2003	7
Harris Lake	WS-V	20	10.1	70	8/1987 - 8/2003	13
High Point Lake	WS-IV CA	16	4.8	60	7/1981 - 8/2003	29
Jordan Lake	WS-IV B NSW CA	16	929.6	1689	7/1982-5/2005	128
Kornbow Lake	WS-IV	7	0.3	5	8/1993 - 8/2003	7
Lake Brandt	WS-III NSW CA	7	84.0	40	7/1981 - 8/2003	10
Lake Cammack (Burlington Reservoir)	WS-II HQW NSW CA	13	12.2	28	8/1981 - 8/2003	10
Lake Higgins	WS-III NSW CA	12	3.0	11	8/1990 - 8/2003	8
Lake Hunt	WS-III B NSW CA	33	2.8	5	7/1981 - 8/2003	17
Lake Mackintosh	WS-IV NSW CA	59	29.0	129	8/1993 - 8/2003	14
Lake Ramseur (Sandy Creek Reservoir)	WS-III CA	21	1.5	55	8/1992 - 8/2003	8
Lake Townsend	WS-III NSW CA	10	25.0	105	8/1990 - 8/2003	8
Mintz Pond	WS-IV	5	0.3	6	8/1993 - 8/2003	7

Table 1.1. Water Supply Reservoirs Sampled by DWQ (Jan. 1995 – May 2005)

Basin/ Water body	Classification	Mean Depth (feet)	Volume ($10^6 m^3$)	Watershed Area (mi^2)	Sampling Dates* (month/year)	Number of Times Sampled
Oak Hollow Lake	WS-IV CA	21	11.0	55	7/1981 - 8/2003	25
Old Town Reservoir	WS-III HQW CA	13	0.2	0.4	9/1988 - 8/2003	16
Pittsboro Lake	WS-IV NSW	3	0.02	8	8/1981 - 8/2003	9
Reidsville Lake	WS-III NSW CA	20	0.04	53	7/1981 - 8/2003	10
Rocky River Reservoir	WS-III CA	18	1.6	23	8/1991 – 8/2003	8
Stoney Creek Reservoir (Lake Burlington)	WS-II HQW NSW CA	7	1.5	110	7/1990 – 8/2003	8
University Lake	WS-II HQW NSW CA	5	2.6	29	8/1990 – 8/2003	8
CATAWBA						
Bessemer City Lake	WS-II HQW CA	15	10.0	0.02	7/1990 - 8/2002	5
Lake Hickory	WS-IV, V B CA	33	17.0	1310	8/1981 - 8/2002	14
Lake James	WS-IV, V B Tr	46	36.9	380	8/1981 - 8/2002	18
Lake Norman	WS-IV B CA	33	131.5	1790	8/1981 - 8/2002	11
Lake Rhodhiss	WS-IV B CA	20	36.7	1090	8/1981 - 8/2002	22
Lake Tahoma	WS-II B Tr HQW	30	0.7	23	8/1990 - 8/2002	5
Lake Wylie (NC Portion)	WS-IV, V B CA	23	35.3	3020	8/1981 - 8/2002	37
Lookout Shoals Lake	WS-IV, V B CA	30	4.6	1450	8/1981 - 8/2002	12
Mountain Island Lake	WS-IV B CA	16	71.0	1860	8/1981 - 8/2002	11
Newton City Lake	WS-III CA	17	10.0	0.1	8/1992 - 8/2002	4
FRENCH BROAD						
Allen Creek Reservoir	WS-I Tr HQW	46	3.3	13	8/1990 - 8/2002	13
Beetree Reservoir	WS-I HQW	82	1.9	7.7	7/1990 – 8/1997	5
Burnett Reservoir	WS-I HQW	39	22.0	2.3	7/1990 - 8/2002	8
LITTLE TENNESSEE						
Bear Creek Reservoir	WS-III B Tr	108	5.6	75	7/1988 - 8/2004	8
Cedar Cliff Lake	WS-III B Tr	89	7.2	81	7/1988 - 8/2004	14
Fontana Lake	WS-IV B CA, B Tr, C	135	1782.0	1552	8/1981 - 8/2004	7
Lake Sequoyah	WS-III Tr CA	7	0.1	14	7/1988 - 11/2004	11
Thorpe Reservoir	WS-III B Tr HQW	76	82.6	37	7/1988 - 8/2004	12
Wolf Creek Reservoir	WS-III B Tr HQW	89	2.1	40	7/1988 - 8/2004	11
NEUSE						
Apex Reservoir	WS-III NSW CA	10	0.3	2.3	9/1991 - 7/2000	3
Buckhorn Reservoir	WS-V NSW	7		155	8/1988 - 5/2005	4
Corporation Lake	WS-II HWQ NSW CA	3.3	0.9	41	8/1988 - 8/2000	6
Falls of the Neuse Reservoir	WS-IV B NSW CA	16	177.0	770	4/1983 - 5/2005	88
Lake Ben Johnson	WS-II HWQ NSW CA	5	0.02	65	8/1988 - 8/200	6

Table 1.1. Water Supply Reservoirs Sampled by DWQ (Jan. 1995 – May 2005)

Basin/ Water body	Classification	Mean Depth (feet)	Volume ($10^6 m^3$)	Watershed Area (mi^2)	Sampling Dates* (month/year)	Number of Times Sampled
Lake Benson	WS-III NSW CA	10	3.6	65	7/1981 - 5/2005	12
Lake Butner (Lake Holt)	WS-II HWQ NSW CA	30	1.4	30	8/1988 - 8/2000	11
Lake Michie	WS-III NSW CA	26	16.0		8/1988 - 8/2000	5
Lake Orange	WS-II HWQ NSW CA	13.1	0.3	10	8/19881 - 7/2000	5
Lake Rogers	WS-II HWQ NSW CA	9	0.5	17	8/1991 - 8/2000	5
Lake Wheeler	WS-III NSW	13	8.0	28	07/1981 - 8/2000	9
Lake Wilson	WS-III NSW	5	0.7	40	8/1991 - 5/2005	6
Little River Reservoir	WS-II HWQ NSW CA	25	18.0	98	7/1988 - 8/2000	17
Toisnot Reservoir	WS-II HQW NSW CA	5	0.1	50	8/1988 - 8/2000	6
Wiggins Mill Reservoir	WS-III NSW CA	2	0.6	237	8/1988 - 5/2005	7
NEW						
ASU Lake	WS-II Tr HQW CA	112	0.7	34.4	7/1992 - 8/2003	7
ROANOKE						
Belews Lake	WS-IV B	49	228.0	46	7/1981 - 8/2004	24
Farmer Lake	WS-II HQW CA	18	6.5	48	8/1991 - 11/2004	19
Hyco Lake	WS-V B	20	99.0	188	7/1983 - 9/2004	15
Kernersville Lake	WS-IV CA	16	0.4	3.5	8/1988 - 8/2004	13
Lake Gaston (NC Portion)	WS-IV, V B CA	95	512.0	8239	8/1981 - 8/2004	18
Lake Roxboro	WS-II B HQW	20	11.0	24	8/1988 - 8/2004	16
Mayo Reservoir	WS-V	30	105.0	51	7/1983 - 9/2004	13
Roanoke Rapids Lake	WS-IV B CA	16	96.0	8294	8/1981 - 8/2004	13
Roxboro City Lake	WS-II HQW CA	12	0.3	196	7/1988 - 11/2004	12
TAR-PAMLICO						
Lake Devin	WS-II HQW NSW CA	16	1.6	1.2	8/1989 - 8/2002	8
Tar River Reservoir	WS-IV B NSW CA	20	16.0	774.9	7/1989 - 8/2002	8
YADKIN-PEE DEE						
Badin Lake	WS-IV B CA	46	344.0	4116	7/1981 - 10/2002	18
Blewett Falls Lake	WS-II HQW CA	39	8.3	6784	7/1991 – 8/1999	10
Bunch Lake	WS-II HQW CA	10	0.04	2	7/1989 - 8/2001	19
High Rock Lake	WS-IV, V B CA	16	314.0	3929	7/1981 - 5/2005	33
Kannapolis Lake	WS-IV, V B CA	16	5.2	11	8/1989 - 8/2000	5
Kerr Scott Reservoir	WS-IV B Tr	39	189.0	3348	9/1981 - 8/2002	16
Lake Concord	WS-IV CA	12	1.3	4	8/1989 - 7/2000	4
Lake Corriher	WS-IV CA	8	0.2	2	8/1989 – 8/1999	5
Lake Fisher	WS-IV CA	15	3.2	78	8/1989 - 8/2000	5
Lake Lee	WS-IV CA	5	9.5	51	8/1989 - 8/2000	5

Table 1.1. Water Supply Reservoirs Sampled by DWQ (Jan. 1995 – May 2005)

Basin/ Water body	Classification	Mean Depth (feet)	Volume ($10^6 m^3$)	Watershed Area (mi^2)	Sampling Dates* (month/year)	Number of Times Sampled
Lake Lucas (Back Creek Lake)	WS-II HQW CA	13	5.0	16	7/1989 - 8/2002	9
Lake Monroe	WS-IV CA	18	1.8	9	8/1989 - 8/2000	5
Lake Reese	WS-III CA	16	0.9	100	7/1989 - 8/2002	13
Lake Thom-A-Lex	WS-III CA	26	7.8	39	7/1981 - 8/2002	17
Lake Tillery	WS-IV B CA	33	207	4834	7/1981 – 8/1999	10
Lake Twitty (Lake Stewart)	WS-III CA	18	7.6	36	8/1989 - 8/2000	5
Lake Wright	WS-II HQW CA	10	0.3	2	8/1989 - 8/1999	5
McCrary Lake	WS-II HQW CA	10	0.9	1	7/1989 - 8/2001	10
Roberdel Lake	WS-III CA	10	10.0	140	8/1989 - 8/2000	4
Rockingham City Lake	WS-III CA	2	0.02	20	8/1992 - 8/2000	4
Salem Lake	WS-III CA	18	0.8	26	7/1981 - 8/2002	17
Tuckertown Reservoir	WS-IV B CA	33	289	4210	7/1981 – 8/1999	9
Wadesboro City Pond (City Pond)	WS-II HQW CA	8	0.1	9	8/ 1989 - 8/200	5
Water Lake	WS-II HQW CA	10	0.06	20	8/1989 - 8/2000	10

* *Sampling was normally conducted during June, July, and August.*

Table 1.2. Parameters Routinely Sampled by DWQ at Water Supply Reservoirs

Physical Measurements (at 1 meter increments from the surface to the bottom of the lake)		
Dissolved Oxygen	Secchi depth	pH
Water Temperature	Conductivity	
Metals (collected at the surface)		
Cadmium	Copper	Calcium *
Iron	Manganese	Zinc
Chromium, Total	Lead	Magnesium *
Nickel		
Water Chemistry (collected from Photic Zone (from surface to 2 times the Secchi depth)		
Turbidity	Total Residue	Total Suspended Solids
Total Dissolved Solids		
Nutrients (Photic Zone composite samples and Bottom grab samples)		
Ammonia	Total Kjeldahl Nitrogen	Total Phosphorus
Nitrate/Nitrite		
Biological		
Chlorophyll *a* (Photic Zone)	Phytoplankton (Photic Zone)	
Fecal Coliform Bacteria (Surface Grab) (colonies/100 ml) only in lakes classified B		

* *Calcium and Magnesium are used to calculate Total Hardness (mg/L)*

The ALMP is conducted by the Intensive Survey Unit with a staff of seven people (including supervisor); only two are dedicated to sampling lakes. The Intensive Survey Unit also conducts a variety of physical and chemical sampling to support permitting, compliance, modeling, TMDL development, emergency response, reclassifications and regional investigations in lakes, rivers, streams and estuaries. At times, the Winston-Salem Regional Office assists with lakes monitoring.

Table 1.3. Parameters with Water Supply Standards

(Bold indicates parameters routinely sampled as part of Ambient Lakes monitoring)

1,1,2,2-Tetrachlorethane	Chlorinated Benzenes	PAH
2,4-D	DDT	PCB
Aldrin	Dieldrin	Phenolic Compounds
Arsenic	Dioxin	Silvex
Barium	**Hardness**	Sulfates
Benzene	Hexachlorobutadiene	Tetrachloroethylene
Beryllium	Manganese	**Total dissolved solids**
Carbon Tetrachloride	Methylene Blue Active Substances	Trichloroethylene
Chlordane	**Nickel**	Vinyl chloride
Chloride	**Nitrate (nitrate/nitrite)**	

1.3. Water Supply Classifications & Standards

Surface water classifications are designations applied to streams, rivers and lakes, and are intended to define the best uses to be protected within these waters (for example swimming, recreation, drinking water supply, etc.). The surface water standards are designed to protect the water quality based on the classifications for a variety of ecological and human health reasons.

For surface waters used as water supplies, there are five classifications: WS-I, WS-II, WS-III, WS-IV, and WS-V. All water supply classifications except WS-V carry additional restrictions on treated wastewater discharges and land use activities based on development in the watershed (Table 1.4). Note that some portions of the WS watersheds carry additional restrictions due to their proximity to the water intakes. Those areas are designated by CA, which stands for "critical area".

Twenty-eight of the WS lakes are also classified B, which recognizes that they have organized swimming occurring on a regular basis in areas of those lakes. Management strategies associated with these waters include discouraging wastewater discharges and storm drains.

Some WS lakes are supplementally classified as nutrient sensitive waters (NSW). These lakes are in watersheds that the EMC has determined to be experiencing nutrient over-enrichment and that need additional management to protect and restore water quality.

Table 1.4. Land Use and Discharge Requirements Associated with WS Classifications[1].

	WS-I	WS-II	WS-II	WS-III	WS-III	WS - IV	WS - IV	WS - V
Watershed Characteristics	Natural or undeveloped watersheds	Lightly developed	Lightly developed	Low or moderately developed	Low or moderately developed	Moderate to high development	Moderate to high development	Upstream and draining to Class WS-IV waters
Number of Lakes Sampled in this Class	3	24	2	23	6	27	8	4
Area Affected	Entire Watershed	1/2 Mile Critical Area (CA)	Rest of Watershed	1/2 Mile CA	Rest of Watershed	1/2 Mile CA	Rest of Watershed	River Segment
Wastewater Discharge Allowed	None Allowed	General Permits			Domestic & Non-Process Industrial			
Permit Limits	Not Applicable	Per HQW Rules		Standard Rules				
Low Density Option (du = dwelling unit; ac = acre)	None ---- Underdeveloped	1 du/2 ac or 6 percent Built Upon Area	1 du/2 ac or 12 percent Built Upon Area		1 du/2 ac or 24 percent Built Upon Area			No Restrictions
High Density Option	None ---- Underdeveloped	6 - 24 percent Built Upon Area	12 - 30 percent Built Upon Area		24 - 50 percent Built Upon Area		24 - 70 percent Built Upon Area	No Restrictions
Stream Setbacks for Impervious Surfaces	Not Applicable	Low Density – 30' High Density - 100'						None Required
Erosion & Sedimentation Controls	More Stringent Rules Apply			Standard Rules				
Agriculture BMPs Mandated	Yes							
Forestry BMPs Mandated	Yes							
Transportation BMPs Mandated	Stricter NC Div. Of Land Resources Erosion Controls Apply			Yes				Applied As Practical
Landfills Allowed	None Allowed	No New Landfills	No New Discharging Landfills	No New Landfills	No New Discharging Landfills	No New Landfills	Yes	No Specific Restrictions

[1] Water Supply Classification Rules are found in the 15A NCAC 2B .0100s and .0200s. Additional information is available at http://h2o.enr.state.nc.us/csu/index.html

Fourteen of the WS reservoirs sampled in the Cape Fear River Basin are regulated under the NSW rules for the Haw River and Jordan Reservoir drainage areas (Table 1.5). All of the Neuse (17) and Tar-Pamlico (2) Water Supply reservoirs sampled by DWQ are NSW. An outline of the management strategies and rules governing these waters is presented in Table 1.6. They include permit limits and stream buffer requirements.

Other supplemental classifications that impact management and regulations related to water supplies and their watersheds include High Quality Waters (HQW) and Trout (Tr). All WS-I and WS-II are classified as HQW (n=29) and that classification is reflected in the management strategies presented in Table 1.4. The Trout classification is reserved for waters that are home to naturally propagating trout and stocked trout. Trout flourish in colder waters and are more sensitive to some pollutants than most other fish species. Therefore, water quality standards for dissolved oxygen, temperature, turbidity, chlorophyll-a, cadmium, and toluene are more stringent.

Table 1.5. Water Supply Lakes Currently Classified as NSW by River Basin

Cape Fear River Basin	
Burlington Reservoir	Cane Creek Reservoir
Graham-Mebane Reservoir	B.E. Jordan Reservoir
Lake Brandt	Lake Burlington
Lake Higgins	Lake Hunt
Lake Mackintosh	Lake Townsend
Pittsboro Lake	Reidsville Lake
Richland Lake	University Lake
Neuse River Basin	
Apex Reservoir	Beaverdam Reservoir
Buckhorn Reservoir	Corporation Lake
Falls of the Neuse Reservoir	Lake Ben Johnson
Lake Benson	Lake Butner
Lake Michie	Lake Orange
Lake Rogers	Lake Wheeler
Lake Wilson	Little River Reservoir
Toisnot Reservoir	West Fork Eno River Reservoir
Wiggins Mill Reservoir	
Tar-Pamlico River Basin	
Lake Devin	Tar River Reservoir

1.4. Impaired Waters Designation

Section 303(d) of the Clean Water Act (CWA) requires states to develop a list of waters not meeting water quality standards or which have impaired uses. Listed waters must be prioritized, and a management strategy or total maximum daily load (TMDL) must subsequently be developed for all listed waters. Uses that are evaluated for development of this list include water supply, aquatic life, and recreation. This list must be submitted to EPA every 2 years for their approval. More information on this program is available at http://h2o.enr.state.nc.us/tmdl/.

Table 1.6. NSW Requirements Related to Discharges and Land Use in the Neuse, Tar-Pamlico and Cape Fear River Basins.

	Neuse River Basin	Tar-Pamlico River Basin	Cape Fear River Basin
Area Affected	Entire watershed	Entire watershed	Haw River & Jordan Reservoir Drainage
Wastewater Discharge Allowed	Per WS Classification		
Permit Limits	Yes [1]	Yes [2]	Yes [3]
Low Density Option	Per WS Classification		
High Density Option (includes additional stormwater controls)	Per WS Classification		
Stream Setbacks for Impervious Surfaces	Riparian Buffer Protection Rules 50' wide riparian buffer adjacent directly adjacent to surface waters		Per WS Classification
Erosion & Sedimentation Controls	Standard Rules		
Agriculture Best Management Practices Mandated	Required either as standard BMPs or as part of Collective Local Strategy	Required to collectively limit nutrient loading to the estuary to achieve target reductions	Standard Rules
Forestry Best Management Practices Mandated	Per Forest Practices Guidelines		
Transportation Best Management Practices Mandated	Per WS Classification		
Landfills Allowed	Per WS Classification		

1. NEUSE RIVER BASIN:

Nitrogen Limits: Originally effective August 1, 1998, the nitrogen discharge limit reduces the nitrogen from point sources by 30 percent compared to 1995 levels. The overall nitrogen discharge limit is 2.8 million pounds per year. Limits in terms of pounds per year are called "mass-based limits." The overall nitrogen discharge limit is divided among three different groups of dischargers as follows:

- Dischargers with permitted flows greater than or equal to 500,000 gallons per day or 0.5 million gallons per day (MGD) downstream of Falls Lake dam have a combined limit of 2.45 million pounds per year.
- Dischargers with permitted flows greater than or equal to 0.5 MGD upstream of the dam have a combined limit of 444,000 pounds per year.
- Dischargers with permitted flows less than 0.5 MGD have a combined limit of 280,000 pounds per year.

Phosphorus Limits: 2.0 mg/L concentration limit on phosphorus throughout basin

2. TAR-PAMLICO RIVER BASIN

Tar-Pamlico Basin Association Members - As a coalition, the goal is to decrease total nitrogen load to the estuary by 30 percent from 1991 levels along with no increases in phosphorus loads. Nutrient exceedances follow the offset payment approach with offset rates adjusted based on basin-specific agricultural BMP cost-effectiveness data. Non-Tar-Pamlico Basin Association Members are placed on restrictions; all discharges >0.5 MGD must meet 6 mg/L TN and 1 mg/L TP limits within 5 years. Any new loading from new or expanding facilities are mitigated using the offset payment method established for the Tar-Pamlico Association Members.

3. CAPE FEAR RIVER BASIN

Limits of 5.5 mg/L TN and 2.0 mg/L TP for qualifying facilities discharging >0.5MGD into the Jordan Reservoir/Haw River watershed (Clean Water Responsibility Act of 1997). Most of the facilities were granted an extension by the EMC (Senate Bill 1366) and were required to develop a calibrated nutrient response model. That model has been developed and rules are being developed to implement the limits indicated by the model.

There are ten water supply lakes listed for impaired aquatic life use support (Table 1.7). Six of the lakes are listed for impaired biological integrity due to impairments in the streams feeding them. Several have been recently delisted due to improvements in water quality. Hyco Lake has been removed due to the rescinding of the fish consumption advisory for selenium. Pittsboro and Roanoke Rapids Lakes are listed for aquatic weeds and as aquatic weeds are not considered a pollutant, no TMDL is required.

Table 1.7. Water Supply Lakes Listed as Impaired on the 2004 Impaired Waters List.

Basin/Water Supplies	Year Listed	Reason Listed	TMDL Status
Cape Fear			
Bonnie Doone Lake	1998	Impaired biological integrity	Included in impaired stream segment (Little Cross Creek). Not scheduled.
B.E. Jordan Reservoir – New Hope & Morgan Cr Arms	2002	Chlorophyll a	Draft TMDL completed
Glenville Lake	2000	Impaired biological integrity	Included in impaired stream segment (Little Cross Creek). Not scheduled.
Kornbow Lake	1998	Impaired biological integrity	Included in impaired stream segment (Little Cross Creek). Not scheduled.
Mintz Pond	1998	Impaired biological integrity	Included in impaired stream segment (Little Cross Creek). Not scheduled.
Pittsboro Lake	1998	Aquatic Weeds	To be shifted to Category 4c (Impairment not caused by a pollutant) –does not require a TMDL
Neuse			
Buckhorn Reservoir	1998	Impaired biological integrity	Included in impaired stream segment (Contentnea Creek). Not scheduled.
Roanoke			
Hyco Lake	1998	Fish Advisory – Selenium	Delisted 2004 - Fish Advisory rescinded in 2001.
Roanoke Rapids Lake	1998	Aquatic Weeds	To be shifted to Category 4c (Impairment not caused by a pollutant) –does not require a TMDL
Yadkin-Pee Dee			
High Rock Lake	2004	Turbidity & Chlorophyll a	In Scoping Phase prior to TMDL development

B.E. Jordan Reservoir was listed for chlorophyll-a violations in 2002 and a draft TMDL was completed in 2005. Development of an implementation strategy is currently underway. High Rock Lake is also listed for chlorophyll a, as well as, turbidity. DWQ is currently doing additional monitoring and working with the High Rock Lake Technical Advisory Committee composed of

agency staff and other stakeholders to develop the monitoring and modeling strategy for TMDL development. It is expected that TMDL modeling will begin in 2009 or 2010.

There are no lakes currently listed as not supporting water supply uses. Water supply use support is assessed using information from the seven Division of Environmental Health regional water treatment plant (WTP) consultants. Each January, the WTP consultants are asked to submit a spreadsheet listing closures and water intake switch-overs for all water treatment plants in their region. This spreadsheet describes the length and time of the event, contact information for the WTP, and the reason for the switch-overs and closures. When the closures/switches are due to water quality, then they are considered in determining if the uses of the lake (recreation, water supply, aquatic life) are being protected.

1.5. Water Supply Protection Program

The EMC and DWQ have administered a Water Supply Protection Program since 1986. Under the Water Supply Protection Rules, all water supply watersheds are to have ordinances, maps and a management plan in place to protect the water supplies. DWQ is conducting a review of the program and preparing for another audit of all water supplies covered under the rules.

1.6. Division of Environmental Health Surface Water Assessment Program

The 1996 Federal Safe Drinking Water Act (SDWA) Amendments required that all states establish Source Water Assessment Programs in order to determine the susceptibility of public water supply sources to contamination. This new focus in the SDWA promotes the prevention of drinking water contamination as a cost-effective means to provide reliable, long-term, and safe drinking water sources for public water supply systems. Specifically, Section 1453 of the SDWA Amendments required that states develop and implement a Source Water Assessment Program (SWAP) to delineate source water assessment areas, inventory potential contaminants in these areas, and determine the susceptibility of each public water supply to contamination.

The Public Water Supply (PWS) Section of the Division of Environmental Health in DENR is responsible for SWAP in North Carolina. The PWS Section received EPA approval for their SWAP Plan in November 1999. The SWAP Plan, entitled "North Carolina's Source Water Assessment Program Plan," fully describes the methods and procedures used to delineate and assess the susceptibility of more than 9,000 wells and approximately 207 surface water intakes. The SWAP Plan is available at: http://www.deh.enr.state.nc.us/pws/swap.

In April 2004, the PWS Section completed source water assessments for all drinking water sources and generated reports for the public water supply systems using these sources. In April 2005, a second round of assessments were completed. The ratings are available at the above-mentioned web site, either through the interactive mapping tool or compiled in a written report for each public water supply system.

Section 2. Methodology

For the purposes of this report, DWQ ambient lakes data from January 1995 through May 2005 were reviewed. Over that time period, DWQ sampled 97 lakes with the water supply classifications (WS-I, WS-II, WS-III, WS-IV, and WS-V). West Fork Eno Reservoir was only recently filled and was only sampled once in May 2005. Beaverdam Lake has been included in the analysis of Falls of the Neuse Reservoir. Therefore, only 95 lakes are discussed in this report.

As noted earlier, lakes are sampled once every five years unless a special study is conducted. As the 2005 Drinking Water Reservoir Protection Act is focused on eutrophication in water supplies, this analysis is of those standards related to eutrophication: chlorophyll a, dissolved oxygen, pH, and turbidity. The discussions for individual lakes found in Appendix 2 may include discussion of water quality problems associated with parameters that have no standards such as aquatic weeds.

Eutrophication-related standards for WS waters are presented in Table 2.1.

Table 2.1. Surface Water Quality Standards Related to Eutrophication

Parameter	Standard for Non-Trout Waters	Standard for Trout Waters
Chlorophyll a	Not greater than 40 ug/L	Not greater than 15 ug/L
Dissolved oxygen	Not less than 4 mg/L	Not less than 6 mg/L
pH	Between 6 and 9 except in Swamp Waters then 4.3 Standard Units (SU)	Between 6 and 9 SU
Turbidity	25 Nephelometric Units (NTU)	10 NTU

North Carolina does not have standards for nutrients (phosphorus and nitrogen) that result in eutrophication as there are a variety of factors that control a water body's response to nutrients including, but not limited to: size, depth, flow, shape of the lake, and light penetration. When the chlorophyll-a standard was adopted it was based on the determination that an indicator of eutrophication would provide more certainty in determining impacts than nitrogen and phosphorus standards.

Dissolved oxygen (DO), pH and turbidity are also indicators of the potential for eutrophication. During photosynthesis and respiration, DO and pH can increase and decrease due to the chemical reactions taking place. During the normal sampling times for the Ambient Lakes Monitoring Program (usually between 10 AM and 3 PM), peak photosynthesis is occurring resulting in increased oxygen releases by the alga and an increase in pH due to carbon dioxide uptake related to photosynthesis. When DO reaches levels above 10-12 mg/L at summer temperatures, the water becomes supersaturated and fish may experience gas bubble disease if they are unable to escape the supersaturated waters. Gas bubble disease may be fatal or the fish may eventually recover.

Turbidity refers to water clarity. The greater the amount of suspended solids in the water, including algae, the murkier it appears and the higher the turbidity measured. Turbidity measures the scatter of light by the suspended solids as opposed to measuring solids.

Therefore, anything that results in light scattering will increased the turbidity reading. That is why turbidity is considered to be related to eutrophication, the more phytoplankton in the water column, the higher the turbidity reading. Therefore, the major source of turbidity in the open water zone of most lakes is typically phytoplankton. Closer to the shore, clays and silts from shoreline erosion, resuspended bottom sediments and organic detritus from stream and/or discharges not only are usually the major source of turbidity but they actually act to shade the phytoplankton, reducing phytoplankton growth. Dredging operations, channelization, increased flow rates, floods, or even too many bottom-feeding fish (such as carp) may stir up bottom sediments and increase the cloudiness of the water.

In addition to carrying nutrients, high concentrations of particulate matter can modify light penetration, cause shallow lakes and bays to fill in faster, and smother bottom habitats impacting both organisms and eggs. As particles of silt, clay, and other organic materials settle to the bottom, they can suffocate newly hatched larvae and fill in spaces between rocks which could have been used by aquatic organisms as habitat. Fine particulate material also can clog or damage sensitive gill structures, decrease their resistance to disease, prevent proper egg and larval development, and potentially interfere with particle feeding activities. If light penetration is reduced significantly, macrophyte growth may be decreased which would in turn impact the organisms dependent upon them for food and cover. Reduced photosynthesis can also result in a lower daytime release of oxygen into the water. Effects on phytoplankton growth are complex depending on too many factors to generalize.

For the purposes of this review, standards were deemed to be exceeded (not met) when the sample size was 10 or more and more than 10 percent of the samples failed to meet the standard.

Section 3. Findings and Recommendations

3.1. Findings

3.1.1. Eutrophication Related Standards

Using DWQ's Ambient Lakes Monitoring data and some information from the water supply users (Appendix 1), 13 lakes (14 percent) are currently not meeting eutrophication-related water quality standards: Graham-Mebane Reservoir, High Point Lake, Jordan Lake, Stoney Creek Reservoir, Lake Mackintosh, Pittsboro Lake, Lake Rhodhiss, Cedar Cliff Lake, Lake Sequoyah, Falls of the Neuse Reservoir, High Rock Lake, Lake Lee, and Lake Twitty (Table 3.1).

Table 3.1. Water Supply Reservoirs Sampled by DWQ Not Meeting All Eutrophication-Related Standards (Jan 1995-May 2005) with Current Management Strategies

Lake	Standard Not Met in >10% of Samples	Current Actions
Cape Fear River Basin		
Graham-Mebane Reservoir	Chlorophyll-a	NSW
High Point Lake	Chlorophyll-a	Adding to Impaired Waters List
Jordan Lake	Chlorophyll-a	NSW, TMDL
Lake Mackintosh	Chlorophyll-a	NSW
Pittsboro Lake	Turbidity	NSW, TMDL (aquatic plants)
Stoney Creek Reservoir	Turbidity	NSW
Catawba River Basin		
Lake Rhodhiss	pH	Adding to Impaired Waters List
Little Tennessee River Basin		
Cedar Cliff Lake	pH	Additional sampling was conducted that did not find similar pH problems. No further action has been planned.
Lake Sequoyah	pH	Local Efforts Underway
Neuse River Basin		
Falls of the Neuse Reservoir	Turbidity	NSW, Special study underway
Yadkin River Basin		
High Rock Lake	Chlorophyll-a, pH, turbidity	TMDL
Lake Lee	pH	Additional sampling is planned during 2006
Lake Twitty (Lake Stewart)	pH	Additional sampling is planned during 2006

Table 3.1 indicates activities currently underway, which are intended to reduce nutrient inputs. Most of the Cape Fear River basin lakes and Falls of the Neuse Reservoir in the Neuse River basin are classified as NSW. The NSW classification carries with it management strategies designed to reduce nutrient inputs based on site-specific requirements. These management strategies are revisited periodically through the basinwide process to determine if the strategy is working and allow for adjustments.

Those lakes that are listed on the Impaired Waters List may require the development of TMDLs that identify the allowable nutrient concentrations as well as how much reduction is required of each source. TMDLs are used to develop permit limits and to target nonpoint source control activities. They may also result in the development of rules to provide additional controls of point and nonpoint sources.

Additional sampling was conducted on Cedar Cliff Lake during 1999 to determine if the low pH values were indicative of on-going impairment. Subsequent sampling indicates pH within the standards and no additional management is recommended at this time. Lakes Lee and Twitty are targeted during the 2006 sampling period for additional sampling to provide additional data for determining causes and sources of impairment.

In the case of some water supply lakes (High Point Lake, Oak Hollow Lake, Lakes Lucas, Twitty, Hickory and Rhodhiss), algal bloom related problems have been significant enough to require additional treatment either at the treatment facility (addition of carbon filters for example) or in the lake (destratification systems). The destratification systems used in Oak Hollow, Lucas and Twitty prevent algae from remaining within the photic zone and multiplying while maintaining dissolved oxygen and pH at normal levels, therefore chlorophyll-a, dissolved oxygen and pH values met the standards even though nutrient concentrations are sufficient to cause blooms.

The sources of the nutrients fueling the algal blooms include point and nonpoint sources. Due to the protected nature of most water supply watersheds, nonpoint sources of rural origin appear to be the largest source of threat. The Basinwide process continues to work with local stakeholders to address these issues.

Additional information on the lakes with exceedances is provided in Appendix 2.

3.1.2. Other Water Quality Concerns

In the process of preparing this document, information on all the water supply lakes was reviewed and it appears that, in addition to nutrient over-enrichment (algal blooms), aquatic weeds and sediment are also major problems for water supply reservoirs (Table 3.2 and Appendix 2). Sedimentation is a major problem in some of the watersheds, although it is not always indicated by in-lake turbidity. While turbidity gives some idea of sediment, it does not provide a good measure of the amount of sediment coming into a system and being deposited. Therefore, DWQ's results include field observations and are probably an underestimation of the true impact of sedimentation within North Carolina's lakes. This is especially true in the Yadkin-Pee Dee River Basin where highly erodable soils and heavy development pressures result in the Yadkin River flowing muddy most of the time.

A few lakes had other documented problems, such as Bonnie Doone Lake in the Cape Fear Basin where the City of Fayetteville is addressing pesticides in stormwater runoff after finding them in the lake. Some lakes need to be reclassified to recognize the swamp water influences that result in pH below the standard.

Table 3.2. Potential Causes of Water Quality Concerns in Water Supply Reservoirs Based on DWQ Ambient Lakes Monitoring Results.

(Shading indicates that those causes have been identified as problems in each basin.)

Basin	Cause		
	Aquatic Weeds	Sediment	Algal Blooms-Nutrients
Broad			
Cape Fear			
Catawba			
French Broad			
Little Tennessee			
Neuse			
New			
Roanoke			
Tar-Pamlico			
Yadkin-Pee Dee			

Aquatic weeds, such as Hydrilla and Parrotfeather, are hardy, fast growing and have caused problems for water supply intakes, boating, swimming and aquatic life throughout the state. These aquatic weeds can take over a water supply within a couple of years, increasing maintenance costs for facilities and ruining the public's experience of their waters. Fourteen WS lakes sampled by DWQ are currently infested with aquatic weeds at levels that require some treatment.

3.2. Recommendations

As is evident from the data review, DWQ's current program does not have sufficient data in most cases to determine with confidence that a water supply is or is not meeting standards. The Ambient Lakes Monitoring program was designed to allow targeting of water bodies for additional sampling based on the limited resources available to support the program. It is possible to conduct large-scale assessments of eutrophication in multiple reservoirs; however, it will require significant additional resources including staff, equipment and laboratory support.

Appendix 1. Percentage of Samples Not Meeting Eutrophication-Related Water Quality Standards in Water Supply Reservoirs Sampled by DWQ

Basin & Lake Name	Years Included in Analyses	# of Chl-a Samples	# of DO, ph & Turbidity Samples	Percentage of Samples Not Meeting Each Standard During January 1995 through May 2005			
				Chl-a	DO	pH	Turbidity
BROAD RIVER							
Kings Mountain Reservoir	1995, 2000, 2005	*12*	*24*				
CAPE FEAR RIVER							
Bonnie Doone Lake	1998, 2003	*6*	*6*			*	
Cane Creek Reservoir	1996, 1998, 2003	*9*	*27*	*		*	
Carthage City Lake	1998, 2003	*3*	*6*			*	
Glenville Lake	1998, 2003	*2*	*5*			*	
Graham-Mebane Reservoir	1998, 2003	*15*	*30*	27 %			
Harris Lake	1996, 2003	*8*	*23*				
High Point Lake	1996-1998, 2000-2003	*12*	*46*	25 %			
Jordan Lake	1995-2001, 2005	*607*	*732*	27 %	5 %	8 %	8 %
Kornbow Lake	1998, 2003	*3*	*6*				
Lake Brandt	1998, 2003	*9*	*18*				6 %
Lake Cammack (Burlington Reservoir)	1998, 2003	*6*	*12*	*			
Lake Higgins	1998, 2003	*6*	*12*				
Lake Hunt	1998, 2003	*9*	*15*	*		7 %	
Lake Mackintosh	1996-1998, 2003	*18*	*72*	17 %			7 %
Lake Townsend	1998, 2003	*9*	*18*				
Mintz Pond	1998, 2003	*3*	*6*			*	
Oak Hollow Lake	1996-1998, 2000-2003	*18*	*63*				
Old Town Reservoir	1998, 2003	*6*	*12*				
Pittsboro Lake	1998, 2003	*6*	*11*	*			27 %
Reidsville Lake	1998, 2003	*6*	*12*	*			8 %
Rocky River Reservoir	1998, 2003	*6*	*12*	*			
Sandy Creek Reservoir	1998, 2003	*9*	*18*	*			
Stoney Creek Reservoir (Lake Burlington)	1998, 2003	*6*	*12*				17 %
University Lake	1998, 2003	*6*	*12*	*			
CATAWBA RIVER							
Bessemer City Lake	2002	*3*	*3*				
Lake Hickory	1997, 2002	*11*	*26*			4 %	
Lake James	1997, 2001, 2002	*18*	*59*				
Lake Norman	1997, 2002	*24*	*48*				

Basin & Lake Name	Years Included in Analyses	# of Chl-a Samples	# of DO, ph & Turbidity Samples	Percentage of Samples Not Meeting Each Standard During January 1995 through May 2005			
				Chl-a	DO	pH	Turbidity
Lake Rhodhiss	2001, 2002	*23*	*63*	9 %		15 %	
Lake Tahoma	2002	*6*	*6*				
Lake Wylie	1997, 2001-2002	*24*	*90*	4 %		1 %	1 %
Lookout Shoals Lake	1997, 2002	*9*	*18*				
Mountain Island Lake	1995, 1997, 2002	*21*	*39*				
Newton City Lake	2002	*3*	*3*				
FRENCH BROAD RIVER							
Allen Creek Reservoir	2002	*6*	*6*				
Beetree Reservoir	1997	*0*	*3*				
Burnett Reservoir	1997, 2002	*6*	*12*				
LITTLE TENNESSEE RIVER							
Bear Creek Reservoir	1999, 2004	*6*	*12*				
Cedar Cliff Lake	1996, 1999, 2004	*6*	*14*			14 %	
Fontana Lake	2004	*15*	*15*				
Lake Sequoyah	1999, 2004	*18*	*27*			15 %	4 %
Thorpe Reservoir	1995, 1999, 2004	*16*	*28*				
Wolf Creek Reservoir	1996, 1999, 2001, 2004	*10*	*20*				
NEUSE RIVER BASIN							
Apex Reservoir	1995, 2000	*1*	*2*				
Buckhorn Reservoir	1995, 2005	*6*	*6*				
Corporation Lake	1995, 2000	*2*	*8*				*
Falls of the Neuse Reservoir	1995, 1997, 2000, 2001, 2005	*90*	*213*	7 %	2 %		12 %
Lake Ben Johnson	1995, 2002	*1*	*4*				
Lake Benson	1995, 1996, 2000, 2005	*2*	*14*				7 %
Lake Butner	1995, 2000	*2*	*6*				
Lake Michie	1995, 2000	*2*	*8*				
Lake Orange	1995, 2000	*1*	*9*				
Lake Rogers	1995, 2000	*1*	*3*				
Lake Wheeler	1995, 2000	*2*	*8*				
Lake Wilson	1995, 2000, 2005	*2*	*5*				
Little River Reservoir	1995-1997, 2000	*3*	*27*		4 %		
Toisnot Reservoir	1995, 2000	*2*	*6*		*		
Wiggins Mill Reservoir	1995, 2000, 2005	*2*	*10*			10	
NEW RIVER							
ASU Lake	1998, 2003	*3*	*6*				

Basin & Lake Name	Years Included in Analyses	# of Chl-a Samples	# of DO, ph & Turbidity Samples	Percentage of Samples Not Meeting Each Standard During January 1995 through May 2005			
				Chl-a	DO	pH	Turbidity
ROANOKE RIVER							
Belews Lake	1999, 2000-2002, 2004	*20*	*56*				
Farmer Lake	1999, 2000-2002, 2004	*36*	*51*				8 %
Hyco Lake	1999, 2004	*12*	*24*				
Kernersville Lake	2000, 2004	*3*	*11*				
Lake Gaston	1996, 1999, 2000, 2004	*15*	*37*		5 %		
Lake Roxboro	1999, 2000-2002, 2004	*18*	*42*				2 %
Mayo Reservoir	1999, 2004	*9*	*18*				
Roanoke Rapids Lake	1999, 2004	*9*	*18*				
Roxboro City Lake	1999, 2004	*18*	*30*				
TAR-PAMLICO RIVER							
Lake Devin	1997,2002	*6*	*12*				
Tar River Reservoir	1997, 2002	*12*	*24*	8 %			8 %
YADKIN-PEE DEE RIVER							
Back Creek Lake	1999, 2001, 2002	*15*	*21*			5 %	
Badin Lake	1999, 2002	*48*	*63*	2 %	2 %	8 %	
Blewett Falls	1999	*0*	*3*			*	
Bunch Lake	1999, 2000, 2001	*2*	*8*				
High Rock Lake	1997, 1999, 2000-2005	*61*	*160*	31 %		12 %	10 %
Kannapolis Lake	1995, 2000	*2*	*8*				
Kerr Scott Reservoir	1999, 2000-2002	*9*	*33*				
Lake Concord	1995, 2000	*3*	*9*				
Lake Corriher	1999	*0*	*6*				
Lake Fisher	1995, 2000	*3*	*12*				8 %
Lake Lee	1995, 2000	*3*	*12*			25 %	
Lake Monroe	1995, 2000	*2*	*8*			*	
Lake Reese	1995, 2000-2002	*15*	*33*				
Lake Thom-A-Lex	1999, 2000-2002	*6*	*21*				8 %
Lake Tillery	1999	*0*	*12*				
Lake Twitty (Lake Stewart)	1995, 2000	*3*	*12*			58 %	
Lake Wright	1999	*0*	*4*			*	
McCrary Lake	1999- 2001	*2*	*8*			*	
Roberdel Lake	1995, 2000	*2*	*6*			*	
Rockingham City Lake	1995, 2000	*1*	*3*		*	*	
Salem Lake	1999-2002	*9*	*33*		3 %		

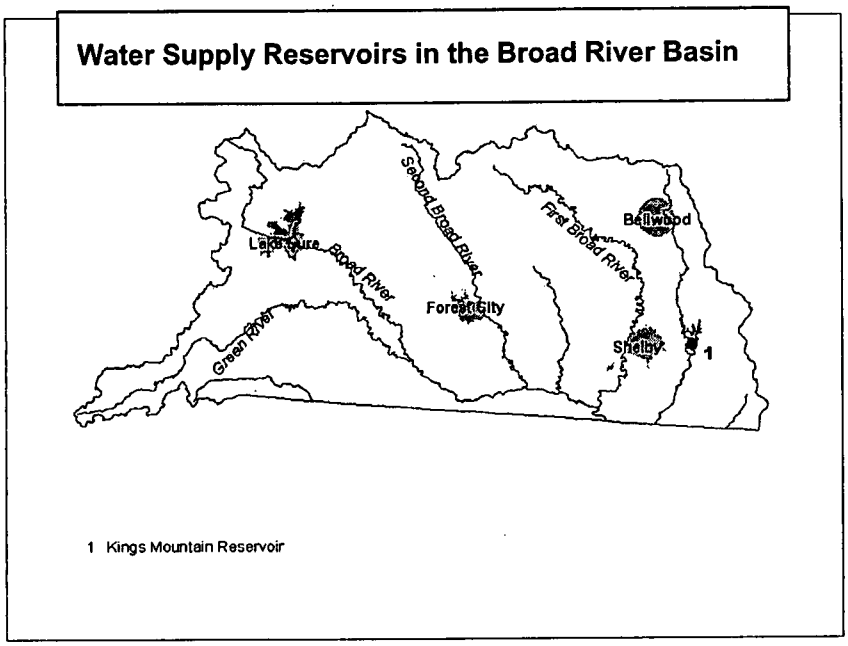
Basin & Lake Name	Years Included in Analyses	# of Chl-a Samples	# of DO, ph & Turbidity Samples	Percentage of Samples Not Meeting Each Standard During January 1995 through May 2005			
				Chl-a	DO	pH	Turbidity
Tuckertown Reservoir	1999	*0*	*6*				
Wadesboro City Pond	1995, 2000	*2*	*7*				
Water Lake	1995, 2000	*2*	*6*			*	

* Less than 10 samples but one or more exceeded the standard.

Appendix 2. Water Supply Reservoir Water Quality For Selected Water Supplies By Basin

These discussions include water supply reservoirs that have water quality concerns but that may not be exceeding any standards more than 10 percent of the time.

Broad River Basin



Basin Overview

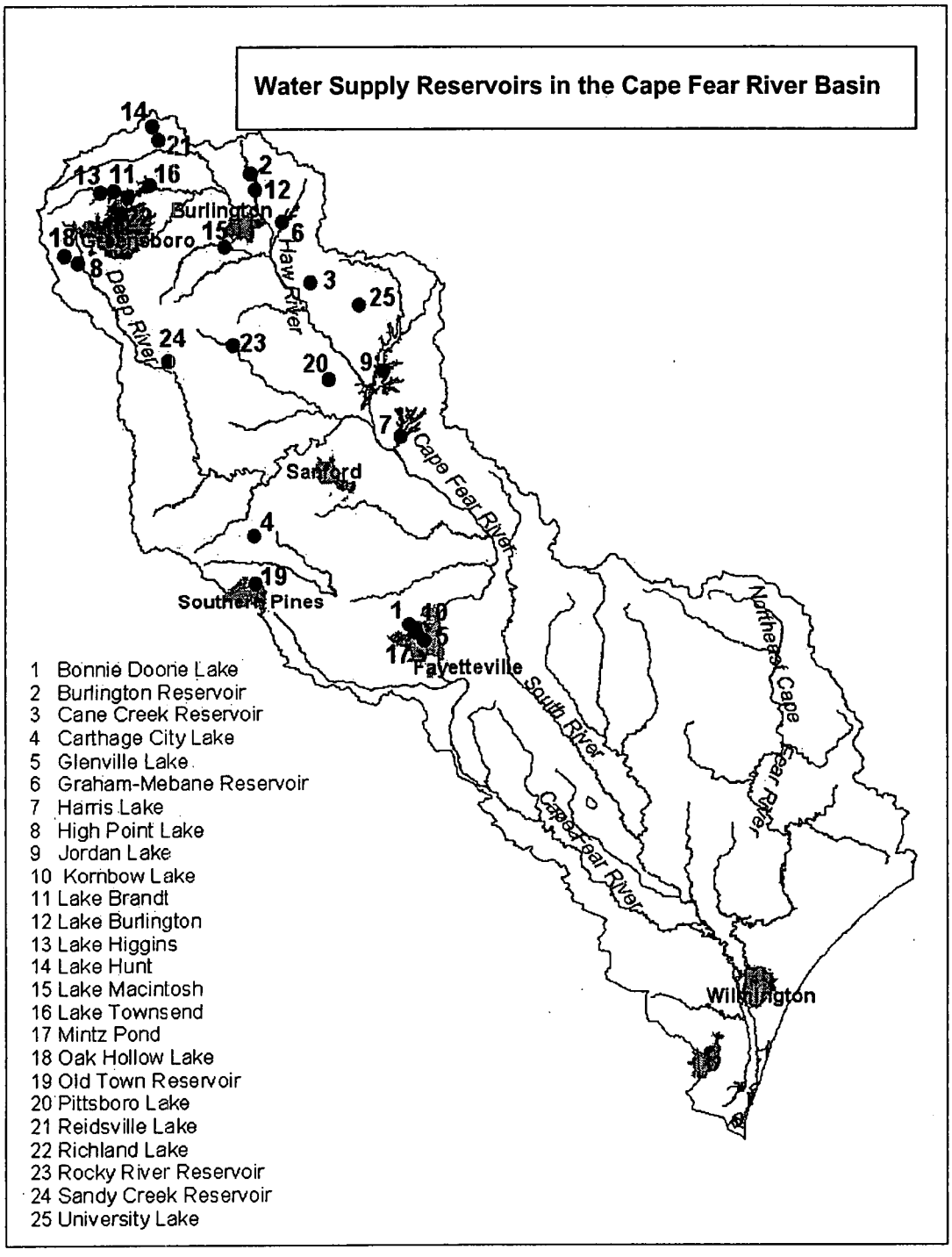
The Broad River Basin encompasses a 1,506 square mile watershed drained by 1,452 miles of streams. The three major tributaries to the Broad River are the Green, Second Broad and First Broad Rivers. Flowing from the Blue Ridge Mountains, the Broad River moves through the foothills before entering the piedmont southeast and east of Lake Lure. From there, the Broad flows through Rutherford and Cleveland counties then into South Carolina. The basin encompasses most of Cleveland, Polk and Rutherford counties and portions of Buncombe, Henderson, Lincoln and Gaston counties. Larger municipalities include Forest City, Kings Mountain, Lake Lure, Rutherfordton, Shelby and Spindale.

Kings Mountain Reservoir

Only one of the lakes sampled by DWQ in the Broad River Basin is classified as WS. That is Kings Mountain Reservoir. Kings Mountain Reservoir (also known as Moss Lake) is a water supply for the Cities of Kings Mountain and Grover. The reservoir was constructed in 1963. Major tributaries to the lake include Buffalo Creek and Whiteoak Creek. The drainage area is characterized by rolling hills and rural areas. Access to the lake is strictly controlled to allow recreational use while protecting water quality.

Two samples taken in 1992 exceeded the pH standard. Both samples were 9.2 standard units (SU). All the other 64 samples taken between 1989 and 2005 met the standards.

Cape Fear River Basin



Basin Overview

The Cape Fear River Basin is the largest river basin in the state, covering 9,149 square miles in 24 counties. There are an estimated 6,300 miles of streams and rivers in the basin confined to the Piedmont and Coastal Plain. These areas are further subdivided into Southern Outer Piedmont, Northern Inner and Outer Piedmont, Carolina Slate Belt, and Triassic Basin in the Piedmont. The Coastal Plain contains the Sand Hills, Rolling Coastal Plain, Carolina Flatwoods, and the Southeast and Mid-Atlantic Floodplains and Low Terraces subecoregions. The Cape Fear River is formed by the confluence of the Deep and Haw Rivers at the Chatham/Lee County line. B. Everett Jordan Reservoir is the largest impoundment in the basin. Several large tributaries join the river as it flows towards the Atlantic Ocean near Southport: Upper and (Lower) Little Rivers, Rockfish Creek, Black River, South River and the Northeast Cape Fear River.

Highly urban and industrialized areas around the cities of Greensboro, High Point, Burlington, Chapel Hill, and Durham in the upper part of the watershed and around Fayetteville and Wilmington in the middle and lower part characterize the basin. Fort Bragg Military Reservation occupies a large area in the middle of the basin.

The Division of Water Quality sampled 24 lakes classified as WS between 1981 and May 2005. Of these 4 exceeded water quality standards in more than 10 percent of the samples taken: Graham-Mebane Reservoir, High Point Lake, Jordan Lake, and Lake Mackintosh.

Pittsboro Lake is not discussed below, as it does not have a water supply intake; however, it is on the Impaired Waters list due to aquatic weeds and has some exceedances of the chlorophyll a, pH, turbidity and manganese standards.

Old Town Reservoir, which is no longer used as a water supply, is also not discussed below. The 13 samples that did not meet the pH standard were all below 6.0 SU and were due to natural inflows. Mill Creek, a black water creek with excellent water quality, feeds into Old Town Reservoir and reduces pH readings in the upper end of the reservoir.

Lakes with Water Quality Concerns

Graham-Mebane Reservoir

This reservoir serves the water supply needs for the Towns of Graham, Mebane, Green Level and Haw River. The reservoir is 11 years old and is an impoundment of Quaker and Back Creeks, encompassing the old Quaker Creek Reservoir. The immediate shoreline is primarily forested except for a few houses, a school, and some farmland.

The reservoir was most recently sampled in 2003. As had been observed in previous years, Secchi depths in 2003 were consistently less than one meter and the turbidity standard was exceeded twice. The turbidity standard was also exceeded once in 1998. The water was brown from suspended sediments. Nitrogen concentrations (nitrate/nitrite) were approximately three times those previously measured and generally ranged from moderate to elevated (0.62 to 0.79 mg/L). Total phosphorus concentrations were slightly elevated (0.04 to 0.05 mg/L).

These nutrients may have supported an increase in algal growth as indicated by chlorophyll-a concentrations. In July and August, chlorophyll-a concentrations exceeded the water quality standard of 40 µg/L five times (48 to 67 ug/L). These elevated concentrations were attributed to algal blooms consisting of *Gonyostomum* sp. This taxon is indicative of eutrophic conditions and can form nuisance blooms in the summer[1].

The increase in chlorophyll-a and turbidity is a concern in this water supply and warrants additional attention. Additional sampling is planned for this lake as resources allow.

[1] Wehr, J. D. and R. G. Sheath (eds.). 2003. Freshwater algae of North America: ecology and classification. Academic Press, San Diego, CA.

High Point Lake

High Point Lake (also known as City Lake) is used for water supply and recreation. Urban/residential areas and pasture/row crop farms dominate the watershed. The two arms of the lake are fed by the East Fork Deep River and the West Fork Deep River.

DWQ sampling found four exceedances of the chlorophyll-a standard and three exceedances of the manganese standard. However, the City of High Point has a more extensive monitoring program and has documented numerous complaints regarding taste and odor related back to algal blooms in High Point Lake. They also have documented elevated pesticides.

To reduce this problem, the water treatment plant currently treats the raw water to reduce algae-related taste and odor problems. They have also installed a forced air destratification system in the lake to increase mixing and address dissolved oxygen concerns. In addition to summer algal blooms, the City documented a winter bloom that it attributed to the use of fertilizer as a deicer during a winter ice storm.

Water clarity has decreased since 1984. This reduction in clarity has been associated with algal blooms and two highway construction projects (one for I-40 and the other for Hwy 73/74 Bypass). *Lyngbya wollei*, a filamentous blue green alga that forms thick mats, which clog water intakes and foul boat motors, has been the dominant species in this lake.

In the 2005 Cape Fear River Basinwide Water Quality Report, High Point Lake was declared Impaired for aquatic life because 3 out of 12 chlorophyll-a samples exceeded the water quality standard during 2003. That report recommends that High Point and Greensboro use their respective stormwater programs to address water quality problems, including reductions in the nutrient loading that is driving the algal blooms in High Point Lake.

High Point Lake will be added to the 303(d) list.

B.E. Jordan Reservoir

B. Everett Jordan Reservoir (Jordan Lake) is located in Chatham County in the eastern piedmont of North Carolina. The United States Army Corps of Engineers created the lake for various purposes including flood control, fish and wildlife habitat, recreation, and water supply. The dam was completed in 1974; however, initial filling of the lake did not occur until late 1981 as a result of legal and construction problems.

Major inflows into Jordan Lake are the Haw River and New Hope and Morgan Creeks. The Haw River has an average hydraulic retention time of five days and accounts for 70-90 percent of the annual flow through Jordan Lake. The New Hope arm of the lake has an average hydraulic retention time of 418 days. The Jordan Lake watershed encompasses 1,686 square miles and includes parts of Alamance, Caswell, Chatham, Durham, Forsyth, Guilford, Orange, Randolph, Rockingham and Wake counties. It includes all or portions of the urban areas of Durham, Chapel Hill, Cary, Burlington, Greensboro and several other small municipalities.

In 1983, Jordan Lake was classified as NSW based on water quality sampling showing increasing nutrient loading and documenting algal blooms and other biological impacts. As a result of the classification, a plan to reduce nutrient inputs was developed that required total phosphorus limits of 2.0 mg/L for NPDES permitted wastewater facilities with permitted flows greater than 0.005 MGD[2]. Due to special concerns for the Upper New Hope Arm of the reservoir, NPDES facilities received TP limits of 0.5 mg/L during the months of April to October (algal growing season).

Algal blooms have been documented by DWQ from August 1982 through May 2005 with 311 exceedances of the chlorophyll-a standard out of 1015 samples (31 percent). During 2003 in June, July and August, 38 percent of the chlorophyll-a samples taken by DWQ were above 40 ug/L. During 2005 between January and mid-April, 44 percent of the samples were above 40 ug/L.

Blooms of blue-green algae associated with taste and odor problems in drinking water

[2] DENR. 2005. 2005 Cape Fear River Basinwide Water Quality Plan. http://h2o.enr.state.nc.us/basinwide/index.htm

were observed in July 2003. As part of special monitoring in 2005, algal samples were analyzed monthly. Jordan experienced moderate to severe algal blooms (densities between 20,000 to 49,500 units/ml) during January and throughout the summer. Chlorophyll-a concentrations in January exceeded the standard twice (43 & 46 ug/L). The dominant species by density during January was a filamentous blue green alga (*Planktothrix sp.*). Chlorophyll-a concentrations also exceeded the standard during February, March and April.

Measurements of pH (another indicator of algal activity) were elevated at times with 64 samples above the pH standard of 9.0 SU. Other parameters that exceeded water quality standards included dissolved oxygen, turbidity and manganese.

Jordan Lake was listed as Impaired in 2002 for chlorophyll-a and a draft TMDL has been developed for EPA approval. That process involved a formal stakeholder process, which included a total of 21 stakeholder meetings between May 2003 and December 2004. An implementation plan is being developed with the Jordan Stakeholders' participation[3].

DWQ and the EMC will continue to work with the stakeholders to develop an implementation plan. Additional monitoring is planned for Jordan Lake over the next 4 years to assist in developing a baseline to compare with water quality after control actions are in place.

Lake Mackintosh

Lake Mackintosh, an impoundment of Big Alamance Creek, is a 10-year-old water supply reservoir for the City of Burlington. The lake is used for secondary recreation – only electric trolling motors are allowed or paddle boats, no swimming. The surrounding land is comprised of pastures and farmland with a few houses. The reservoir has been sampled 12 times by DWQ.

This lake has experienced algal blooms since its creation and the dominant algal species has been blue-green alga associated with taste and odor problems. In addition to regular ambient lakes monitoring, DWQ has done additional sampling at the request of the City of Burlington due to taste and odor problems at the Water Treatment Plant. The dominant species at those times was a small filamentous blue green alga, *Aphanizomena flos-aquae*. No reports of taste and odor problems have been received since 1997 even though algal populations were elevated in 2003 as shown by chlorophyll-a and biovolume estimates. Chlorophyll-a concentrations ranged from 12 to 65 ug/L and biovolume in samples analyzed by DWQ ranged from 4,000 to 31,000 units/ml. DWQ considers a bloom to be present if concentrations are above 10,000 units/ml. The species present in 2003 was *Lyngbya sp.*, a common planktonic blue green that can be found in reservoirs throughout North Carolina. This species has also been known to cause taste and odor problems.

Algal blooms are to be expected in the first years of a reservoir's life as the organic materials that were there during filling decay and release nutrients. According to Stephen Shoaf, City of Burlington Director of Utilities, the reservoir has settled down and the City continues to monitor alga in the reservoir. DWQ data indicate that highest nutrients are found in the Big and Little Alamance Creek Arms of the lake.

In addition to elevated algal populations, the lake has about two acres of creeping waterprimrose, a nuisance aquatic weed whose scientific name is *Lugwigia hexapetala*. The lake was treated in 2004 and 2005 by herbicides to address the problem.

Bonnie Doone Lake

Bonnie Doone Lake is located in close proximity to Fort Bragg Military Base. Firebreaks located on the base and the sandy soil contribute large amounts of sediment into the lakes through stormwater runoff. The surrounding shoreline of Bonnie Doone is forested; however, development is increasing in the watershed. The western side of the lake beyond the forested buffer is urbanized. The City of Fayetteville controls access to this water supply and monitors the

[3] More information on that process is available at http://h2o.enr.state.nc.us/tmdl/.

lake on a regular basis. Their monitoring program is more comprehensive than DWQ's, sampling more frequently and analyzing for more parameters. They are proactive in identifying sources and instituting controls.

All three samples in 2003 had low pH values. The City of Fayetteville has also noted low pHs and believes that they may be attributed to the soft water interfering with pH and conductivity readings[4]. This region has sandy soils and tannic streams. All other standards were met. Programs such as the City of Fayetteville's are to be encouraged and supported as they provide more frequent assessments of water quality and quicker response to problems.

Lake Cammack

Lake Cammack, also called Burlington Reservoir, is a water supply storage reservoir for the City of Burlington located upstream of Stoney Creek Reservoir, the City's primary water supply source. Lake Cammack is located at the confluence of Stoney and Toms Creeks in Alamance County. The immediate watershed area consists primarily of forested and agricultural land, although there is some development beginning in the watershed.

The reservoir was most recently monitored in 2003. In response to the availability of nutrients, algae growth increased as evidenced by elevated chlorophyll-a concentrations. Chlorophyll-a concentrations in the upper end of the lake during June and August (45 and 52 µg/L, respectively) were greater than the water quality standard of 40 µg/L. *Chrysochromulina* sp. dominated the June algal bloom. In August, the bloom was of the filamentous blue green *Anabaenopsis raciborskii*. These taxa are known to cause taste and odor problems in drinking water supplies.

There were the only two chlorophyll-a samples out of 14 (7 percent) above the standard. The City of Burlington has treated Lake Cammack to control *Lyngbya wollei*, a filamentous blue green that forms wooly mats[5].

Manganese concentrations exceeded the WS standard in one sample out of 14 samples taken between 1981 and 2005. No instances of taste and odor problems have been reported to DWQ.

Stoney Creek Reservoir

Stoney Creek Reservoir, an impoundment of Stony Creek downstream of Lake Cammack, is the primary water supply reservoir for the City of Burlington. This reservoir is also known as Lake Burlington. The immediate watershed is characterized by rolling hills and agriculture is the most common land use.

The reservoir was most recently monitored in 2003. The water was brown from suspended sediments and exceeded the turbidity standard twice. Total phosphorus concentrations in July and August 2003 were greater than those previously observed. During the summer, nitrogen concentrations were also greater than those values previously observed. Despite the availability of these nutrients, 2003 chlorophyll-a concentrations were not greater than the water quality standard of 40 µg/L (probably due to shading from the suspended sediments). However, chlorophyll-a concentrations were above the standard in July 1990 at both stations.

There are no NPDES permitted facilities in these watersheds; agricultural nonpoint sources of pollution and habitat degradation (severe bank erosion and sandy, embedded substrate) are currently the main concerns. The 2005 Cape Fear River Basinwide Water Quality Plan[6] noted problems in the watershed related to drought conditions and habitat degradation from land disturbing activities.

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[4] Sidney Post, Fayetteville Public Works Commission; personal communication December 28, 2005

[5] Stephen Shoaf, Utilities Director for the City of Burlington; personal communication December 29, 2005

[6] DENR. 2005. 2005 Cape Fear River Basinwide Water Quality Plan. http://h2o.enr.state.nc.us/basinwide/index.htm

Mintz Pond

The immediate shoreline of Mintz Pond is forested but the lake is surrounded by urban development. The impoundment is shallow with a maximum depth of only five feet at the dam.

In 2003, large areas of water lilies (*Nymphaea odorata*) were observed along the shoreline and upper end of the lake. Water lilies have been observed along the lake shoreline since 1998 but are not at nuisance levels. Smaller beds of watershield, *Brasenia schreberi,* were also observed. Variable-leaf watermilfoil is found throughout the lake. The macroscopic alga, *Nitella* sp., grows on the lake's bottom; it is an indicator of clear water.

The single exceedance of the turbidity standard was from the 1993 sampling period. Since then turbidities have ranged from 3.1 to 15 mg/L, well below the lake turbidity standard for 25 mg/L.

As with Bonnie Doone, pH measurements were below the standard. The City of Fayetteville attributes this to the softness of the water and continues to do additional research to determine how best to sample these waters. Tannic inflows may contribute to the low pH measurements found in this lake.

The City's monitoring program measures water quality more frequently and monitors for more parameters than DWQ. They actively pursue source identification and control.

Cane Creek Reservoir

Cane Creek Reservoir was built in 1989 by Orange Water and Sewer Authority (OWASA) to serve as a water supply reservoir for the Town of Chapel Hill. A majority of the 20,262-acre watershed is forested with some agriculture. Since 1997, OWASA has been acquiring acreage in the watershed to help protect the watershed. As of 2003 they had received approximately $1.75 million to purchase 1,559 acres plus 467 acres in conservation easements. The Haw River Assembly has also received a mini-grant of $25,000 to purchase six tracts along Cane Creek and the Haw River.

DWQ has sampled the reservoir 11 times since 1990. In 2003 concentrations of nutrients ranged from moderate to elevated and chlorophyll-a concentrations were elevated during summer sampling. Blue green algal blooms also occurred throughout the summer. Chlorophyll-a concentrations were measured up to 170 ug/L, which is over four times the water quality standard of 40 ug/L. The pH measurements exceeded the standard in 1996 and may have been indicative of algal blooms.

The 2005 Cape Fear River Basinwide Water Quality Report recommends working with the Division of Soil and Water Conservation (DSWC) to address agricultural nutrient sources and to add additional sampling as part of the Ambient Lakes Program. OWASA is continuing to work on local awareness and controls.

Lake Brandt

Lake Brandt is one of three primary water supplies for Greensboro, the third largest city in North Carolina. The lake covers approximately 410 acres and has a drainage area of approximately 40.2 square miles. The shoreline of Lake Brandt is forested and the watershed contains of a mix of residential developments, pastures, row crop fields and scattered small businesses.

Of the samples taken since 1981, three out of 30 chlorophyll-a samples were above 40 ug/L. Those samples were taken in 1982 and 1993. None of the nine samples taken in 2003 were above the standard.

Other parameters that were above state standards were pH in 1981, turbidity (1 sample in 2003) and manganese (1 sample in 1988).

The turbidity sample of 2003 was not associated with any elevated chlorophyll-a but was from the shallowest station (4 feet) and could represent bottom disturbance.

Lake Hunt

Lake Hunt has been sampled by DWQ since 1981. The lake is now used for recreational purposes, but served as the Town of Reidsville's primary water supply until 1979, when Reidsville Lake was built. Lake Hunt is on an unnamed tributary to Troublesome

Creek. The boat launch area is privately owned and public access is restricted. Land use was primarily agricultural although residential development is occurring upstream.

Data collected in 2003 indicated elevated dissolved oxygen and chlorophyll-a concentrations. Nutrient concentrations ranged from moderate to elevated. These characteristics indicated increased algal productivity and resulted in the lake being classified as eutrophic (over-enriched with nutrients). In previous years, the lake had been classified as mesotrophic or oligotrophic (moderate and low nutrient enriched).

Elevated pH measurements (above standard of 9.0 SU) were recorded in 1981. No other elevated pHs have been reported since that year.

The 2005 Cape Fear River Basinwide Water Quality Report notes that there are water quality issues in the Troublesome Creek watershed and states that DWQ will work with the Division of Soil and Water Conservation staff to further implement best management practices (BMPs) to reduce the impacts of agriculture in the watershed. In addition, acquisition of 500 acres along the Haw River and Troublesome Creek by the Piedmont Land Conservancy may provide additional protection to this portion of the watershed.

Lake Reidsville

Lake Reidsville (also called Reidsville Lake) is a water supply reservoir located on Troublesome Creek just outside of, and owned by, the City of Reidsville. The topography of the immediate watershed is characterized by rolling hills and land use is mainly row crop and pastures along with residential and commercial development. Rockingham County limits activities in the watershed with strict zoning laws; the reservoir has a 100-foot buffer with a 50-foot buffer on all tributary streams. A city park with a boat launch area is located off of SR 2435.

Chlorophyll-a concentrations exceeded the standard in four out of six samples in 2003 and were more than twice the concentrations recorded in 1988 and 1993. One turbidity sample taken in 2003 was above the lake standard of 25 NTU (34 NTU).

Hydrilla *(Hydrilla verticillata)*, an invasive non-native aquatic weed, is present in Lake Reidsville and, in 2004, the City of Reidsville planned to treat 400 acres of the lake by stocking it with 6,000 grass carp with matching funding from the Division of Water Resources. This treatment did not occur and, per Mr. Steve Routh, the City of Reidsville is considering other control options[7]. The City is considering cold weather drawdown to freeze the Hydrilla out and is in discussion with the City of Greensboro to utilize their equipment and expertise for chemical control.

Mr. Routh noted that water quality in Lake Reidsville was very good and that they had not seen any blooms. Based on this information, it is recommended that no action be taken regarding use support determinations until additional sampling can be conducted to verify the 2003 data. DWQ staff will also work with DSWC staff to implement additional BMPs in the watershed.

Oak Hollow Lake

This reservoir, an impoundment of the West Fork Deep River, is commonly used for recreational activities. It has a maximum depth of 36 feet. The watershed is characterized by urban, residential, and some agricultural land uses; two 18-hole golf courses are along the shoreline. The reservoir has been sampled 23 times by DWQ since 1981.

Only turbidity and manganese measurements exceeded state standards. One turbidity sample of 26 NTU was recorded in July of 1997 and two manganese samples of 210 and 250 ug/L were recorded in August 2003 and July 2000.

Due to problems with anoxia (dissolved oxygen concentrations near or at 0 mg/L) in the water column, the City of High Point installed a destratification system. No

[7] Steve Routh, City of Reidsville Public Works; personal communication December 29, 2005

surface dissolved oxygen measurements were below standards in DWQ sampling; however, during stratification the lake did exhibit low dissolved oxygen up to around 9 feet (maximum depth is approximately 30 feet).

West Fork Deep River is rated as Impaired for Aquatic Life use support in the Draft 2005 Cape Fear River Basinwide Water Quality Report due to exceedances of the fecal coliform bacteria and turbidity standards. Actions taken to address these problems will also provide protection for Oak Hollow and should provide some nutrient loading reductions as a by-product.

Additional sampling will be conducted at the reservoir to allow a full use support assessment as resources become available.

Pittsboro Lake

Pittsboro Lake is a small impoundment of Robeson Creek (Figure 32). The reservoir was originally a system of two separate ponds connected by a canal. Hurricane Floyd in September 1999 destroyed the canal, resulting in the formation of a single, shallow waterbody. The maximum depth is seven feet. The drainage area is composed of forested, urban, and agricultural areas. This lake has been sampled seven times by DWQ.

The reservoir was most recently monitored in 2003. It was classified as eutrophic throughout the period. Mild to severe algal blooms occurred throughout the summer sampling period. The blooms were dominated by *Chrysochromulina* sp., an indicator of eutrophic conditions and which can cause taste and odor problems in drinking water supplies (Wehr and Sheath 2003). No blooms occurred at the other station due to the large amounts of aquatic macrophytes and less open water found at the site.

Parrot feather, *Myriophyllum aquaticum*, has been found in the reservoir. The submerged macrophyte is highly invasive and forms dense growths providing excellent habitat for mosquitoes. It is difficult to eradicate and is inedible to Grass carp. Excessive macrophyte growths were also noted in 1998. This reservoir is on the 303(d) list of impaired surface waters because of the excessive growths of aquatic weeds.

In 2000, the Town of Pittsboro (owners of the dam) had considered breaching the dam and restoring Robeson Creek and its riparian buffer back to their natural conditions. This restoration project has been delayed pending improvement of the local economy.

Rocky River Reservoir

The Rocky River Reservoir, a water supply reservoir for Siler City, is an impoundment of the Rocky River high in its watershed. The reservoir was most recently sampled in 2003. This reservoir demonstrated excessive nutrient enrichment and very high levels of biological productivity.

Frequent rainfall events during the summer of 2003 may have increased the amount of nonpoint source runoff from the rural watershed to the reservoir and increased the nutrient loading. The watershed is primarily agricultural with some pasture immediately adjacent to the lake. Cattle and horses have direct access to the upper end of this reservoir. Pastureland for these animals slopes downhill to the water's edge. This provides one source of nonpoint nutrient contributions to the reservoir.

Water clarity was consistently poor throughout 2003, and water quality standards were exceeded for chlorophyll-a. During a special study in 2002, nutrients and conductivity values were found to be elevated upstream of the reservoir in the Rocky River and the North Prong Rocky River as well.[8]

This reservoir, an impoundment of the Rocky River, serves as a water supply for Siler City. The impoundment was expanded in 1988 to raise the existing storage capacity from 60 million gallons to 424 million gallons. The expansion raised the water level by approximately 10 feet. Another expansion is planned for 2006.

In order to expand the reservoir a portion of the Rocky River below the current dam had to be reclassified to WS-III CA. Additional

[8] DWQ. 2002. Internal Data Review.

monitoring and watershed controls were required as part of the reclassification and 401 Water Quality Certification & Isolated Wetland Permit process. These requirements include addressing problems related to agriculture in the watershed. Siler City is currently participating with DWQ and other stakeholders in developing monitoring strategies for the lower river and is planning to assist with a workshop on determining current activities related to water quality in the entire Rocky River watershed.

DWQ intends to continue working with the local stakeholders on addressing nutrient loading to the watershed.

Lake Ramseur

Lake Ramseur, a raw source of water for the Town of Ramseur, is located northwest of the city in Kermit Pell Park on Sandy Creek. Also known as Sandy Creek Reservoir, the lake covers 125 acres. The lake is formed by the impoundment of Big Sandy and Little Sandy Creeks. The maximum depth is 48 feet. The immediate watershed is moderately developed. Major land uses are forestry and agriculture. The reservoir has been sampled eight times by DWQ since 1992.

The reservoir was most recently sampled in 2003. Nutrient concentrations were elevated and supported increased algal productivity as indicated by the elevated chlorophyll-a concentrations. During the summer chlorophyll-a concentrations were greater than the water quality standard of 40 µg/L. Algal blooms, composed primarily of diatoms and blue greens, occurred throughout the summer. The blooms were most prevalent near the dam. The algal species found are associated with taste and odor problems in drinking water supplies. DWQ has not received any complaints regarding taste and odor in the lake.

In 1997, the Piedmont Land Conservancy received a $134,000 Clean Water Management Trust Fund (CWMTF) grant to acquire 144 acres of permanent easements in this watershed.

University Lake

University Lake was built in 1932 by UNC Chapel Hill. University Lake holds 450 million gallons of water. Its tributaries include Morgan Creek, Phils Creek, Neville Creek, Price Creek and Pritchards Mill Creek. The lake has a 213-acre surface area. Carrboro and Chapel Hill use University Lake as a drinking water source.

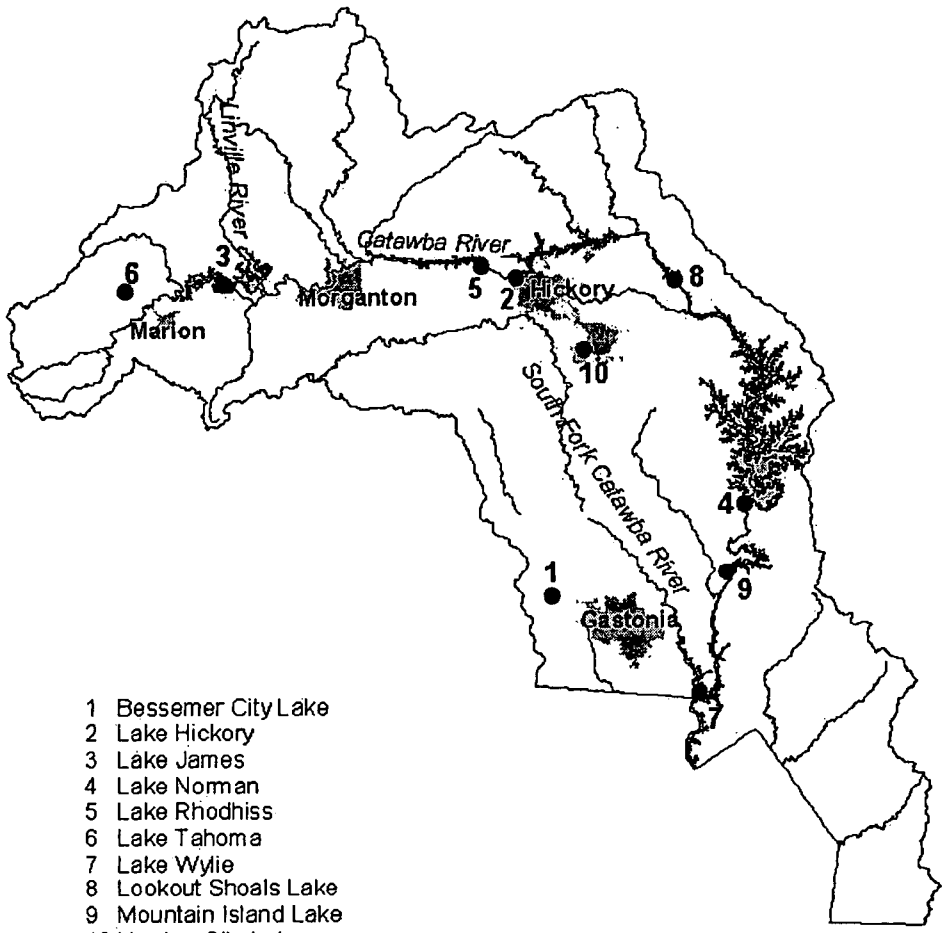
The reservoir was most recently sampled in 2003. Nutrient concentrations were elevated and supported increased algal productivity as indicated by the elevated chlorophyll-a concentrations. During the summer five chlorophyll-a concentrations (58, 99, 160, 73, & 62 ug/L) were greater than the water quality standard of 40 µg/L. Algal blooms, composed primarily of diatoms and blue greens, also occurred throughout the summer. The blooms were most prevalent near the dam. *Chrysochromulina breviturrita*, *Lyngbya* sp. and *Aphanizomenon flos-aquae*, blue-green algae, were the dominant summer species and are known to cause taste and odor problems in drinking water supplies.

In August 2005, public complaints were received regarding the water in University Lake being red in color and an investigation found that a *Euglena* bloom was occurring. The species present turned bright red in the sunlight and covered much of the lake's surface (Ed Holland, Orange Water and Sewer Authority (OWASA); email August 25, 2005). Rainfall early the next morning dispersed the bloom. Euglenids are known for being very mobile and dispersing quickly. No taste and odor problems nor treatment issues were noted by OWASA. The only water quality parameter that was elevated at this time period was ammonia in the lower water column. This potentially could be the trigger as Euglenids thrive on elevated ammonia concentrations.

The city has done much to protect the University Lake watershed and continues to identify and eliminate pollution sources. It is recommended that such proactive management continue.

Catawba River Basin

Water Supplies Reservoirs Sampled by DWQ in the Catawba River Basin



1 Bessemer City Lake
2 Lake Hickory
3 Lake James
4 Lake Norman
5 Lake Rhodhiss
6 Lake Tahoma
7 Lake Wylie
8 Lookout Shoals Lake
9 Mountain Island Lake
10 Newton City Lake

Basin Overview

The Catawba River basin, along with the Broad River basin, forms the headwaters of the Santee-Cooper River system, which flows through South Carolina to the Atlantic Ocean. The basin is the eighth largest river basin in the state covering 3,279 square

miles in the south central portion of western North Carolina. The Catawba River has its source on the eastern slopes of the Blue Ridge Mountains near the Town of Old Fort in McDowell County, and flows eastward, then southward, to the state line near Charlotte. The basin encompasses all or part of 12 counties: Alexander, Avery, Burke, Caldwell, Catawba, Gaston, Iredell, Lincoln, McDowell, Mecklenburg, Union, and Watauga. Large urban areas include Belmont, Charlotte, Conover, Gastonia, Hickory, Lenoir, Lincolnton, Mooresville, Morganton, Mt. Holly, and Newton.

Once out of the mountains, the flow of the Catawba River is regulated by a series of hydroelectric dams. These dams form the Catawba Chain Lakes: Lake James, Lake Rhodhiss, Lake Hickory, Lookout Shoals, Lake Norman, Mountain Island Lake and Lake Wylie. All of these lakes are classified as WS-IV in all or portions of their waters. In addition to the chain lakes, Lake Tahoma, Newton City Lake and Bessemer City Lake carry WS classifications and were reviewed for water quality standard exceedances.

Lakes in the Catawba River Basin that met water quality standards were: Lake James, Mountain Island Lake, Newton City Lake, Lake Norman and Bessemer City Lake. Lake Tahoma, although it carries the WS-II classification, is not currently used for water supply and had only one pH value that was below the standard.

One of the largest problems facing water users in this basin is nuisance growths of aquatic weeds. All of the chain lakes have some species of noxious weed that requires control. Hydrilla has been found in Mountain Island Lake, Lake James and Lake Norman. Parrotfeather, *Myriphyllum aquaticum,* has infested the upper ends of Lake Hickory and Lookout Shoals Lake. This situation is becoming more prevalent and the Division of Water Resources is working to assist citizens throughout the state in controlling noxious weeds.

Water quality in the other lakes is discussed in the following paragraphs. This discussion is organized such that Lake Rhodhiss, Lake Hickory and Lookout Shoals are reviewed first due to their interdependence. That review is followed by a discussion of Lake Wylie.

Lakes with Water Quality Concerns

Lake Rhodhiss

Lake Rhodhiss, which is owned by Duke Energy, is located between Lake James and Lake Hickory on the Catawba River. This is a run-of-the-river reservoir was built in 1925. It has 90 miles of shoreline, a surface area of approximately 3,060 acres and a mean hydraulic retention time of 21 days. Under the right temperature, light, and nutrient conditions, the longer retention times give algal populations an opportunity to bloom. The lake has been rated as eutrophic since the division began sampling it in 1981.

Beside hydroelectric power production the reservoir is used as a water supply and for public recreation. Granite Falls, Lenoir, Morganton and Valdese get their raw drinking water from Lake Rhodhiss.

Drought conditions that increased retention times and nuisance algae (especially blue-greens) blooms were recorded in 2001 and 2002. Public complaints of taste and odor problems in processed lake water resulted in a special study to investigate the extent and nature of the algal blooms. The study determined the existence of 15 well-established algal communities; five of which are known to cause taste and odor problems in processed drinking water.

During 2002, two out of 23 chlorophyll-a samples were above the state standard. It is not surprising that there were not more exceedances of the chlorophyll-a standard given the nature of the algal species present during that summer. Filamentous blue-green algae that have been linked with taste and odor problems were among the dominant species. These algae can regulate their location in the water column, tending to prefer the surface and as a result standard water column sampling may result in underestimation of their populations. These species also have smaller stores of chlorophyll-a than some of the other algal species and therefore must be in extremely high concentrations to exceed the chlorophyll-a standard. There were sufficient populations of these taste and odor producing algae to make it necessary for the water treatment plants to add

activated charcoal to their treatment process.

In 2005 Lake Rhodhiss and Lake Hickory again experienced blue-green algal blooms and the Water Treatment Facilities received complaints of bad taste and odor.

Due to the proximity of the chain lakes, water quality in Lake Rhodhiss has a direct impact on Lake Hickory and, in turn, Lake Hickory impacts water quality in Lookout Shoals Lake. A synopsis of the recommendations for addressing Lake Rhodhiss eutrophication problems is provided following the review of water quality in Lake Hickory and Lookout Shoals.

Lake Hickory

Lake Hickory is a run-of-the-river impoundment located between Lake Rhodhiss and Lookout Shoals Lake on the Catawba River. The lake is owned by Duke Energy and is used to generate hydroelectric power, for public water supply and recreational purposes. Hickory and Longview use Lake Hickory as a source of raw drinking water. The lake covers almost 4,223 acres with 105 miles of shoreline.

The water quality in Lake Hickory is driven by a variety of stressors including runoff from rural and urban areas, NPDES discharges, and perhaps most notably, the discharge from Lake Rhodhiss.

Lake Hickory has been sampled 22 by DWQ since 1984. This reservoir was consistently evaluated as eutrophic based on summer samples from 1984 to 1992. Since then, however, the reservoir has been more frequently evaluated as mesotrophic. High productivity was indicated in August 2002, but no visible algal blooms were observed.

In 2001, Duke Energy staff discovered Parrotfeather, *Myriophyllum aquaticum*, an invasive aquatic macrophyte, in the reservoir. Since 2001, the original 10-acre infestation has spread to 84 acres near the NC 321 bridge. Two drinking water intakes are located nearby and have the potential of becoming clogged by this plant. Businesses that rely on water-based recreation are also concerned because the infestation makes boating and swimming impossible where it is thickest. Duke Energy along with stakeholders and DWQ are working to develop and implement a Parrotfeather management program for the reservoir.

The Town of Hickory experienced taste and odor problems in their drinking water in 2002. Algal samples in May 2002 indicated the presence of filamentous blue-green algae (known taste and odor contributors) in Lake Hickory and Lake Rhodhiss. These problems persisted until algal populations died back in Lake Rhodhiss.

Lookout Shoals Lake

Lookout Shoals Lake, situated directly below Lake Hickory and about 9 miles above Lake Norman, is one of the smaller Catawba River Chain Lakes. The watershed draining to the impoundment is relatively small, its largest tributary being the Lower Little River. The Lower Little River drains a predominately forest and agriculture area and carries a significant sediment load. Duke Energy owns the lake. Uses of Lookout Shoals include: generation of hydroelectric power, recreation, and public water supply. The lake's water quality is more reflective of releases from upstream impoundments (Lakes Hickory, Rhodhiss, and James) than conditions in the immediate watershed due to the short retention time.

Lookout Shoals Lake's main issue has been Parrotfeather. This noxious aquatic weed has taken over the entire lake and raises concerns that turbines at the hydro plants might be clogged if large mats break off. In 2002 the entire lake was drawn down in order to kill the Parrotfeather; however, rains prevented the draw down from being fully effective.

Currently, Duke Power is supporting an aquatic plant management research project in Lookout Shoals Reservoir in cooperation with NC State University, the NC Wildlife Resources Commission and the NC Wildlife Habitat Foundation[1]. This master's degree study is designed to determine the management impact of stocking sterile

[1] Kenneth L. Manuel, Aquatic Plan Management and Mosquito Control Program Leader, Duke Power Company. Personal communication January 23, 2006.

Asian grass carp in Lookout Shoals Reservoir for the control of Parrotfeather. A major component of the study assesses the impact of the grass carp stocking on the sport-fishery of the reservoir. The study includes the stocking of 9200 sterile grass carp lake-wide and the placing of eight "exclosures" to exclude the grass carp from selected Parrotfeather beds. Sterile Asian Grass Carp were stocked in Lookout Shoals Reservoir on May 25 and June 7, 2005. A total of 9200 grass carp were stocked in support of the project. Preliminary results should be available in late 2006 or early 2007.

Management Recommendations for Lake Rhodhiss, Lake Hickory & Lookout Shoals

The close relationship between Lake Rhodhiss, Lake Hickory and Lookout Shoals Lake has led DWQ to conclude that a regional watershed management plan, encompassing both drainage areas, must be developed to address the water quality concerns in these reservoirs[2]. This planning effort must include cooperation and input from all stakeholders from the local to federal levels. Community-based efforts are already underway by Caldwell County, Burke County and others. For more information on these efforts see the Catawba River Basinwide Water Quality Plan[1]. DWQ plans to support and encourage these efforts, but recognizes that funding from a variety of sources must be made available to ensure long-term success of any planning and implementation.

Lake Rhodhiss is being added to the Impaired Waters List.

Lake Wylie

Lake Wylie is the most downstream reservoir in the chain lakes. The reservoir was formed by the impoundment of the Catawba River in 1904 by a hydroelectric dam located near Fort Mills, SC. Duke Energy owns the lake. There are more than 327 miles of shoreline with the majority of the reservoir in South Carolina.

The immediate watershed of Lake Wylie is being converted from forested and agricultural areas to more urban land uses. This reservoir was eutrophic in 2001 and 2002. However, as a result of the City of Gastonia decommissioning its Catawba Creek WWTP and redirecting this effluent to the improved Long Creek WWTP, the Crowders Creek arm has shown an overall decrease in total phosphorus and total nitrogen. The City of Gastonia is the largest urbanized area located within the Crowders Creek watershed.

The reservoir was most recently monitored in 2001 and 2002. During both years, the reservoir was classified as eutrophic. The sampling site in the Crowders Creek Arm consistently had elevated surface dissolved oxygen and pH values in 2002. Crowders Creek is on the 303(d) list for biological impairment due to urban runoff and storm sewer contributions.

Lake Wylie and several of its major tributaries have experienced eutrophic conditions for decades. A joint study by DWQ and South Carolina Department of Environmental Control from April 1989 to September 1990 resulted in nutrient limitations for dischargers in an effort to reduce nutrient loading. Initially, minimum requirements were for a 5-day biochemical oxygen demand (BOD_5) of 15.0 mg/L, ammonia (NH_3) at 4.0 mg/L, and dissolved oxygen at 5.0 mg/L. Additional recommendations were made in 1995:

- Any new or expanding facility with a permitted design flow greater than or equal to 1.0 MGD must meet monthly average limits of 1.0 mg/L total phosphorus and 6.0 mg/L summer total nitrogen.
- For facilities with a permitted design flow of less than 1.0 MGD but greater than 0.05 MGD, a total phosphorus limit of 2.0 mg/L was recommended;
- Dischargers into Catawba Creek with a permitted design flow $\geq$ 0.05 MGD would have to meet a limit of

[2] DENR 2002. 2002 Catawba River Basinwide Water Quality Plan. http://h2o.enr.state.nc.us/basinwide/index.htm

0.5 mg/L total phosphorus and total nitrogen limits in the summer of 4.0 mg/L and 8.0 mg/L in the winter by January 1, 2006;

- Dischargers to Crowders Creek with a permitted discharge design of ≥ 1.0 MGD would have to reach a nutrient limit of 1.0 mg/L total phosphorus and 6.0 mg/L for total nitrogen in the summer by January 1, 2000.

The elevated percent dissolved oxygen saturation values in the reservoir coupled with elevated nutrient concentrations indicated that the best uses of Lake Wylie might be threatened by increasing biological productivity. Although 2001 and 2002 were drought years which limited nonpoint source runoff, the eutrophic conditions observed suggested that the lake may have sufficient nutrients coming into the lake from point sources as well as from internal cycling to maintain elevated biological productivity. Increasing urbanization of the watershed also threaten the best uses of this lake.

Since the 1995 recommendations, the City of Gastonia has decommissioned the Catawba Creek WWTP and redirected wastewater to the improved Long Creek WWTP. The Crowders Creek WWTP currently meets or is below the limits recommended in 1995

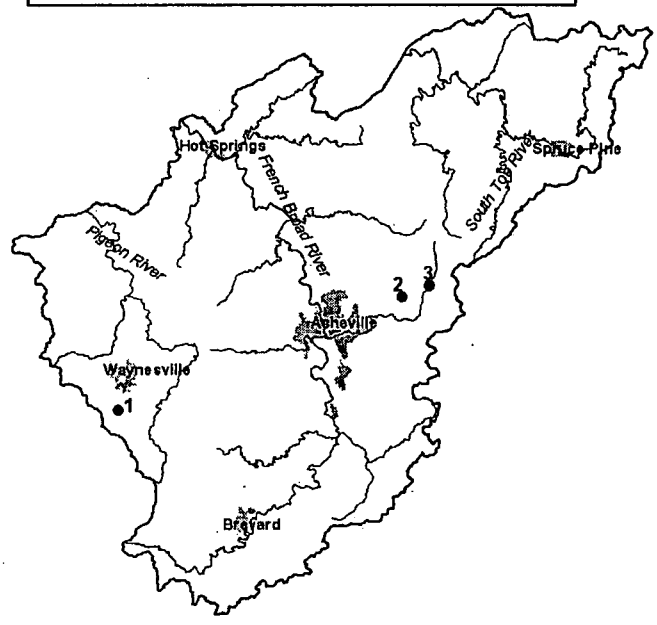
Lake Wylie is experiencing localized sedimentation problems in the Crowders Creek and Catawba Creek arms of the lake. DWQ, working with the local governments and South Carolina, continues to monitor progress in the lake and implementation of the management strategy.

French Broad River Basin

Basin Overview

The French Broad River basin covers 2,842 square miles with 4,113 miles of streams and is the ninth largest river basin in the state. It is located in the Blue Ridge Mountains and includes part or all of Transylvania, Buncombe, Henderson, Madison, Haywood, Yancey, Mitchell and Avery counties. All waters from the basin drain to the Gulf of Mexico *via* the Tennessee, Ohio, and Mississippi Rivers. Much of the basin lies within the 1.2 million acre Pisgah National Forest or Pisgah Game Lands. The northwest corner of Haywood County is in the Great Smoky Mountains National Park. Over one-half of the basin is forested. Steep slopes limit the area suitable for development and crop production. The basin is composed of three major drainages, the French Broad, Pigeon, and Nolichucky Rivers, which individually flow north into Tennessee.

Water Supply Reservoirs Sampled by DWQ in the French Broad River Basin



1 Allen Creek Reservoir
2 Beetree Reservoir
3 Burnett Reservoir

Allen Creek Reservoir and Burnett Reservoir were sampled in the French Broad River basin. Beetree Reservoir has not been sampled since 1997. No exceedances of any standard were recorded in these waters. These reservoirs are located in protected catchments and are strongly oligotrophic (low in nutrients) as are most mountain reservoirs. All three lakes are classified as WS-I and as such are also HQW.

The main threat to lakes in the mountains as in most of North Carolina is population growth and its associated development. The need for properly installed BMPs and setbacks is even more important in the steep graded mountains to reduce the nutrients and sediments reaching the waters. Fortunately these WS catchments are protected.

Little Tennessee River Basin

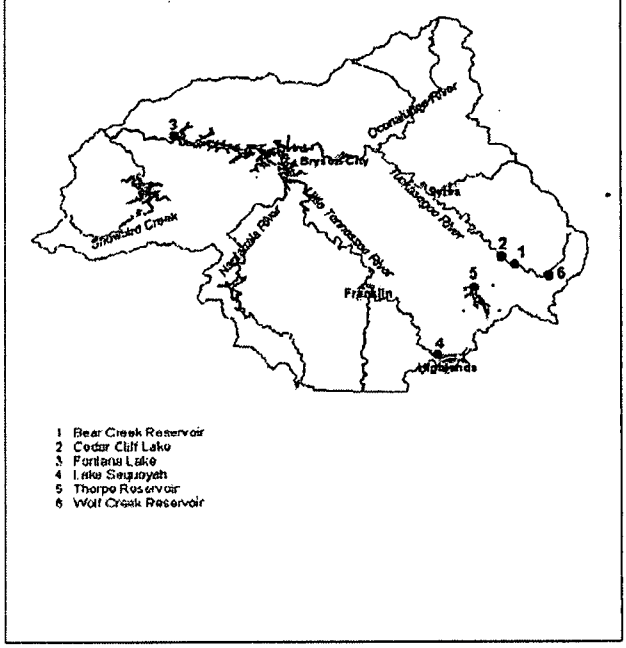
Basin Overview

The Little Tennessee River basin is located within the Blue Ridge Province of the Appalachian Mountains of western North Carolina. It encompasses about 1,800 square miles in Swain, Macon, Clay, Graham, Cherokee, and Jackson counties. Much of the land within the basin is federally owned (49 percent) and in the U.S. Forest Service's Nantahala National Forest (including the Joyce Kilmer/Slick Rock Wilderness Area) or the Great Smoky Mountains National Park. The basin also includes the Cherokee Indian Reservation.

The North Carolina section of the Little Tennessee River is typical of many other mountain rivers. The gradient is relatively steep in most reaches of the river and the substrate is dominated by riffle habitats. The headwater reaches of the Little Tennessee River are located in Georgia. The water quality of the streams and rivers in the Little Tennessee River Basin is generally high. The basin drains mainly undeveloped mountain areas and contains many white water rivers and trout streams. Sediment carried by nonpoint source runoff is the dominant water quality problem in this basin. Sources of nonpoint impacts to water quality include agriculture, mining operations, silviculture, and urban runoff. Additionally, flow regulation through reservoir releases affects most of the major tributaries in the basin.

Six water supply reservoirs have been sampled in the Little Tennessee River basin: Bear Creek Reservoir, Cedar Cliff Lake, Fontana Lake, Lake Sequoyah, Thorpe Reservoir, and Wolf Creek Reservoir. Of those, only Lake Sequoyah had any exceedances of water quality standards and these are discussed below.

Water Supply Reservoirs Sampled by DWQ in the Little Tennessee River



Lakes with Water Quality Concerns

Cedar Cliff Lake

Cedar Cliff Lake is immediately below Bear Creek Reservoir on the Tuckasegee River. It is owned by Nantahala Power & Light Company (NP&L), which created the reservoir in 1952. The reservoir's watershed is within the Nantahala National Forest. The watershed and shoreline consists primarily of forests with some scattered residences.

Cedar Cliff Lake was monitored by DWQ in June, July and August of 2004. Nutrient concentrations in this reservoir were lower in 2004 than in previous sampling years possibly due to frequent rain events that increased the water level in the lake and decreased residence time. As a result, chlorophyll *a* concentrations, an indicator of algal productivity, were also low.

Despite frequent rainfall within the watershed in 2004, the clarity of Cedar Cliff remained similar to what has been observed by DWQ staff on previous sampling trips. In August, a Secchi depth of 8.1 meters at the sampling site near the dam was recorded, and was the greatest Secchi depth observed at this lake since 1988.

The biological productivity as indicated by the NCTSI score remained low (oligotrophic) in 2004. These scores were similar to the scores from previous sampling trips.

Two pH values were below the standard during the August 1996 sampling run. These values do not seem to be indicative of pH problems in the lake and may have been related to construction work that was happening in the watershed during sampling. Values for pH since that date have all been above the standard,

Lake Sequoyah

Lake Sequoyah, an impoundment of the upper Cullasaja River, is located near the Town of Highlands. The lake's shoreline consists of residential homes and commercial businesses. The Highlands Country Club, which consists of a golf course and private homes, is also located in the watershed. However, much of the watershed is undeveloped and lies within the Nantahala National Forest. In addition to being used as a water supply, Lake Sequoyah is also classified as trout water (Tr) based on the classifications of its tributaries. The Town of Highlands withdraws water from the upper end of the Big Creek arm of the lake.

Lake Sequoyah was monitored by DWQ in 2004. This lake was described as appearing muddy on the June 1st sampling trip. Low dissolved oxygen values suggested an increase in oxygen consumption via biological activity spurred by elevated concentrations of total phosphorus. However, chlorophyll-a values were low until November when a concentration of 19 ug/L was recorded, which is above the chlorophyll-a standard for Tr lakes of 15 ug/L. Frequent rainfall events within the lake's watershed during the summer of 2004 may have contributed to the increase in nonpoint source runoff, decreased water clarity and total phosphorus in comparison with levels observed in 1999, which was a drier year.

All of the chlorophyll-a concentrations were greater than 15 ug/L in 1988 at 19, 20, and 23 ug/L during July. Phytoplankton samples reflected mesotrophic to eutrophic lake conditions. Seven algal species found in the samples are known to contribute to taste and odor problems in drinking water.

There have been no complaints of taste or odor problems from processed raw water taken from Big Creek near the point where the creek widens into the arm of Lake Sequoyah[1]. There have also been no recently reported problems with low dissolved oxygen, nuisance aquatic macrophytes, or algal blooms in the lake.

A water quality study of the lake was conducted from early May through late October 1997. The study was commissioned by the Town of Highlands to characterize the existing water quality. The town currently withdraws water from Big Creek, a tributary of Lake Sequoyah. Demand for drinking water exceeds what the creek can deliver, resulting in concerns that more water is being taken from the lake proper than from Big Creek alone. For this reason, the Town of Highlands has a strong interest in having Lake Sequoyah used as a public water supply source. Currently, the lake is designated WS-III because of its location relative to the water intake in Big Creek.

No apparent water quality problems that would preclude the lake's use as a water supply for the town were found during the 1997 study period. No algal blooms were observed; the phytoplankton communities contained few taxa and nuisance algae species were not abundant.

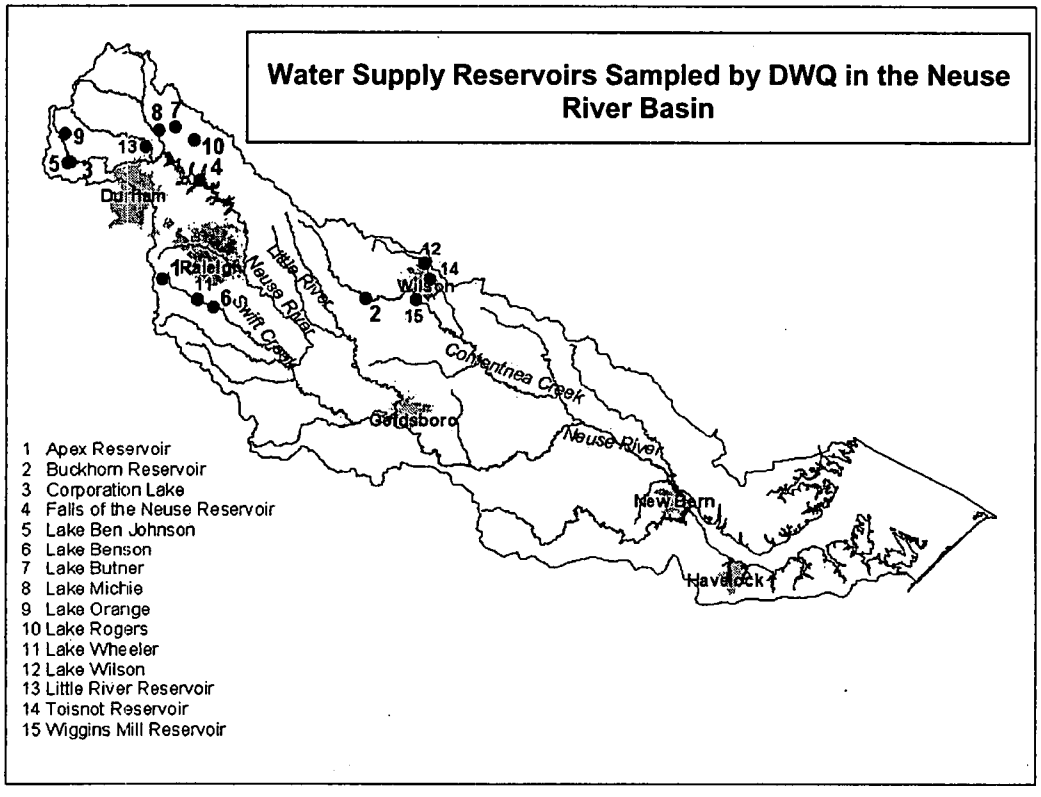
While Lake Sequoyah supported all of its designated uses in 2004, the potential for nonpoint source nutrient and sediment contributions to this small reservoir during

[1] Wade Wilson, Superintendent of the Town of Highlands Water Treatment Facility. Personal communication 2004.

rainfall events may warrant a need to add (or improve existing) best management practices within the watershed. The Town of Highlands has taken measures to address problems related to sedimentation and runoff including adoption of an erosion and sediment control ordinance in 1992 and a watershed buffer plan and ordinance in 1994. The Upper Cullasaja Watershed Association has also successfully initiated a wide range of water resource quantity and quality projects starting in 1999. The Division continues to support efforts by the local governments and citizen-based watershed organizations. More information regarding local efforts in the Little Tennessee River basin is available in the Little Tennessee River Basinwide Planning document[2].

[2] DWQ 2002 Little Tennessee River Basinwide Water Quality Plan. http://h2o.enr.state.nc.us/basinwide/Little_Tennessee/2002/2002_plan.htm

Neuse River Basin



Basin Overview

The Neuse River Basin covers 16,000 square kilometers in the lower piedmont and coastal plain of North Carolina. It is the third largest basin in the state. The upper boundary of the basin begins northeast of Durham and drains the region that includes the tributaries of Falls of the Neuse Reservoir. The basin follows the Neuse River down to Kinston and includes the tributaries to the Neuse in this region. Below Kinston, the Neuse River becomes estuarine. The basin continues to the coast and includes portions of Pamlico and Carteret Counties.

In December 1983, the EMC designated the portion of the Neuse River basin upstream of the Falls of the Neuse Reservoir dam as NSW. Severe nutrient enrichment observed in the headwaters of the reservoir appeared to be aggravated by ongoing, rapid urban growth in the watershed. The lower section of the Neuse River basin water was subsequently classified as NSW in January 1988 due to nuisance algal growth, sporadic blooms of undesirable blue-green algae, and fish kills.

There are 15 lakes classified as WS that DWQ samples in the Neuse River Basin. Beaverdam Reservoir is included in the analysis of Falls of the Neuse Reservoir due to their close proximity. Falls of the Neuse Reservoir was the only lake reviewed with more than 10 percent exceedances of the eutrophication-related standards.

Corporation Lake, Lake Ben Johnson, Lake Benson, Lake Wheeler and Toisnot Reservoir did have exceedances of the manganese WS standard with highest concentrations associated with higher turbidities. Toisnot Reservoir will be discussed below due to sedimentation and "brown tap water". Little River Reservoir had two low dissolved oxygen readings in 1997; however, based on all other data these seem to be outliers and not indicative of water quality problems. Corporation Lake had one turbidity sample in 2000 that exceeded the standard. All other water quality samples from Corporation Lake were below the standards.

Lakes with Water Quality Concerns

Buckhorn Reservoir

Buckhorn Reservoir is one of four water supply reservoirs used by the City of Wilson for raw water supplies. The reservoir is located on Contentnea Creek just downstream of the confluence of Moccasin and Turkey Creeks. Land use is mostly agricultural. The reservoir was expanded from 750 acres to approximately 2,300 acres in 1999 and was filled to this new capacity by Hurricane Floyd in September 1999.

Sampling has not been conducted on Buckhorn Reservoir since 1995. At that time all surface water quality standards were being met. Prior to 1995, DWQ had conducted a special study of the reservoir during 1991 to assess nutrient enrichment and to determine the relative contribution of nutrients from point and nonpoint sources. That study determined that Buckhorn was responding to enrichment as demonstrated by elevated chlorophyll-a concentrations and high algal density estimates. Nutrient budgets for Buckhorn indicated that agricultural run-off was the largest contributor of nutrients in the watershed.

Contentnea Creek including Buckhorn Reservoir was listed as impaired in 1998 due to degradation of biological integrity and low dissolved oxygen. These impairments were attributed to agricultural inputs. Based on these water quality impacts and the increased development in the watershed, DWQ is working with discharges to minimize their impacts on the creek and reservoir[1].

Falls of the Neuse Reservoir

Falls of the Neuse Reservoir is a multi-purpose impoundment of the Neuse River located in the Upper Neuse River basin. The reservoir is the primary water supply source for the City of Raleigh and surrounding towns in Wake County. The various uses authorized for the reservoir include: water supply, flood control, recreation, wildlife enhancement, and augmentation of low flows for purposes of pollution abatement and water quality control in the Neuse River basin.

The Falls of the Neuse Reservoir dam was constructed and filled by 1983 and is currently operated by the United States Army Corps of Engineers (USACOE). The reservoir extends 28 miles up the Neuse River to just above the confluence of the Eno and Flat Rivers. At normal pool elevation, the lake has a surface area of 11,310 acres. It drains a watershed area of 494,600 acres or approximately 770 square miles including parts or all of 6 counties (Person, Orange, Franklin, Durham, Wake and Granville). About 12 percent of the watershed is protected open space, 16 percent is in agriculture and 17 percent is urban and suburban development. The entire Triangle area of North Carolina is experiencing tremendous growth and the Falls of the Neuse watershed is experiencing more urbanization.

DWQ has been sampling Falls of the Neuse Reservoir since April 1983 and has continually documented higher upstream nutrient and turbidity concentrations. In 1995, The Cadmus Group, Inc. prepared a report for DWQ on the Falls watershed and reviewed existing data. The report noted problems related to eutrophication and the cumulative impacts from multiple sources.

The Public Utilities Department of the City of Raleigh has been collecting water quality data on the reservoir including algal toxin

[1] DENR. 2002. 2002 Neuse River Basinwide Water Quality Plan. http://h2o.enr.state.nc.us/basinwide/index.htm

measurements. Toxins have been found in the water in amounts below those the World Health Organization considers dangerous for human consumption. North Carolina does not have a standard for algal toxins at this time, nor do most of the other states in the US.

Local governments in the upper Neuse River watershed have come together and developed the Upper Neuse River Basin Association (UNRBA). This group has developed a management plan for the Falls of the Neuse Reservoir watershed and is working together to protect and improve water quality in the upper basin.[2]. There are 8 municipalities, 6 counties, and local Soil and Water Conservation Districts in the Association. They are currently developing an implementation plan to put the recommendations from the management plan into place.

Concerns over potential increases of nitrogen into Knap of Reeds Creek due to increases at the Butner WWTP have resulted in DWQ conducting additional sampling and working with a group of stakeholders to develop monitoring and modeling strategies for the entire lake. This effort began in 2005 and is currently scheduled to continue through December 2006. The same legislative bill (SB981) that required the development of this document is driving the timeline for this work.

Lake Michie

Lake Michie serves as water supply for the City of Durham. It was built by the city in 1926. The watershed is largely undeveloped with forest covering around 50 percent of the area. Agriculture is the next highest land use (26 percent) and there is some residential development (<4 percent)[3]. Three counties are located in the watershed: Durham, Orange and Person.

One chlorophyll-a concentration exceeded the state standard in 1988. All samples taken since then have been below 11 ug/L. During 2001 and 2005, drought conditions forced the closing of Lake Michie to recreational users and resulted in conservation measures being enacted by the City of Durham.

A recent study prepared for the UNRBA[4], recommends that the Counties and Durham and Roxboro Cities "cooperatively protect critical lands in the watershed and negotiate a set of performance standards, limiting pollutant levels in the watershed." The association is currently developing an implementation plan to put the recommendations from their Upper Neuse Watershed Management Plan to work.

Lake Rogers

Lake Rogers is located on Ledge Creek in Granville County and serves as the water supply for the City of Creedmoor. It is very shallow due to sedimentation and has been stocked with grass carp to control aquatic weeds, including Hydrilla. The watershed consists of forested areas as well as some residential, agricultural, and wetland areas.

Sampling by DWQ has indicated elevated nutrient concentrations and exceedance of the chlorophyll a, manganese and total dissolved solids standards for WS waters. Leaking septic tanks have been identified as one potential source of the elevated nutrients and plans are being developed by the City to address that source[5]. Agricultural operations, deforestation and erosive soils have contributed to the sedimentation problems.

Due to problems with sedimentation and aquatic weeds, the City as developed a restoration plan for the lake that includes dredging. Funding has been obtained

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[2] Their web page is http://www.unrba.org/index.shtml

[3] Upper Neuse River Basin Association. 2003. Upper Neuse Watershed Management Plan.

[4] Archibald, M; D Cummings; J Grimes, E Polk; A Reese; and H Sohn. 2004. Protecting Water Quality in North Carolina's Flat River Watershed: Policy Options and Processes. A report prepared for the Upper Neuse River Basin Association and Jurisdictions in the Upper Neuse River Basin. http://www.unrba.org/

[5] City of Creedmoor – Board of Commissioners. 2005. Minutes of August 23, 2005 Regular Meeting and Public Hearing. www.cityofcreedmoor.org

through the Divison of Water Resources (DWR) and Army Corp of Engineers (ACOE). Restoration is expected to cost around $1.5 million and is scheduled to begin in 2006. The City also has a CWMTF grant to acquire buffers on Lake Rogers and the Environmental Enhancement Program (EEP)has targeted this local watershed for restoration and development of a Local Watershed Plan.

Another step to improve water quality on the lake was taken by the City in 2005 when they banned the use of gas-powered motorboats.

Toisnot Reservoir

Toisnot Reservoir is a water supply source for the City of Wilson and surrounded by a municipal park. A pedestrian bridge crosses the mid-section of the lake and provides access to both sides of the park. The drainage area is swampy and flat, resulting in tannin-stained water and naturally lower dissolved oxygen and pH. This lake has experienced problems with sedimentation and nutrients due to nonpoint source inputs. Only 10 acres in surface area, the reservoir holds approximately 37 million gallons of water. The reservoir is very shallow and has been dredged in the past by the City of Wilson to control aquatic weeds and sedimentation problems. There have also been problems with brown drinking water probably due to higher inflows of swamp water from Toisnot Swamp.

Field notes from DWQ's last sampling of this reservoir in 2000 documented muddy islands with established grasses in the upper end. This was during a drought so the reservoir was not at normal pool level. Also noted were numerous domestic ducks as well as a large flock of Canada geese (over 30 birds). The primary parameters that were not within standards based on the lake's current classification were dissolved oxygen and manganese. As the reservoir is part of Toisnot Swamp, the lower dissolved oxygen and tannin-stained water is to be expected; however, the current water quality classification does not reflect the influences of the swamp. There are numerous areas in the coastal portion of North Carolina that were not properly classified swamp during the early years of classification. As resources become available DWQ is planning on conducting the sampling necessary to delineate these waters and reclassify them as appropriate.

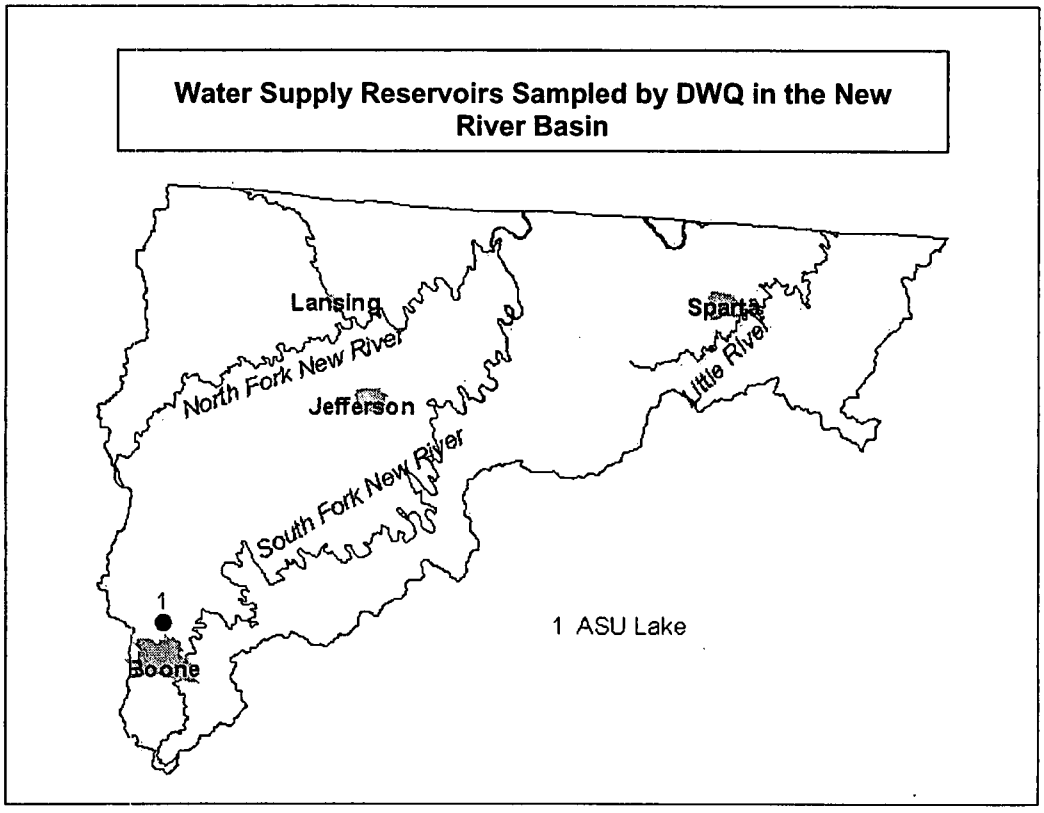
Wiggins Mill Reservoir

Contentnea Creek was impounded in 1915 to form Wiggins Mill Reservoir. Wiggins Mill Reservoir is located downstream of Buckhorn Reservoir. The City of Wilson owns Wiggins Mills Reservoir and uses it as a water supply and for recreational purposes. Land use in the watershed is dominated by agriculture with some forest, swamp and residential development.

Sampling 1988 and 1991 found exceedances of the chlorophyll-a standard. A review of potential nutrient sources in 1993 found that agricultural run-off was the largest contributor at that time. Water quality since 1991 seems to have improved with no exceedances of any parameters. In 1995, the pH at the mid-lake station was 5.8; however, this is within the calibration limits of the meter and is an outlier when compared to the rest of the data.

Based on the impairment of Contentnea Creek, EEP has named the Contentnea Creek near Wilson watershed (including Wiggins Mill Reservoir) a targeted local watershed as noted in the discussion of Buckhorn Reservoir.

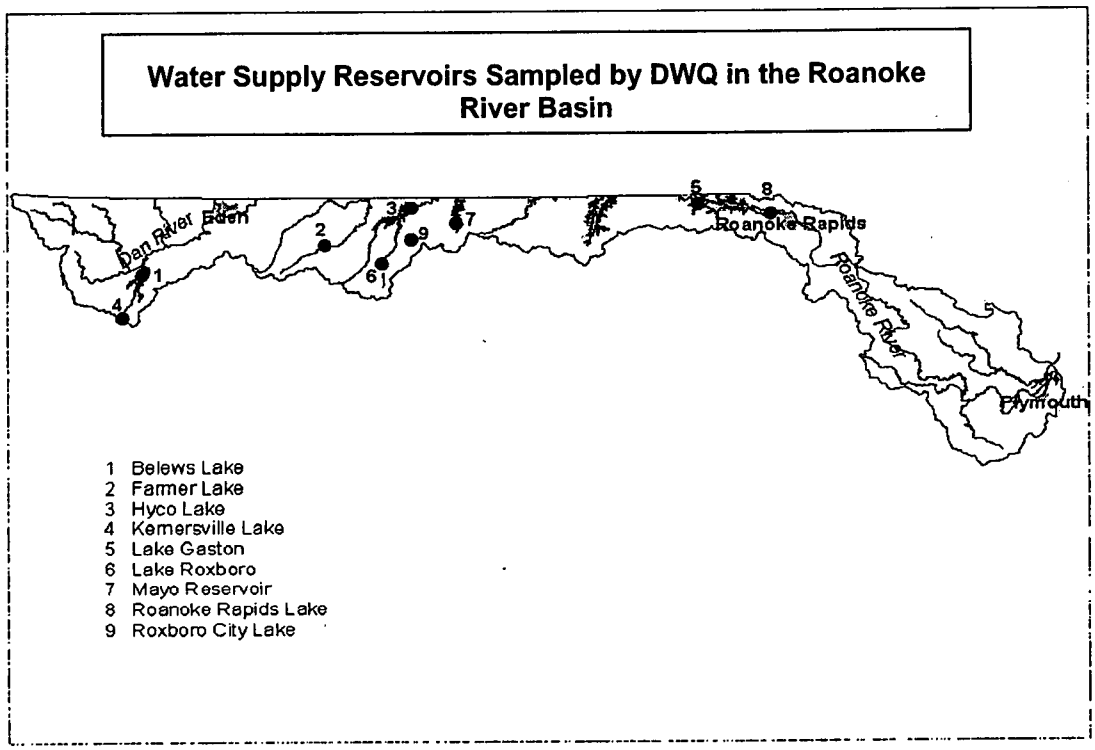
New River Basin



The New River originates at the confluence of the North Fork and South Fork New Rivers in Ashe County, North Carolina. It flows north-northeast into Virginia and West Virginia where it joins with the Gualey River to form the Kanawha River, eventually entering the Gulf of Mexico via the Ohio and Mississippi Rivers. This mountainous basin is located in the Blue Ridge Province of the Appalachian Mountains. Three counties (Alleghany, Ashe and Watauga) are entirely or partially contained with the basin.

Only one WS lake was sampled by DWQ in this basin, ASU Lake. This small water supply impoundment serves as the water supply for Appalachian State University. It is located in the headwaters of Norris Branch and has a maximum depth of 112 feet near the dam. The shoreline is forested; however, the watershed upstream of the lake is a mix of forested land, residential and commercial development. No exceedances of the surface water quality standards have been documented by DWQ in ASU Lake.

Roanoke River Basin



Basin Overview

The Roanoke River basin extends from its source in the Blue Ridge Mountains of Virginia to the Albemarle Sound in North Carolina, encompassing mountainous, piedmont and coastal topography as it flows generally east-southeastward. Its drainage area is 3,503 square miles and includes approximately 2,389 miles of rivers and streams in North Carolina. There are fifteen counties and 42 municipalities in the basin.

The basin is divided into two main areas within North Carolina: the Dan River and Roanoke River drainage areas. The Dan River originates in the western mountains of Virginia and meanders across the North Carolina/Virginia state line several times as it travels eastward. The Roanoke River also flows from Virginia into North Carolina and, together with the Dan River, forms the headwaters of John H. Kerr Reservoir. Kerr Reservoir drains into Lake Gaston, which in turn drains into Roanoke Rapids Lake. From there the Roanoke River travels southeastward to the Albemarle Sound.

Around 60 percent of the land in the basin is forested and 22 percent is in cultivated cropland. Only around six percent of the land falls into the urban/built-up category. Despite the large amount of cultivated cropland and the relatively small amount of urban area, the basin has seen a significant decrease (-105,300 acres) in cultivated cropland and increase (+77,700 acres) in built-up areas between 1984 and 1999[1]. Water quality in the basin has been impacted by hydromodification, agriculture and minor non-municipal discharges.

[1] DENR 2001 Roanoke River Basinwide Water Quality Plan. http://h2o.enr.state.nc.us/basinwide/roanoke/2001/2001_Roanoke_wq_management_plan.htm

Roanoke Rapids Lake is on the 303(d) list for impaired aquatic life due to aquatic weeds (*Hydrilla*, *Egeria*, and *Myriophyllum spicatum*) and a management strategy has been sent to EPA for approval[2].

None of the lakes in the Roanoke River basin exceeded the eutrophication-related standards in more than 10 percent of the samples. Lake Gaston is discussed in more detail as it is on the 303(d) list for impaired aquatic life and for earlier problems related to low dissolved oxygen caused by discharges from John H. Kerr Reservoir. John H. Kerr Reservoir is not classified as WS. Kernersville Lake and Roxboro City Lake met all WS standards except manganese. No reports of taste and odor in the treated drinking water were received by DWQ and concentrations were close to the standard for WS of 200 ug/L.

Lakes with Water Quality Concerns

Farmer Lake

Farmer Lake is a 365-acre lake owned by Caswell County and used for water supply, fishing and waterfowl hunting. The City of Yanceyville draws water from Farmer Lake under an agreement with Caswell County. It was built in 1983 and is located on an unnamed tributary of Country Line Creek in Caswell County. This lake has a volume of 1.8 billion gallons with a 48 square mile watershed.

Chlorophyll-a concentrations exceeded the standard once in 2002, turbidity readings have been elevated over the years and manganese was above the standard in samples taken during 2000 through 2005. The 2005 assessment of this lake[3] indicated that additional sampling is warranted to determine if there is a trend in increasing turbidity and nutrients in the lake. This will be undertaken as resources become available.

Lake Gaston

Lake Gaston is located on the North Carolina-Virginia border just downstream from the John H. Kerr Reservoir dam on the Roanoke River. The lake was built in 1962 by the Virginia Electric and Power Company (now Dominion Power) for hydroelectric power generation. The lake is used extensively for recreation with residential development, campgrounds, golf courses, marinas, and beaches located along the shoreline. Virginia Beach currently gets water from Lake Gaston for drinking water.

In 1996, Lake Gaston was partially supporting designated uses due to an infestation of aquatic plants. The lake was described as having "prolific growths of aquatic macrophytes", especially *Hydrilla*, that hindered activities such as boating and water skiing on a large portion of the lake. Since then, the Lake Gaston Weed Control Council, in cooperation with the NC Division of Water Resources, began controlling the weeds through applications of aquatic herbicides and the introduction of grass carp[4]. These efforts are on-going and the Lake remains on the 303(d) list for impaired aquatic life due to aquatic weeds.

Prior to 2000, sampling indicated dissolved oxygen at and below the instantaneous dissolved oxygen standard of 4 mg/L at the upper end of Lake Gaston. These low concentrations were due to releases of water from deep within Kerr Reservoir (directly upstream of Lake Gaston). In 1999, the first of seven new turbines were modified at the Kerr Dam to increase downstream dissolved oxygen. Improvements were seen in the 2004 sampling.

Lake Gaston has a strong citizens' group in the Lake Gaston Association looking after their and the lake's best interest. This group developed the Lake Gaston Weed Control Council and continues to develop programs to support water quality in the lake. Associations such as these are to be commended.

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[2] DENR 2005. Lake & Reservoir Assessments – Roanoke River Basin. Environmental Sciences Section. Raleigh, NC.

[3] DENR 2005. _____

[4] For more information on the Lake Gaston Weed Control Council visit http://lgwcc.org/

Tar-Pamlico River Basin



Water Supply Reservoirs Sampled by DWQ in the Tar Pamlico River Basin

Basin Overview

The Tar-Pamlico River basin encompasses a 5,440 square mile watershed drained by 2,355 miles of streams and with 634,400 acres classified as salt waters. It is the fourth largest river basin in the state and is contained entirely within the state. From its headwaters within the eastern piedmont the Tar River flows 180 miles southeast towards the coastal plain and Pamlico Sound.

The river is called the Tar River from its source in Person County to US 17 in the Town of Washington, a distance of about 140 miles. From Washington to Pamlico Sound it is called the Pamlico River. The Pamlico River is entirely estuarine, while the Tar River is primarily freshwater. Major tributaries include Fishing, Swift and Tranters Creeks, Cokey Swamp, and the Pungo River.

Part or all of 16 counties are found within the basin: Beaufort, Dare, Edgecombe, Franklin, Granville, Halifax, Hyde, Martin, Nash, Pamlico, Person, Pitt, Vance, Warren, Washington, and Wilson. The larger urban areas are Greenville, Henderson, Oxford, Rocky Mount, Tarboro, and Washington. Recent land cover data indicated that most of the basin is in forested and wetland areas, followed by cultivated cropland, open water area, pasture and other managed herbaceous areas, and urban areas.

The entire basin was designated as Nutrient Sensitive Waters (NSW) in 1989 in response to the problems associated with nutrient loading and the resulting eutrophication. Only two lakes are classified as WS were sampled within this basin: Lake Devin and Tar River Reservoir. Both had exceedances of eutrophication-related water quality standards.

Lakes with Water Quality Concerns

Lake Devin

Lake Devin, a very small impoundment on Hatchers Run, was the water supply reservoir for the Town of Oxford from 1953 until 1993. The drainage area is mostly forested with some agriculture. There are limited recreational opportunities on the lake.

Chlorophyll-a measurements in 1989 exceeded the state standard; however, no further exceedances were documented in 1997 and 2002. Blue-green algae dominated the phytoplankton community at times in 1997 and 2002. *Lyngbya wollei*, a problematic filamentous blue-green algae in southeastern reservoirs, was found in the lake in 1997 but was not found in the 2002 samples.

In the 2004 Tar-Pamlico River Basinwide Water Quality Plan, DWQ recommended that the water quality in Hatchers Run be protected during land development activities and that BMPs be implemented on all land activities to reduce nutrient inputs.

Tar River Reservoir

In 1971, the City of Rocky Mount impounded the Tar River to form Tar River Reservoir. In addition to owning the property on which the reservoir lies, the City has a 3 to 5 foot elevation buffer around the shoreline. The volume of the lake is 4.3 billion gallons with a maximum depth of 12 meters. The reservoir is primarily used as a source of drinking water for the Rocky Mount and for public recreation. The only major tributary is Sapony Creek, which forms a large arm near the dam. The reservoir has been sampled eight times by DWQ since 1989.

In 2002, Secchi depths were less than one meter and nutrient concentrations increased from June to August. This increase coincided with a decrease in the lake level as a result of the prolonged statewide drought. By August the water level had decreased another four feet and the water appeared muddy. Chlorophyll-a values ranged from moderate to elevated with the highest concentrations observed in August. Only one concentration (46 ug/L) was greater than the state water quality standard of 40 µg/L. The reservoir was consistently eutrophic in 2002.

The reservoir was previously monitored in 1997. Secchi depths were generally less than one meter. Values for total phosphorus, turbidity, and total solids in 1997 were less than values measured in 2002.

Turbidity exceeded the lake standard of 25 NTU twice during 2002 (17 percent).

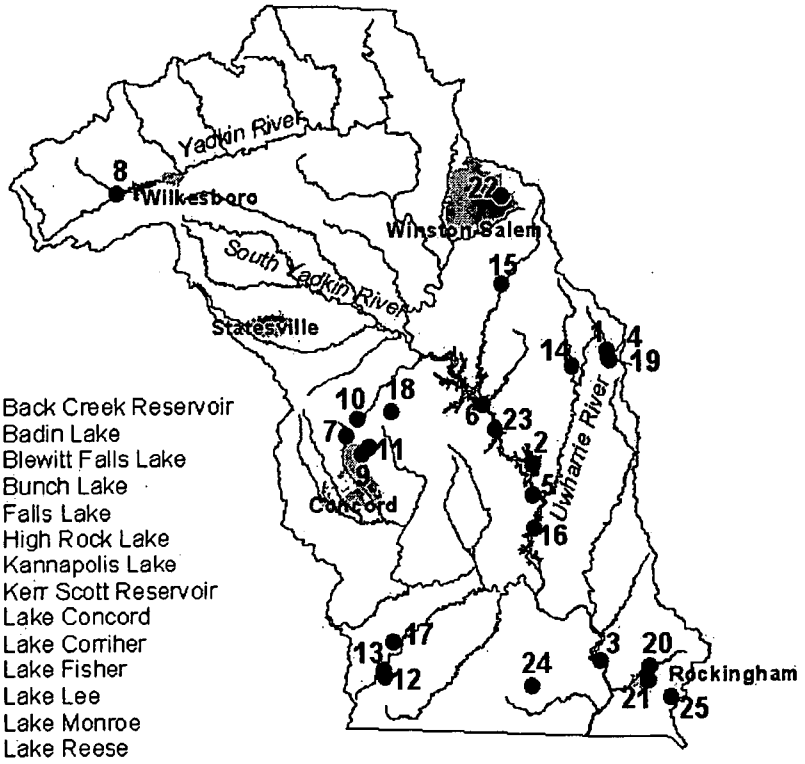
Based on the potential water problems noted above and the fact that the Reservoir is a public water supply, the EEP has identified it as one of 27 local watersheds in the basin with the greatest need and opportunity for stream and wetland restoration efforts. This watershed will be given higher priority than nontarget watersheds for implementation of EEP restoration projects.

Elevated manganese concentrations in the summer have been a major problem for the Water Treatment Plant; however, algal populations have never caused taste or odor problems. In addition to treating for manganese, the City has also had to budget money for treatment of Hydrilla in the Sapony Creek arm of the reservoir[1]. That treatment is scheduled for 2007.

[1] Paul Blount, Director of Water Resources for the City of Rocky Mount. Personal communication, January 19, 2006.

Yadkin-Pee Dee River Basin

Water Supply Reservoirs Sampled by DWQ in the Yadkin-Pee Dee River Basin



1 Back Creek Reservoir
2 Badin Lake
3 Blewitt Falls Lake
4 Bunch Lake
5 Falls Lake
6 High Rock Lake
7 Kannapolis Lake
8 Kerr Scott Reservoir
9 Lake Concord
10 Lake Corriher
11 Lake Fisher
12 Lake Lee
13 Lake Monroe
14 Lake Reese
15 Lake Thom-A-Lex
16 Lake Tillery
17 Lake Twitty (Lake Stewart)
18 Lake Wright
19 McCrary Lake
20 Roberdel Lake
21 Rockingham City Lake
22 Salem Lake
23 Tuckertown Reservoir
24 Wadesboro City Pond
25 Water Lake

Basin Overview

From its headwaters in northwestern North Carolina and southern Virginia, the Yadkin River flows southeast across North Carolina's densely populated midsection. Three of the state's five interstate highways cross the upper half of the basin. The Yadkin River basin is the second largest basin in North Carolina, covering 7,213 square miles within twenty-one counties. Ninety-three municipalities are located within this river basin. From the eastern slopes of the Blue Ridge Mountains in Caldwell and Wilkes counties, the Yadkin River flows northeasterly for about 100 miles, and then flows to the southeast until it joins the Uwharrie River to form the Pee Dee River. The Pee Dee River continues flowing southeasterly to the North Carolina-South Carolina state line and then through South Carolina to Winyah Bay.

The river is impounded several times as it travels through North Carolina forming the Yadkin Chain Lakes. These reservoirs include W. Kerr Scott Reservoir, High Rock Lake, Tuckertown Reservoir, Badin Lake, Falls Lake, Lake Tillery and Blewett Falls Lake. The Yadkin drainage encompasses much of the Piedmont Triad area including the cities of Winston-Salem, High Point, Thomasville and Lexington. Land use is mixed with forests, agriculture, and urban development.

Twenty-five lakes classified as WS were sampled within the Yadkin-Pee Dee River basin. High Rock Lake exceeded chlorophyll-a, pH, and turbidity standards in more than 10 percent of the samples taken.

Lakes with Water Quality Concerns

High Rock Lake

Located on the mainstem of the Yadkin River in Rowan and Davidson counties, High Rock Lake is the largest and most upstream of the Yadkin-Pee Dee chain lakes. Completed in 1929, the reservoir was constructed to provide hydroelectric power and is owned and operated by Yadkin Division of APGI. With a 3,850 square mile watershed, the lake has a volume of approximately 83 billion gallons and a surface area of approximately 15,750 acres. No drinking water is drawn directly from the lake, although Salisbury's water supply intake is located just upstream of the reservoir and the Town of Denton draws water just below the dam. Due to numerous discharges (155 individual NPDES permitted dischargers) and potential sources of contamination in the watershed, High Rock Lake has a Higher Susceptibility Rating under the SWAP. This rating indicates that there are many potential sources of pollution in the watershed that could adversely impact High Rock Lake's water quality.

Eutrophic conditions in High Rock Lake have been documented by DWQ since 1974[1]. In the 1998 basinwide plan, several recommendations were made to address over-enrichment in portions of the lake. Phosphorus limits were recommended and subsequently implemented in the Abbotts Creek arm of the lake in the NPDES permits for Lexington, Thomasville, and High Point WWTPs. The Town of Spencer removed their discharge from Grants Creek, a major tributary of High Rock Lake, and connected to the City of Salisbury's WWTP. The City of Salisbury eliminated its discharges to Grants Creek and Town Creek by constructing a new WWTP that discharges to the Yadkin River in the upper reaches of High Rock Lake.

Water quality data over the past 24 years indicates 44 exceedances (n=156) of the chlorophyll-a standard, 19 of those recorded since June 2002. Values for pH have exceeded the standard 14 times, usually co-occurring with the elevated chlorophyll-a concentrations. Turbidity has been exceeded 23 times with some measurements over 10 times the standard. Most of the turbidity exceedances occurred at the upper stations reflecting the amount of sediment that is coming into High Rock Lake from its upper watershed.

Mild to severe blooms were recorded throughout 2005. The mild blooms recorded in May were dominated by green algae. The

[1] DENR 2003. Basinwide Assessment Report Yadkin-Pee Dee River. http://www.esb.enr.state.nc.us/Basinwide/

assemblages then shifted to blue greens, which formed moderate to severe blooms in June, July and September. These blooms consisted of multiple filamentous, blue-green taxa, such as *Planktolyngbya* and *Anabaena*. Excessive sediment and detrital matter was frequently noted during the analysis of samples from upper most station. This was the only station that did not have blooms recorded during 2005. It was also noted that the samples at this location contained many benthic diatoms indicating a riparian more than lacustrine system.

In the 2003 basinwide plan, DWQ committed to work more closely with other agencies to assist in reducing nonpoint source pollution to the lake. DWQ also continues to work on relicensing of the hydropower projects in the Yadkin-Pee Dee basin in order to provide greater protection of water quality.

In 2004, High Rock Lake was added to the Impaired Waters list due to turbidity and chlorophyll-a problems. A scoping study was begun in 2005 to support development of a TMDL for High Rock Lake. This study is continuing into 2006 and the final TMDL is scheduled for completion in 2008 or 2009.

Badin Lake

Badin Lake (also called Narrows Reservoir) is one of the chain lakes on the Yadkin River, located downstream from Tuckertown Reservoir, High Rock Lake and W. Kerr Scott Reservoir. The lake was filled in 1917 and is owned by the Yadkin Division of APGI Hydropower. It has a maximum depth of 53 meters and a surface area of 5,350 acres. The City of Albemarle draws water from Badin Lake. The watershed is forested with some agriculture; however, population growth in the area raises concerns regarding protection and improvement of water quality. DWQ has sampled Badin Lake 18 times since 1981.

Over the past few years, summer fish kills have become a concern. These fish kills are currently under investigation by researchers at NCSU and preliminary results indicate that the stocked striped bass are at the edge of their temperature tolerance zone causing them to be easily stressed[2]. As the lake warms up, the fish look for adequate dissolved oxygen and low water temperatures. At times they get caught in pockets of low dissolved oxygen and higher temperature and die.

A few samples did not meet the standards for chlorophyll a, dissolved oxygen, pH and turbidity. These samples were from throughout the sampling period and did not seem to indicate any decrease in water quality. Mild blooms were recorded in early and mid summer 2002. These blooms were dominated by *Chrysochromulina* sp. (a golden flagellate) and *Psuedoanabaena* (filamentous blue-green). During late summer 2002, moderate algal blooms of *Psuedoanabaena* and *Cylindrospermopsis* (filamentous blue-green) were documented. Similar assemblages were identified in 1987 and 1990.

Relicensing is underway for the hydropower projects on the Yadkin and the Division is working with the Yadkin Division of APGI to provide/ensure water quality improvements through that process[3].

Lake Lee

Lake Lee was built in 1927 and serves as an emergency water source for the City of Monroe. The lake is fairly shallow with a maximum depth of approximately 10 feet. Water from Lake Monroe feeds into Lake Lee and water from Lake Lee is pumped into a tributary of Lake Twitty during periods of low flow.

Sampling in 1989 found chlorophyll-a concentrations above the standard and then in 2000, two pH readings were above the standard. These readings were accompanied by elevated dissolved oxygen indicating potential algal bloom activity. Surface algal mats and green-colored water were observed at Lake Lee in 2000. An analysis of phytoplankton samples

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[2] Bryn Tracy, Fisheries Biologist DWQ Environmental Sciences Section. Personal communication January 12, 2006.

[3] DENR 2003. Basinwide Assessment Report Yadkin-Pee Dee River. http://www.esb.enr.state.nc.us/Basinwide

confirmed the presence of algal blooms during each sampling event. Samples collected in June were dominated by green algae while samples collected in July and August were dominated by filamentous blue-green algae (*Anabaena* sp. and *Anabaenopsis* sp.) commonly associated with taste and odor problems in drinking water.

As with many other lakes in the basin, manganese concentrations were above the applicable surface water quality standard in one sample. No reports of taste and odor problems were received by DWQ.

Lake Monroe

Lake Monroe is a secondary (backup) water supply for the City of Monroe in Union County and is also used for recreation. The reservoir was built in 1955 and has a volume of 480 million gallons. The drainage area is mostly forested.

This lake was most recently sampled in 2000. While Lake Monroe was rated eutrophic in 1995, surface dissolved oxygen and pH values were even higher in 2000. Total phosphorus and total organic nitrogen were elevated in both years and the 2000 phytoplankton sample analysis confirmed the presence of algal blooms in June, July and August. Phytoplankton samples from July and August were dominated by filamentous blue-green algae (*Anabaena* sp. and *Anabaenopsis* sp.) commonly implicated in taste and odor problems in drinking water.

Lake Thom-A-Lex

Lake Thom-A-Lex is a water supply reservoir for the cities of Thomasville and Lexington. Its major tributary is Abbotts Creek.

This lake was monitored in 1999, 2000 and 2001. Sampling was previously conducted in 1994 at which time the lake was determined to be eutrophic. This lake has been consistently eutrophic since it was first monitored in 1981.

Secchi depths in 1999 through 2001 were typical of a piedmont reservoir with readings usually less than one meter. In general, nutrient concentrations were elevated in 1999 through 2001. The availability of nutrients supported increased algae productivity in all years. In 2001, chlorophyll-a values ranged from 24 to 31 µg/L. The exceedances of the chlorophyll-a standard occurred in 1982 and 1989.

As has been seen in other piedmont lakes, the state water quality standard for manganese was exceeded once in the 1999 - 2001 period.

Salem Lake

Salem Lake is a water supply reservoir providing drinking water for the City of Winston-Salem and Forsyth County. This lake has a maximum depth of 36 feet (11 meters), well-defined north and south arms and 14 miles of shoreline. The watershed includes portions of the Towns of Kernersville and Walkertown. Land use is mainly urban with some agriculture. Sedimentation and agricultural runoff have presented problems in the lake.

Salem Lake has been monitored since 1994, with the most recent samples taken in 2000 and 2001. Overall, the lake is showing some signs of nutrient over-enrichment, based on nutrient concentrations.

Surface dissolved oxygen at Station YAD077B on June 12, 2000 was 3.4 mg/L, which was less than the state water quality standard of 4.0 mg/L for an instantaneous reading. A review of the data indicated that the sample was taken at 9:15 AM and that previous samples taken at the station that early also exhibited low dissolved oxygen compared to the other stations.

In keeping with the moderate to elevated nutrient concentrations found over the years, chlorophyll-a values for 2001 were in the moderate range (12 - 20 µg/L). Phytoplankton samples collected in 1999 indicated that the lake contained a diverse assemblage of algae ranging from blue-green and green algae in the Kerners Mill Creek arm to diatoms near the dam. Exceedances of the chlorophyll-a standard occurred in 1989 due to the presence of a small golden alga, *Chrysochromulina breviturrita*. This alga contains a large amount of chlorophyll-a relative to its size. Chlorophyll-a standards were also exceeded

in 1982. No phytoplankton information is available for that time period.

In September 2000, the US Environmental Protection Agency investigated lead contaminated soil at a battery manufacturing plant in Walkertown and at an unnamed tributary to Lowery Creek, which is one of the major tributaries to Salem Lake. Lead levels of 320 µg/L were found in the creek. The NC DWQ's sampling during 2000 and 2001 found lead levels less than the water quality laboratory detection level of 10 µg/L in the lake.

All other parameters were below state standards with the exception of manganese in 2000 at one station in July 2000. Manganese concentrations above the state water quality standard of 200 µg/L for water supply sources are common in the state due to background manganese concentrations.

Lake Twitty

Lake Twitty (also called Lake Stewart) is owned by the City of Monroe and operated as a water supply reservoir and for recreation. The lake's volume is approximately 2 billion gallons with a maximum depth of 15 meters. Stewart Creek and Chinkapin Creek are the main tributaries to Lake Twitty. Land in the mainly flat drainage area is forested and agriculture.

Lake Twitty was most recently monitored in 2000. The lake was strongly stratified near the dam with hypoxic conditions present at a depth of three meters from the surface (depth to bottom in June was 12 meters). Secchi depths were less than one meter at each of the sampling sites, indicating poor light availability within the water column. Surface dissolved oxygen and pH values were elevated. Elevated dissolved oxygen and pH values are symptoms of increased algal photosynthetic activity in the lake. Field notes indicated that the water was green in color in 2000.

Nutrient concentrations were elevated. Analysis of phytoplankton samples confirmed the presence of algal blooms in June, July and August. Samples collected in June were dominated by green algae while samples collected in July and August were dominated by filamentous blue-green algae. The blue-green algae observed in the July and August samples (*Anabaena* sp., *Oscillatoria* sp., and *Anabaenopsis* sp.) are commonly associated with taste and odor problems in drinking water.

Surface metals were within applicable state water quality standards with the exception of copper. Values in June, July and August (15.0, 9.8, and 76.0 µg/L, respectively) were greater than the state water quality action level of 7.0 µg/L. A conversation with Mr. Allan Kilogh, Water Treatment Plant Supervisor for the Town of Monroe revealed that Lake Stewart was treated with a copper based algaecide twice during the summer. One of these treatment occurred the first week of August. The product used remains in suspension, which explains the elevated copper values. Treatment was done using appropriate application and an algaecide approved for use in water supplies. All precautions were taken to protect the treated drinking water.

In May of 2001, the City of Monroe installed a diffused air hypolimnic system to decrease stratification and increase dissolved oxygen levels throughout the lakes profile to improve the drinking water quality[4].

Rockingham City Lake

Rockingham City Lake is a secondary water supply reservoir for the City of Rockingham. It is located on Falling Creek.

Rockingham City Lake was most recently monitored in 2000. This lake is dystrophic (tannic water, acidic) with numerous aquatic macrophytes present. Plant samples collected from the lake consisted of spikerush (*Eleocharis* sp.), bog moss (*Mayaca fluviatilis*), variable-leaf watermilfoil (*Myriophyllum heterophyllum*), and fragrant or white water lily (*Nymphaea odorata*).

Due to the naturally dark colored water, Secchi depths were less than a meter. Surface dissolved oxygen concentrations (3.9 mg/L in June and 3.2 mg/L in August) were less than the state water quality standard of 4.0 mg/L for an instantaneous

[4] Russell Colbath, Water Resources Director for the City of Monroe. Personal communication January 18, 2006.

reading. This low dissolved oxygen reading is not considered unusual in the presence of such thick stands of macrophytes. Nutrient concentrations ranged from low to moderate.

This lake has been listed as impaired due to the excessive growth of aquatic macrophytes.

EXHIBIT D-5

NCDENR

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

Oct. 1, 2005

To: Sen. Daniel Clodfelter
Sen. Charles Albertson
Rep. Pryor Gibson

From: Secretary Bill Ross

Subject: Dry-cleaning Solvent Cleanup Act Report

G.S. 143-215.104U requires the Department of Environment and Natural Resources each year to submit to the Environmental Review Commission a report on contamination, site and fiscal information related to the dry-cleaning solvent cleanup program. Attached is this year's report. If you have any questions, please contact John Powers at 919-508-8470.

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Annual Report to the Environmental Review Commission North Carolina General Assembly

The Dry-Cleaning Solvent Cleanup Act Program

October 2005

NCDENR

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Secretary
NC Department of Environment and Natural Resources

Dexter R. Matthews
Director
Division of Waste Management

DENR
Division of Waste Management
Superfund Section
1646 Mail Service Center
Raleigh, NC 27699-1646
(919) 508-8400

DRY-CLEANING SOLVENT CLEANUP ACT ANNUAL REPORT

Executive Summary

As required by the Dry-Cleaning Solvent Cleanup Act (DSCA) of 1997 and amendments (G.S. 143-215.104A *et seq.*), this report provides an annual update on activities conducted in the DSCA Program in 2005. The DSCA of 1997 and its amendments created a fund for assessment and cleanup of dry-cleaning solvent environmental contamination at dry-cleaning and wholesale distribution facilities.

Significant progress has been made in all aspects of program implementation. Areas of program development showing the most progress are risk-based rule development, Assessment and Remediation Agreements, work authorizations, prioritization and comprehensive assessments, priority ranking, contracting, imminent hazard abatement and emergency response, assessment guidance and database development, operating facility compliance with minimum management practices and outreach.

The Department of Environment and Natural Resources (DENR) has identified 196 operating or abandoned dry-cleaning facilities with environmental contamination by dry-cleaning solvent. Of these, 128 have voluntarily petitioned for acceptance, and 119 have been certified into the DSCA Program. Assessment and Remediation Agreements have been executed for 66 sites and 56 sites have been prioritized.

The majority of claims against the Fund to date have been for "past costs." The DSCA Program is authorized to reimburse petitioners for reasonable, necessary and documented costs incurred between October 1997 and June 2001 in certain situations. Petitioners have submitted past cost reimbursement claims for 13 sites totaling $2,612,290. Of that total, $1,517,518 has been approved for reimbursement. A total of $1,090,815 was paid to petitioners in FY 2004-05.

With the infusion of the sales tax monies, which began in July 2003, DSCA now appears to have sufficient financial resources to assess and clean up the contaminated dry-cleaning facilities identified to date by DENR. New discoveries will continue to be reported, largely due to property transactions. However, with 27 new sites reported in 2005, if the rate of discovery remains steady, the addition of new sites to the program should not overwhelm the DSCA Fund.

The program is currently developing risk-based rules as required by DSCA for the assessment and cleanup of contaminated dry-cleaning sites. A contractor who specializes in the development of risk-based programs for state regulatory agencies was hired in 2005 to assist in the rulemaking process. It is anticipated that these rules will be completed by December 2006.

Fund expenditures for site work will increase significantly when additional contracts with environmental engineering firms are executed and the risk-based rules are completed. Expenditures are projected to increase by approximately 230 percent beginning in FY 2006-07.

Program Status

DENR has made significant progress in implementing DSCA. DENR has solicited input from members of the DSCA Stakeholders Working Group (DSCA Stakeholders) and other interested parties to develop new policies and procedures. Participants in the DSCA Stakeholders include the following:

- DENR representatives and Department of Justice attorneys assigned to DENR,
- Dry cleaners from leadership of the North Carolina Association of Launderers and Cleaners,
- Environmental consultants,
- Representatives from environmental advocacy organizations,
- Dry cleaners using alternative dry-cleaning technologies,
- North Carolina State University's School of Textiles faculty, and
- Private attorneys representing dry cleaners and shopping centers.

A summary of DSCA Program site status is provided in Table 1.

Table 1. DSCA Program Site Status

Step 1. The dry cleaner or property owner petitions DENR for certification.	To date, 128 sites have petitioned for entry into the Program. The main motivating factors for petitioning have been real estate transactions and redevelopment.
Step 2. DENR certifies the site and checks for imminent threats.	Of the 128 sites that have petitioned, 119 sites have been certified into the Program. Two sites have been denied certification due to failure to meet the requirements for certification as mandated by DSCA. The remaining six sites that have not yet been certified are currently under review. Each petition is reviewed for imminent threats to human health and the environment. Drinking water sources have been identified in proximity to several sites. Evaluation of potential imminent threats has been expedited for these sites.
Step 3. The dry cleaner signs an Assessment and Remediation Agreement with DENR.	The Assessment and Remediation Agreement (ARA) is a legally binding agreement between DENR and the petitioner that covers all phases of work at a site including the prioritization assessment. All work done under these agreements is performed by independent environmental contractors hired by DENR. A total of 66 ARAs have been executed between DENR and petitioners.

Step 4. DENR assigns the site to one of its independent contractors for a prioritization assessment.	In August 2004, DENR executed contracts with four state-lead environmental contractors to perform site assessment and remediation. These four firms have been granted three-year contracts totaling $2.4 million. In June 2005, DENR received approval from the North Carolina State Building Commission to award three additional contracts totaling $9 million over three years. These contracts are anticipated to be executed in October 2005. Following execution of the ARA, DENR assigns the site to one of its contractors, who performs a prioritization assessment and determines if an imminent hazard exists at the site. Petitioners will be billed by DSCA to cover site deductibles after the expenses have been incurred.
Step 5. DENR ranks the site and checks again for imminent threats.	Information collected during the priority assessment is used by DSCA to rank each site in terms of risk to human health and the environment. The DSCA Prioritization Ranking System and supporting database application were developed to efficiently assign priority ranking scores to sites. To date, 56 sites have been prioritized.
Step 6. DENR approves its contractors to proceed with imminent hazard response, comprehensive assessment and remediation (where necessary) with funds obligated to higher priority sites first.	Five sites have been identified where drinking water wells have been impacted by dry-cleaning solvents. DSCA is responding to these threats by connecting residences and businesses to municipal water lines and installing point-of-entry filtration systems to remove contaminants. Comprehensive assessments and groundwater monitoring have been initiated at 29 sites.

Program Development

The primary objective of DSCA in 2005 was to continue working toward full implementation of the program. To attain this goal, DSCA staff directed significant energy towards the development of supporting policies, procedures, and guidance. To reduce resource consumption and optimize customer service, DSCA uses its web site (www.ncdsca.org) and e-mail as the primary means to deliver program documents to its customers. As in the previous year, DSCA staff continued reviewing petitions, determining site eligibility, executing assessment and remediation agreements, screening sites for imminent hazards, supply well sampling and prioritizing sites. New activities performed in 2005 include comprehensive site assessments to delineate extent of contamination, groundwater monitoring and providing users of impacted water supply wells with clean water.

Specifically, progress was achieved in the following areas:

- Risk-Based Rule Development
- Past-Cost Reimbursement
- State-Lead Contracts
- Assessment and Remediation Agreement
- Prioritization Assessments
- Prioritization of Sites

- Database Application
- Facility Compliance and Outreach

Risk-Based Rule Development

DENR has been delegated the task of developing rules that establish a risk-based approach to assessing, prioritizing, and cleaning up dry-cleaning solvent contamination that resulted from releases at certified facilities or abandoned sites. During the past year, the DSCA Program hired an independent contractor, the RAM Group of Houston, Texas, a firm that specializes in helping states develop risk-based rules and implementation guidance. The RAM Group is currently developing a draft document with risk procedures as well as standardized reporting forms and customized spreadsheets that perform the risk calculations necessary to determine site-specific, risk-based cleanup levels. Once the draft risk document is completed, review and discussion of its content will be performed within DENR and input will be sought from a review group composed of DSCA Stakeholders. Draft rules will then be developed and advanced through the rulemaking process. It is anticipated that these rules will be completed by December 2006.

Past-Cost Reimbursement

The majority of claims against the Fund to date have been for "past costs." The DSCA Program is authorized to reimburse petitioners for appropriately documented and reasonably necessary costs incurred between October 1997 and June 2001 in certain situations pursuant to Section 2.(a) of House Bill 1062 (Session Law 2001-265). Petitioners have submitted past cost reimbursement claims for 13 sites totaling $2,612,290.79. After reviewing the claims to determine eligible costs and subtracting the required $50,000 deductible for each site, the DSCA Program determined that a total of $1,517,518.21 could be reimbursed to petitioners for 10 of the 13 sites.

Previously, the DSCA Program could only reimburse up to 10 percent of the previous fiscal year's revenue credited toward the Fund. In FY 2002-03, $1.08 million was credited toward the Fund. Pursuant to House Bill 1062, the total amount that could be reimbursed during FY 2003-04 was $108,000 (ten percent of the previous year's revenue). This amount was reimbursed to the highest prioritized site in May 2004.

On July 1, 2004, Senate Bill 1219 was signed into law by Governor Easley. This bill increased the percentage that could be used for past cost claims from 10 percent to 25 percent. This bill also allowed the DSCA Program to reimburse up to $200,000 per site during FY 2004-05 for all eligible costs from past cost claims. Eligible costs above $200,000 per site will be reimbursed during FY 2005-06 ($260,410.97) and FY 2006-07 ($58,689.75). During FY 2004-05, the DSCA Program reimbursed a total of $1,090,815.49 to petitioners.

State-Lead Contracts

In July 2004, DENR executed contracts with four environmental engineering firms to perform state-lead assessment and remediation at DSCA sites. The contracts total $2.4 million with a term of three years. During FY 04-05, these contractors have performed prioritization

assessments, comprehensive assessments and imminent hazard response activities, including the removal of contaminated soil and provision of clean drinking water to residences with contaminated water supply wells. In June 2005, the State Building Commission awarded three additional contracts totaling $9 million to three environmental engineering firms. The DSCA Program anticipates these contracts will be executed in October 2005.

Assessment and Remediation Agreement

An Assessment and Remediation Agreement (ARA) that is executed by the DSCA Program and petitioners for certified sites was developed for use beginning in September 2004. This agreement encompasses all phases of site work (prioritization and comprehensive assessments and remedial action) and allows DSCA to direct all work using its state-lead contractors. Petitioners must sign this agreement in order to obtain the liability protection afforded by DSCA and to allow DSCA's contractors to assess and remediate certified sites. Sixty-six ARAs have been executed to date. Prior to September 2004, Prioritization Assessment Agreements (PAAs) between DSCA and petitioners were used to prioritize sites. However, the PAA has been phased out and all future work will be performed under the ARA.

Prioritization Assessments

Unless site assessment information obtained during an earlier pre-DSCA investigation is available, a prioritization assessment must be performed at DSCA sites following certification into the program. Work performed during this phase consists of limited soil and groundwater sampling to determine the severity of contamination. This sampling is conducted in conjunction with a survey of the area surrounding the site to locate all potential receptors (public and private drinking water wells, surface water bodies, sensitive ecological environments) that may be threatened by the contamination.

DSCA project managers instruct the program's state-lead contractors to submit work plans that follow procedures outlined in a prioritization assessment guidance document that details the necessary scope for this work phase. Following authorization by the DSCA Program, the contractor performs the assessment and submits a prioritization assessment report that enables the program to determine the priority ranking of the site. Pursuant to the requirements of the DSCA statute, money from the fund must be obligated to higher priority sites first.

Following completion of the prioritization assessment and receipt of the contractor's invoice, the DSCA project manager would prepare and mail an invoice to the site's petitioner(s) for an amount up to the site's applicable deductible. Once the deductible has been met, the DSCA fund covers all costs until total site costs reach $200,000, at which point the petitioner(s) become responsible for one to three percent of incurred costs.

Prioritization of Sites

A total of 56 sites have been prioritized to date. In October 2004 the DSCA Program implemented a new priority scoring system that was based on the threat of contamination to nearby receptors such as supply wells and surface water. The new scoring system assigns a score that corresponds to the specific receptor that is being threatened. For example, a score of

"1.2" indicates that "an active domestic drinking water supply well is impacted or immediately threatened by the release and that the user has no access to another public or private water supply." DSCA staff can immediately know what actual or potential hazard exists at a site based simply on its score. If multiple sites are assigned the same score, then DSCA staff can evaluate other factors such as magnitude of contamination in determining priority order. All 56 prioritized sites have been re-evaluated using the new prioritization system and the sites have been ordered in terms of priority.

Database and Geographic Information System (GIS) Application

The DSCA Program has invested significant time and effort to develop and refine its database and GIS applications. Rapid application development techniques have been used to ensure its ability to manage data is flexible and can grow with the program. Technical and financial information has been entered into the database. The programmatic tracking and reporting applications are frequently revised to respond to changing information management needs.

Major improvements in 2005 focused on refining the database so that it could track project financial details. Reporting capabilities include project status, current site actions, site deductibles, costs applied toward the deductible, past-cost reimbursements, invoices, payments, work authorized on a per cost basis and change orders.

In July 2005 DENR purchased GIS software that the DSCA Program will use to view site information utilizing digital mapping. This technology will enhance project managers' ability to quickly evaluate site conditions regarding contamination, thereby assisting in site assessment and remediation.

Facility Compliance and Outreach

DENR has been authorized under DSCA to develop rules that operating dry-cleaning facilities must follow to prevent environmental contamination by dry-cleaning solvents. These rules, or Minimum Management Practices (MMPs), were implemented in 2001 as temporary rules and were approved as permanent rules in 2002. In 2005 the DSCA Program created and filled a new position that will coordinate compliance assistance visits and formal inspections of facilities and also serve as the lead for enforcement actions where necessary. This individual is currently developing inspection checklists, guidance documents and a facility database. Two additional positions are being created for inspectors who will be assigned to perform compliance assistance and facility inspections throughout the state. It is anticipated that both of these positions will be filled in FY 2005-06.

The DSCA Program is currently working to develop a memorandum-of-agreement with the Division of Air Quality that would enable the program to perform compliance inspections for air quality regulations that are applicable to dry-cleaning facilities. The program is also planning to inspect facilities for compliance with Resource Conservation and Recovery Act (RCRA) regulations, which currently are administered by the Division of Waste Management's Hazardous Waste Section. Such multimedia inspections will enable one program within DENR to ensure compliance with all environmental regulatory requirements and will give dry cleaners and the public a single DENR point-of-contact for compliance questions or concerns.

From September 2004 through May 2005, Mr. YongJim served as an intern to the DSCA Program to improve educational outreach to the Korean dry cleaners in the state. Mr. Kim was a graduate student in Duke University's International Development Policy Program who had worked for the past 20 years with the Korean Ministry of Environment. Mr. Kim met with Korean dry cleaner associations and gave a presentation on the DSCA cleanup and compliance programs to Korean dry cleaners at a training conference in Kernersville, North Carolina. Mr. Kim also translated into Korean the 2005 Dry Cleaners Air and Waste Compliance Calendar prepared by the North Carolina Small Business Assistance Program.

The DSCA Program has continued its association with dry-cleaning programs in other states through its participation in the State Coalition for the Remediation of Drycleaners (SCRD). This work group is sponsored by the EPA's Technology Innovation Office. DSCA has benefited greatly from this organization by learning from the experiences of other states. In May 2005 the North Carolina DSCA Program served as the host for SCRD's annual meeting in Raleigh.

Annual Report Elements Required by G.S. 143-215.104U

(1) DRY-CLEANING SOLVENT CONTAMINATION REPORTED TO THE DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

DSCA maintains files and a database inventory of 196 sites that are contaminated by dry-cleaning solvent. This number represents all dry-cleaning solvent releases known to DENR, assuming other agencies have forwarded notices of release to DSCA. However, it has been estimated that over 900 contaminated current or former dry-cleaning sites exist in North Carolina. Table 2 provides a list, by county, of all known sites contaminated with dry cleaning solvent. A total of 27 new dry-cleaning solvent releases were reported to DSCA in 2005. Many of these contaminated sites were identified as a result of real estate transactions and redevelopment projects.

(2) SITES CERTIFIED BY THE COMMISSION

DSCA must review a petition and the site file to determine if the site and the petitioner meet the statutory criteria for certification into the Program. Of the 128 sites that have petitioned for Program entry, 119 have been certified into the Program. Two sites have been denied certification due to failure to meet the requirements for certification as mandated by DSCA. The seven remaining sites that have not yet been certified are newly received petitions that are currently under review. The certified sites are shown in Table 3 along with current site status.

Data from these petitions have been compiled to evaluate general site characteristics. A summary is presented in Table 4. The majority of the petitioners are property owners (108), as opposed to drycleaner business owners/operators (61). Of the sites that applied, 58 percent are abandoned sites.

Table 2. Sites with Dry-cleaning Solvent Contamination

DSCA ID	City	Site Name
Alamance County (3)		
001-0001	GRAHAM	DELUXE CLEANERS AND LAUNDRY - W HARDEN ST
001-0002	BURLINGTON	WORKMAN PROPERTY - N CHURCH ST
001-0003	BURLINGTON	A CLEANER WORLD - NEW MARKET SQUARE SHOPPING CENTER
Brunswick County (2)		
010-0001	SOUTHPORT	TOWN GATE CLEANERS - N HOWE ST
010-0002	CALABASH	LOVE CLEANERS, INC. - TOWN SQUARE SHOPPING CENTER
Buncombe County (2)		
011-0001	ASHEVILLE	SWANNANOA LAUNDRY - CHURCH ST
011-0002	WEAVERVILLE	QUORUM KNITTING - REEMS CREEK RD
Burke County (2)		
012-0001	MORGANTON	FERREE CLEANERS - S STERLING ST
012-0002	MORGANTON	JORDAN'S CLEANERS - COLLEGE ST
Cabarrus County (3)		
013-0001	CONCORD	FULLER SUPPLY COMPANY - NW CROWELL DR
013-0002	CONCORD	CALDWELL CLEANERS - N CHURCH ST
013-0003	KANNAPOLIS	JAYE'S ONE-HOUR CLEANERS - N MAIN ST
Carteret County (1)		
016-0001	MOREHEAD CITY	COASTAL DRY CLEANERS - MOREHEAD PLAZA SHOPPING CENTER
Cleveland County (1)		
023-0001	SHELBY	FOLKS DRY CLEANERS - HICKORY CREEK SHOPPING CENTER
Cumberland County (5)		
026-0001	FAYETTEVILLE	MAYFLOWER LAUNDRY AND DRY CLEANING - W RUSSELL ST
026-0002	FAYETTEVILLE	EASY WASH DRY CLEANERS - BROADFOOT PLAZA SHOPPING CTR
026-0003	FAYETTEVILLE	SMITTYS CLEANERS - OWEN DR
026-0004	FAYETTEVILLE	KORE-O-MAT LAUNDROMAT - BRAGG PLAZA SHOPPING CENTER
026-0005	FAYETTEVILLE	DAVIS CLEANERS - OWEN DR
Dare County (1)		
028-0001	MANTEO	ANGE SPEED WASH - BALLAST ROCK SHOPPING CENTER
Davie County (1)		
030-0001	MOCKSVILLE	FALLIES DRY CLEANING - S MAIN ST
Durham County (10)		
032-0001	DURHAM	ONE HOUR KORETIZING - N ROXBORO RD
032-0002	DURHAM	PLANTS UNLIMITED - HILLSBOROUGH RD *
032-0003	DURHAM	TRIANGLE SQUARE CLEANERS - TRIANGLE SQUARE SHOPPING CTR
032-0004	DURHAM	EAKES CLEANERS - W MORGAN ST
032-0005	DURHAM	AMERICAN DRY CLEANERS - WOODCROFT SHOPPING CENTER
032-0006	DURHAM	AMERICAN DRYCLEANERS - MALLARD AVE
032-0007	DURHAM	MODEL LAUNDRY - HOLLOWAY ST
032-0008	DURHAM	W.P. BALLARD - JUNCTION RD
032-0009	DURHAM	TNT CLEANERS - N ROXBORO RD
032-0010	DURHAM	WEAVERS CLEANERS - FAYETTEVILLE ST

* Currently an uncertified site being addressed by DSCA as an imminent hazard site (water supply wells impacted) pursuant to N.C.G.S. 143-215.104O.

Table 2. Sites with Dry-cleaning Solvent Contamination

DSCA ID	City	Site Name
Forsyth County (14)		
034-0001	WINSTON-SALEM	CAMEL CITY CLEANERS - E 4TH ST
034-0002	WINSTON-SALEM	SHORES CLEANERS - PAVILIONS SHOPPING CENTER
034-0003	WINSTON-SALEM	A CLEANER WORLD - W ACADEMY ST
034-0004	KERNERSVILLE	HOOKER FURNITURE - N MAIN ST
034-0005	WINSTON-SALEM	KLEAN RITE CLEANERS - S HAWTHORNE RD
034-0006	WINSTON-SALEM	YOUNG CLEANERS - OBGURN STATION SHOPPING CENTER
034-0007	KERNERSVILLE	CAMELOT CLEANERS - S MAIN ST
034-0008	WINSTON-SALEM	HOUR GLASS CLEANERS - UNIVERSITY PKY
034-0009	WINSTON-SALEM	SMITH DRY CLEANERS - N MARTIN LUTHER KING JR DR
034-0010	WINSTON-SALEM	C AND S CLEANING SERVICES - WAUGHTOWN ST
034-0011	WINSTON-SALEM	CAMELOT CLEANERS - FOOD TOWN PLAZA SHOPPING CENTER
034-0012	WINSTON-SALEM	A CLEANER WORLD - HEALY DR
034-0013	WINSTON-SALEM	A CLEANER WORLD #161, PEACE HAVEN - S PEACEHAVEN RD
034-0014	WINSTON-SALEM	CAMEL CITY CLEANERS - REYNOLDA MANOR SHOPPING CENTER
Gaston County (3)		
036-0001	NORTH BELMONT	UNTZ DRY CLEANERS - ROPERS SHOPPING CENTER
036-0002	GASTONIA	CARSONS DRY CLEANERS - HIGHLAND PLAZA SHOPPING CENTER
036-0003	GASTONIA	DE-LUX CLEANERS - DIXIE VILLAGE SHOPPING CENTER
Granville County (1)		
039-0001	OXFORD	OXFORD DRY CLEANERS - HILLSBORO ST
Guilford County (22)		
041-0001	GREENSBORO	CLEANER IMAGE - LAWNDALE VILLAGE SHOPPING CENTER
041-0002	GREENSBORO	CINDERELLA CLEANERS - BENBOW SHOPPING CENTER
041-0003	GREENSBORO	U.S. $1.75 CLEANERS - BENCHMARK SQUARE SHOPPING CENTER
041-0004	GREENSBORO	COLUMBIA LAUNDRY CORP - BATTLEGROUND AVE
041-0005	HIGH POINT	DUTCH CLEANERS - S MAIN ST
041-0006	HIGH POINT	EASTGATE CLEANERS - EASTGATE SHOPPING CENTER
041-0007	GREENSBORO	MASTER KLEEN - FOREST OAKS SHOPPING CENTER
041-0008	JAMESTOWN	A CLEANER WORLD - W MAIN ST
041-0009	GREENSBORO	EVERHART DRY CLEANERS - NORTHEAST PLAZA SHOPPING CENTER
041-0010	GREENSBORO	GLAM-O-RAMA - CUMBERLAND SHOPPING CENTER
041-0011	GREENSBORO	O HENRY CLEANERS - SUMMIT AVE
041-0012	STOKESDALE	STOKESDALE FIRE DEPARTMENT - 158 HWY
041-0013	HIGH POINT	BANNER LAUNDRY - N MAIN ST
041-0014	GREENSBORO	MASTER KLEEN CLEANERS - HIGH POINT RD
041-0015	GREENSBORO	A CLEANER WORLD - SPRING GARDEN ST
041-0016	HIGH POINT	$2.50 PRO CLEANERS - N MAIN ST
041-0017	GREENSBORO	PREMIER CLEANERS - SUMMIT AVE
041-0018	GREENSBORO	DRY CLEAN AMERICA - SPRING VALLEY PLAZA SHOPPING CENTER
041-0019	GREENSBORO	BURNETTS CLEANER AND LAUNDRY - E MARKET ST
041-0020	HIGH POINT	HISTORIC DRY CLEANER LOCATION - N MAIN ST
041-0021	HIGH POINT	GINGISS FORMAL WEAR - N MAIN ST
041-0022	GREENSBORO	FORDHAMS CLEANERS - SPRING GARDEN ST

Table 2. Sites with Dry-cleaning Solvent Contamination

DSCA ID	City	Site Name
Henderson County (2)		
045-0001	HENDERSONVILLE	BLUE RIDGE CLEANERS - E SEVENTH AVE
045-0002	HENDERSONVILLE	VILLAGE ONE HOUR CLEANERS - E BARNWELL ST
Iredell County (4)		
049-0001	STATESVILLE	SMITHS DRY CLEANERS - GORDON ST
049-0002	STATESVILLE	JOHNSON CLEANERS, INC. - E BROAD ST
049-0003	STATESVILLE	BROOKDALE CLEANERS - BROOKDALE SHOPPING CENTER
049-0004	TROUTMAN	CAMPBELL'S CLEANERS - WAGNER ST
Johnston County (1)		
051-0001	SMITHFIELD	GLAM O RAMA CLEANERS - E MARKET ST
Lenoir County (1)		
054-0001	KINSTON	VICKS CLEANERS - PLAZA SHOPPING CENTER SHOPPING CENTER
Lincoln County (1)		
055-0001	LINCOLNTON	LINCOLN CLEANERS - LINCOLN CENTER SHOPPING CENTER
Martin County (2)		
059-0001	ROBERSONVILLE	WILLIFORD CLEANERS - E ACADEMY ST
059-0002	WILLIAMSTON	TOWN & COUNTRY CLEANERS - WASHINGTON ST
Mcdowell County (1)		
056-0001	OLD FORT	NICHOLS LAUNDRY AND DRY CLEANING - CATAWBA AVE
Mecklenburg County (37)		
060-0001	CHARLOTTE	A CLEANER - MONROE RD
060-0002	CHARLOTTE	AMERICAN DRY CLEANER - E MOREHEAD ST
060-0003	MATTHEWS	CROSSROADS DRY CLEANERS - HOODS CROSSROADS SHOPPING CTR
060-0004	CHARLOTTE	MINUTE MAN CLEANERS - EASTWAY CROSSING SHOPPING CENTER
060-0005	CHARLOTTE	MITCHELLS FORMAL WEAR WAREHOUSE - CROSLAND CENTRE
060-0006	CHARLOTTE	PEOPLES CLEANERS - BEATTIES FORD RD
060-0007	CHARLOTTE	QUAIL DRY CLEANERS - QUAIL CORNERS SHOPPING CENTER
060-0008	CHARLOTTE	SNO-WHITE CLEANERS AND LAUNDERERS - SOUTHPARK MALL
060-0009	CHARLOTTE	SPRINGFRESH CLEANER - SARDIS VILLAGE SHOPPING CENTER
060-0010	CHARLOTTE	BOGGS AND COMPANY - GLENWOOD DR
060-0011	CHARLOTTE	SNO-WHITE CLEANERS - CARMEL COMMONS SHOPPING CENTER
060-0012	CHARLOTTE	DOMESTIC LAUNDRY - S MCDOWELL ST
060-0013	CHARLOTTE	CUNNINGHAM CLEANERS - COTSWALD MALL SHOPPING CENTER
060-0014	CHARLOTTE	ONE PRICE DRY-CLEANING - SOUTH SQUARE MARKETPLACE
060-0015	CHARLOTTE	CARRIAGE FINE DRY CLEANING - ARBORETUM SHOPPING CENTER
060-0016	CHARLOTTE	60 MINUTE CLEANERS - STEELE CREEK COMMONS SHOPPING CTR
060-0017	CHARLOTTE	GATEWAY VILLAGE DEVELOPMENT - W TRADE ST
060-0018	CHARLOTTE	SUDS N DUDS - N SHARON AMITY RD
060-0019	CHARLOTTE	CUNNINGHAM CLEANERS - N DAVIDSON ST
060-0020	CHARLOTTE	HOME DEPOT - MIDTOWN SQUARE SHOPPING CENTER
060-0021	PINEVILLE	HEARTS DRY CLEANERS - PARK PLACE SHOPPING CENTER
060-0022	PINEVILLE	RAINBOW CLEANERS - COUNTRYSIDE SHOPPING CENTER
060-0023	CHARLOTTE	PRESTOWN LAUNDRY AND CLEANERS - IDLEWILD RD
060-0024	CHARLOTTE	60 MINUTE CLEANERS - PLAZA SHOPPING CENTER

Table 2. Sites with Dry-cleaning Solvent Contamination

DSCA ID	City	Site Name
Mecklenburg County (cont.)		
060-0025	MATTHEWS	HO CLEANERS - PLANTATION MARKET SHOPPING CENTER
060-0026	CHARLOTTE	SNO-WHITE CLEANERS - E 4TH ST
060-0027	CHARLOTTE	CHARLIE BROWNS DRY CLEANERS - MAJOR ST
060-0028	CHARLOTTE	SHARON CLEANERS - SHARON CORNERS SHOPPING CENTER
060-0029	CHARLOTTE	ABRA COSTUMES - CENTRAL AVE
060-0030	CHARLOTTE	VILLAGE CLEANERS - ALBEMARLE RD
060-0031	CHARLOTTE	SNO-WHITE CLEANERS - FOUR SEASONS SHOPPING CENTER
060-0032	CHARLOTTE	EASTWAY QUICK CLEAN SERVICE - EASTWAY CROSSING SHPG CTR
060-0033	CHARLOTTE	JONES DRY CLEANING - E 4TH ST
060-0034	MATTHEWS	HO CLEANERS - MATTHEWS FESTIVAL SHOPPING CENTER
060-0035	CHARLOTTE	IVORY CLEANERS - WESTERLY HILLS SHOPPING CENTER
060-0036	CHARLOTTE	FAULK CLEANERS - WESTERLY HILLS SHOPPING CENTER
060-0037	CHARLOTTE	DRYCLEAN CAROLINAS - SOUTH BLVD
Moore County (4)		
063-0001	PINEHURST	PINEHURST HOTEL CLEANERS - MCCASKILL RD
063-0002	ABERDEEN	CARTERS FABRICARE - TOWN AND COUNTRY SHOPPING CENTER
063-0003	SOUTHERN PINES	CARTERS LAUNDRY AND CLEANING - W NEW YORK AVE
063-0004	ABERDEEN	SOAPY BUBBLES - POPLAR ST
Nash County (2)		
064-0001	ROCKY MOUNT	CLEAN-CLEAN DRY CLEANERS - WESTRIDGE VILLAGE SHPG CTR
064-0002	ROCKY MOUNT	CLEAN-CLEAN DRY CLEANERS - TARRYTOWN MALL SHOPPING CTR
New Hanover County (5)		
065-0001	WILMINGTON	MODERN DRY CLEANERS AND LAUNDRY - INDEPENDENCE MALL
065-0002	WILMINGTON	COASTAL DRY CLEANERS - LONG LEAF MALL SHOPPING CENTER
065-0003	WILMINGTON	COASTAL DRY CLEANERS AND COIN LAUNDRY - OLEANDER DR
065-0004	WILMINGTON	COASTAL DRY CLEANERS - CAROLINA BEACH RD
065-0005	WILMINGTON	WILLIAMS CLEANERS - MARKET ST
ONSLOW County (6)		
067-0001	JACKSONVILLE	ABC ONE HOUR CLEANERS - LEJEUNE
067-0002	JACKSONVILLE	SOUTHERN CLEANERS AND LAUNDRY - COURT ST
067-0003	SWANSBORO	COASTAL DRY CLEANERS - W CORBETT AVE
067-0004	JACKSONVILLE	COASTAL DRY CLEANERS - NEW MARKET SQUARE SHOPPING CTR
067-0005	MIDWAY PARK	VILLAGE CLEANERS - PINEY GREEN SHOPPING CENTER
067-0006	JACKSONVILLE	NORTHWOODS CLEANERS - HENDERSON DR
Orange County (5)		
068-0001	CHAPEL HILL	KSP CLEANERS - EASTGATE SHOPPING CENTER
068-0002	CHAPEL HILL	AMERICAN DRY CLEANERS - UNIVERSITY MALL SHOPPING CENTER
068-0003	CHAPEL HILL	DELUXE CLEANERS - VILLAGE PLAZA SHOPPING CENTER
068-0004	DURHAM	SCOTT AND ROBERTS DRY CLEANERS - FOSTER ST
068-0005	CHAPEL HILL	MIDTOWN SHOPS LLC - MIDTOWN SHOPS SHOPPING CENTER
Pasquotank County (1)		
070-0001	ELIZABETH CITY	SOUTHGATE KORETIZING - SOUTHGATE MALL SHOPPING CENTER

Table 2. Sites with Dry-cleaning Solvent Contamination

DSCA ID	City	Site Name
Pitt County (5)		
074-0001	GREENVILLE	KORETIZING CLEANERS - PLAZA MALL SHOPPING CENTER
074-0002	AYDEN	AYDEN PLAZA - AYDEN PLAZA SHOPPING CENTER
074-0003	GREENVILLE	BETTER LOOK GARMENT CARE - ARLINGTON PLAZA SHOPPING CTR
074-0004	GREENVILLE	BOWENS CLEANERS - STANTON SQUARE SHOPPING CENTER
074-0005	GREENVILLE	BOWEN CLEANERS - S EVANS ST
Polk County (1)		
075-0001	TRYON	BROCKS CLEANERS - MAPLE ST
Randolph County (1)		
076-0001	ASHEBORO	HILLSIDE LAUNDROMAT - HILLSIDE SHOPPING CENTER
Robeson County (1)		
078-0001	FAIRMONT	STEVENS DRY CLEANERS - CENTER ST
Rockingham County (1)		
079-0001	REIDSVILLE	HICKS POLY CLEAN CENTER SELF SERVICE LAUNDRY - S SCALES ST
Rowan County (2)		
080-0001	SPENCER	SHUPING CLEANERS - PARK PLAZA SHOPPING CENTER
080-0002	SALISBURY	AVALON CLEANERS - SALISBURY TOWNSHIP SHOPPING CENTER
Rutherford County (1)		
081-0001	FOREST CITY	CONE MILLS - DEPOT ST
Surry County (1)		
086-0001	MOUNT AIRY	MODERN LAUNDRY AND DRY CLEANERS - W LEBANON ST
Union County (1)		
090-0001	MONROE	PRESTOWN PRESTO CLEAN - SUTTON PARK SHOPPING CENTER
Wake County (31)		
092-0001	RALEIGH	PRO CLEANERS - TOWNE NORTH SHOPPING CENTER
092-0002	RALEIGH	SHERRILLS DRY CLEANERS - PLAZA WEST SHOPPING CENTER
092-0003	RALEIGH	RAINBOW CLEANERS AND LAUNDRY - GLENWOOD VILLAGE SC
092-0004	CARY	MEDLIN-DAVIS CLEANERS - KILDAIRE PLAZA SHOPPING CENTER
092-0005	RALEIGH	DJ CLEANERS - TOWER MERCHANTS VILLAGE SHOPPING CENTER
092-0006	RALEIGH	HILKERS CLEANERS - EASTGATE SHOPPING CENTER
092-0007	RALEIGH	BROTHERS CLEANERS - NORTH RIDGE SHOPPING CENTER
092-0008	RALEIGH	JOHNSONS DRY CLEANERS - RIDGEWOOD SHOPPING CENTER
092-0009	KNIGHTDALE	KNIGHTDALE CLEANERS - KNIGHTDALE CROSSINGS SHOPPING CTR
092-0010	RALEIGH	FULLER SUPPLY COMPANY - EBY DR
092-0011	CARY	MEDLIN-DAVIS CLEANERS - MACGREGOR VILLAGE SHOPPING CTR
092-0012	RALEIGH	NEWTONS CLEANERS - CAMERON VILLAGE SHOPPING CENTER
092-0013	RALEIGH	MEDLIN-DAVIS CLEANERS - CAMERON VILLAGE SHOPPING CENTER
092-0014	RALEIGH	GLAM-O-RAMA CLEANERS - CAPITAL SQUARE SHOPPING CENTER
092-0015	RALEIGH	EMPORIUM CLEANERS - EMPORIUM PLAZA SHOPPING CENTER
092-0016	RALEIGH	NEW HOPE CLEANERS AND TAILORS - TARRYMORE SQUARE SC
092-0017	RALEIGH	BROTHERS CLEANERS - THE LASSITER AT NORTH HILLS SC
092-0018	RALEIGH	ACE DRY CLEANERS - ATLANTIC AVE
092-0019	RALEIGH	SANITARY LAUNDRY - MCDOWELL ST
092-0020	RALEIGH	SHERRILL'S DRY CLEANING - CELEBRATION AT SIX FORKS SC

Table 2. Sites with Dry-cleaning Solvent Contamination

DSCA ID	City	Site Name
Wake County (cont.)		
092-0021	RALEIGH	T AND J CLEANERS - GATEWAY PLAZA SHOPPING CENTER
092-0022	RALEIGH	MEDLIN DAVIS CLEANERS - KIDDS HILL PLAZA SHOPPING CENTER
092-0023	RALEIGH	POPES DRY CLEANERS - GREYSTONE VILLAGE SHOPPING CENTER
092-0024	RALEIGH	PLEASANT VALLEY CLEANERS - TOWNRIDGE SHOPPING CENTER
092-0025	RALEIGH	HILKERS CLEANERS - SUTTON SQUARE SHOPPING CENTER
092-0026	RALEIGH	IDEAL CLEANERS - FALLS VILLAGE SHOPPING CENTER
092-0027	RALEIGH	EAGLE CLEANERS - SPRINGFIELD COMMONS RETAIL SHOPPING CTR
092-0028	RALEIGH	JOY CLEANERS - FAYETTEVILLE RD
092-0029	CARY	GALAXY CLEANERS - WAVERLY PLACE SHOPPING CENTER
092-0030	APEX	BEST DRY CLEANERS - PEAK PLAZA SHOPPING CENTER
092-0031	RALEIGH	THE CLEANERS - AVENT FERRY SHOPPING CENTER SHOPPING CTR
Wayne County (1)		
096-0001	GOLDSBORO	PENNY DRY CLEANERS - E ASH ST
Wilson County (7)		
098-0001	WILSON	KORETIZING CLEANERS - WARD BLVD
098-0002	WILSON	DISCOUNT CLEANERS - FIKEWOOD PLAZA SHOPPING CENTER
098-0003	WILSON	EXCLUSIVE CLEANERS - S GOLDSBORO ST
098-0004	WILSON	EXCLUSIVE CLEANERS - PARKWOOD MALL & PLAZA SHOPPING CTR
098-0005	WILSON	FRIENDLY CLEANERS - S PENDER ST
098-0006	WILSON	EXCLUSIVE CLEANERS - PARKWOOD MALL & PLAZA SHOPPING CTR
098-0007	WILSON	EXCLUSIVE CLEANERS - CENTURA VILLAGE SHOPPING CENTER

196 Contaminated Dry-cleaning Sites

Table 3. DSCA Certified Dry-cleaning Sites

DSCA ID	City	Site Name	Status
Alamance County (1)			
001-0003	BURLINGTON	A CLEANER WORLD- NEW MARKET SQUARE	Certified
Brunswick County (2)			
010-0001	SOUTHPORT	TOWN GATE CLEANERS - N HOWE ST	Assessment
010-0002	CALABASH	LOVE CLEANERS, INC. - TOWN SQUARE SHOPPING CENTER	Assessment
Buncombe County (1)			
011-0001	ASHEVILLE	SWANNANOA LAUNDRY - CHURCH ST	Prioritization
Burke County (2)			
012-0001	MORGANTON	FERREE CLEANERS - S STERLING ST	Certified
012-0002	MORGANTON	JORDAN'S CLEANERS - COLLEGE ST	Certified
Cabarrus County (2)			
013-0001	CONCORD	FULLER SUPPLY COMPANY - NW CROWELL DR	Prioritization
013-0002	CONCORD	CALDWELL CLEANERS - N CHURCH ST	Prioritization
Carteret County (1)			
016-0001	MOREHEAD CITY	COASTAL DRY CLEANERS - MOREHEAD PLAZA SC	Assessment
Cleveland County (1)			
023-0001	SHELBY	FOLKS DRY CLEANERS - HICKORY CREEK SHOPPING CENTER	Assessment
Cumberland County (3)			
026-0001	FAYETTEVILLE	MAYFLOWER LAUNDRY AND DRY CLEANING - W RUSSELL ST	Certified
026-0003	FAYETTEVILLE	SMITTYS CLEANERS - OWEN DR	Imminent Hazard
026-0004	FAYETTEVILLE	KORE-O-MAT LAUNDROMAT - BRAGG PLAZA SHOPPING CTR	Certified
Dare County (1)			
028-0001	MANTEO	ANGE SPEED WASH - BALLAST ROCK SHOPPING CENTER	Certified
Durham County (5)			
032-0003	DURHAM	TRIANGLE SQUARE CLEANERS - TRIANGLE SQUARE SC	Prioritization
032-0005	DURHAM	AMERICAN DRY CLEANERS - WOODCROFT SHOPPING CENTER	Certified
032-0007	DURHAM	MODEL LAUNDRY - HOLLOWAY ST	Certified
032-0008	DURHAM	W.P. BALLARD - JUNCTION RD	Prioritization
032-0010	DURHAM	WEAVERS CLEANERS - FAYETTEVILLE ST	Certified
Forsyth County (7)			
034-0007	KERNERSVILLE	CAMELOT CLEANERS - S MAIN ST	Certified
034-0008	WINSTON-SALEM	HOUR GLASS CLEANERS - UNIVERSITY PKY	Prioritization
034-0009	WINSTON-SALEM	SMITH DRY CLEANERS - N MARTIN LUTHER KING JR DR	Prioritization
034-0011	WINSTON-SALEM	CAMELOT CLEANERS - FOOD TOWN PLAZA SHOPPING CENTER	Certified
034-0012	WINSTON-SALEM	A CLEANER WORLD - HEALY DR	Certified
034-0013	WINSTON-SALEM	A CLEANER WORLD #161, PEACE HAVEN - S PEACEHAVEN RD	Prioritization
034-0014	WINSTON-SALEM	CAMEL CITY CLEANERS - REYNOLDA MANOR SHOPPING CTR	Prioritization
Gaston County (1)			
036-0003	GASTONIA	DE-LUX CLEANERS - DIXIE VILLAGE SHOPPING CENTER	Imminent Hazard
Guilford County (9)			
041-0001	GREENSBORO	CLEANER IMAGE - LAWNDALE VILLAGE SHOPPING CENTER	Certified
041-0003	GREENSBORO	U.S. $1.75 CLEANERS - BENCHMARK SQUARE SHOPPING CTR	Prioritization
041-0006	HIGH POINT	EASTGATE CLEANERS - EASTGATE SHOPPING CENTER	Assessment
041-0007	GREENSBORO	MASTER KLEEN - FOREST OAKS SHOPPING CENTER	Assessment
041-0008	JAMESTOWN	A CLEANER WORLD - W MAIN ST	Certified
041-0009	GREENSBORO	EVERHART DRY CLEANERS - NORTHEAST PLAZA SC	Assessment
041-0017	GREENSBORO	PREMIER CLEANERS - SUMMIT AVE	Prioritization

Table 3. DSCA Certified Dry-cleaning Sites

DSCA ID	City	Site Name	Status
Guilford County (cont.)			
041-0018	GREENSBORO	DRY CLEAN AMERICA - SPRING VALLEY PLAZA SC	Prioritization
041-0021	HIGH POINT	GINGISS FORMAL WEAR - N MAIN ST	Assessment
Henderson County (1)			
045-0002	HENDERSONVILLE	VILLAGE ONE HOUR CLEANERS - E BARNWELL ST	Certified
Iredell County (3)			
049-0002	STATESVILLE	JOHNSON CLEANERS, INC. - E BROAD ST	Prioritization
049-0003	STATESVILLE	BROOKDALE CLEANERS - BROOKDALE SHOPPING CENTER	Assessment
049-0004	TROUTMAN	CAMPBELL'S CLEANERS - WAGNER ST	Certified
Lenoir County (1)			
054-0001	KINSTON	VICKS CLEANERS - PLAZA SHOPPING CENTER SHOPPING CTR	Prioritization
Lincoln County (1)			
055-0001	LINCOLNTON	LINCOLN CLEANERS - LINCOLN CENTER SHOPPING CENTER	Prioritization
Mecklenburg County (23)			
060-0001	CHARLOTTE	A CLEANER - MONROE RD	Certified
060-0003	MATTHEWS	CROSSROADS DRY CLEANERS - HOODS CROSSROADS SC	Prioritization
060-0004	CHARLOTTE	MINUTE MAN CLEANERS - EASTWAY CROSSING SC	Prioritization
060-0005	CHARLOTTE	MITCHELLS FORMAL WEAR WAREHOUSE - CROSLAND CENTRE	Certified
060-0007	CHARLOTTE	QUAIL DRY CLEANERS - QUAIL CORNERS SHOPPING CENTER	Certified
060-0008	CHARLOTTE	SNO-WHITE CLEANERS AND LAUNDERERS - SOUTHPARK MALL	Certified
060-0010	CHARLOTTE	BOGGS AND COMPANY - GLENWOOD DR	Certified
060-0011	CHARLOTTE	SNO-WHITE CLEANERS - CARMEL COMMONS SHOPPING CTR	Certified
060-0012	CHARLOTTE	DOMESTIC LAUNDRY - S MCDOWELL ST	Certified
060-0014	CHARLOTTE	ONE PRICE DRY-CLEANING - SOUTH SQUARE MARKETPLACE	Assessment
060-0016	CHARLOTTE	60 MINUTE CLEANERS - STEELE CREEK COMMONS SC	Certified
060-0021	PINEVILLE	HEARTS DRY CLEANERS - PARK PLACE SHOPPING CENTER	Assessment
060-0023	CHARLOTTE	PRESTOWN LAUNDRY AND CLEANERS - IDLEWILD RD	Prioritization
060-0024	CHARLOTTE	60 MINUTE CLEANERS - PLAZA SHOPPING CENTER.	Prioritization
060-0025	MATTHEWS	HO CLEANERS - PLANTATION MARKET SHOPPING CENTER	Assessment
060-0026	CHARLOTTE	SNO-WHITE CLEANERS - E 4TH ST	Prioritization
060-0028	CHARLOTTE	SHARON CLEANERS - SHARON CORNERS SHOPPING CENTER	Prioritization
060-0029	CHARLOTTE	ABRA COSTUMES - CENTRAL AVE	Assessment
060-0030	CHARLOTTE	VILLAGE CLEANERS - ALBEMARLE RD	Assessment
060-0031	CHARLOTTE	SNO-WHITE CLEANERS - FOUR SEASONS SHOPPING CENTER	Certified
060-0032	CHARLOTTE	EASTWAY QUICK CLEAN SERVICE - EASTWAY CROSSING SC	Certified
060-0034	MATTHEWS	HO CLEANERS - MATTHEWS FESTIVAL SHOPPING CENTER	Assessment
060-0037	CHARLOTTE	DRYCLEAN CAROLINAS - SOUTH BLVD	Assessment
Moore County (3)			
063-0001	PINEHURST	PINEHURST HOTEL CLEANERS - MCCASKILL RD	Prioritization
063-0003	SOUTHERN PINES	CARTERS LAUNDRY AND CLEANING - W NEW YORK AVE	Prioritization
Moore County (3)			
063-0004	ABERDEEN	SOAPY BUBBLES - POPLAR ST	Prioritization
New Hanover County (4)			
065-0001	WILMINGTON	MODERN DRY CLEANERS & LAUNDRY - INDEPENDENCE MALL	Certified
065-0002	WILMINGTON	COASTAL DRY CLEANERS - LONG LEAF MALL SHOPPING CTR	Certified
065-0004	WILMINGTON	COASTAL DRY CLEANERS - CAROLINA BEACH RD	Certified
065-0005	WILMINGTON	WILLIAMS CLEANERS - MARKET ST	Assessment

Table 3. DSCA Certified Dry-cleaning Sites

DSCA ID	City	Site Name	Status
Onslow County (2)			
067-0002	JACKSONVILLE	SOUTHERN CLEANERS AND LAUNDRY - COURT ST	Assessment
067-0005	MIDWAY PARK	VILLAGE CLEANERS - PINEY GREEN SHOPPING CENTER	Prioritization
Orange County (4)			
068-0001	CHAPEL HILL	KSP CLEANERS - EASTGATE SHOPPING CENTER	Certified
068-0003	CHAPEL HILL	DELUXE CLEANERS - VILLAGE PLAZA SHOPPING CENTER	Certified
068-0004	DURHAM	SCOTT AND ROBERTS DRY CLEANERS - FOSTER ST	Certified
068-0005	CHAPEL HILL	MIDTOWN SHOPS LLC - MIDTOWN SHOPS SHOPPING CENTER	Certified
Pasquotank County (1)			
070-0001	ELIZABETH CITY	SOUTHGATE KORETIZING - SOUTHGATE MALL SHOPPING CTR	Prioritization
Pitt County (2)			
074-0004	GREENVILLE	BOWENS CLEANERS - STANTON SQUARE SHOPPING CENTER	Prioritization
074-0005	GREENVILLE	BOWEN CLEANERS - S EVANS ST	Certified
Polk County (1)			
075-0001	TRYON	BROCKS CLEANERS - MAPLE ST	Prioritization
Rockingham County (1)			
079-0001	REIDSVILLE	HICKS POLY CLEAN SELF SERVICE LAUNDRY - S SCALES ST	Assessment
Rowan County (1)			
080-0001	SPENCER	SHUPING CLEANERS - PARK PLAZA SHOPPING CENTER	Prioritization
Surry County (1)			
086-0001	MOUNT AIRY	MODERN LAUNDRY AND DRY CLEANERS - W LEBANON ST	Assessment
Union County (1)			
090-0001	MONROE	PRESTOWN PRESTO CLEAN - SUTTON PARK SHOPPING CTR	Certified
Wake County (27)			
092-0001	RALEIGH	PRO CLEANERS - TOWNE NORTH SHOPPING CENTER	Imminent Hazard
092-0003	RALEIGH	RAINBOW CLEANERS AND LAUNDRY - GLENWOOD VILLAGE	Certified
092-0004	CARY	MEDLIN-DAVIS CLEANERS - KILDAIRE PLAZA SHOPPING CTR	Certified
092-0005	RALEIGH	DJ CLEANERS - TOWER MERCHANTS VILLAGE SHOPPING CTR	Prioritization
092-0006	RALEIGH	HILKERS CLEANERS - EASTGATE SHOPPING CENTER	Certified
092-0007	RALEIGH	BROTHERS CLEANERS - NORTH RIDGE SHOPPING CENTER	Prioritization
092-0008	RALEIGH	JOHNSONS DRY CLEANERS - RIDGEWOOD SHOPPING CENTER	Prioritization
092-0010	RALEIGH	FULLER SUPPLY COMPANY - EBY DR	Certified
092-0011	CARY	MEDLIN-DAVIS CLEANERS - MACGREGOR VILLAGE SC	Assessment
092-0012	RALEIGH	NEWTONS CLEANERS - CAMERON VILLAGE SHOPPING CTR	Certified
092-0013	RALEIGH	MEDLIN-DAVIS CLEANERS - CAMERON VILLAGE SC	Certified
092-0014	RALEIGH	GLAM-O-RAMA CLEANERS - CAPITAL SQUARE SHOPPING CTR	Certified
Wake County (27)			
092-0015	RALEIGH	EMPORIUM CLEANERS - EMPORIUM PLAZA SHOPPING CTR	Prioritization
092-0016	RALEIGH	NEW HOPE CLEANERS AND TAILORS - TARRYMORE SQUARE	Certified
092-0017	RALEIGH	BROTHERS CLEANERS - THE LASSITER AT NORTH HILLS SC	Prioritization
092-0018	RALEIGH	ACE DRY CLEANERS - ATLANTIC AVE	Prioritization
092-0019	RALEIGH	SANITARY LAUNDRY - MCDOWELL ST	Certified
092-0020	RALEIGH	SHERRILL'S DRY CLEANING - CELEBRATION AT SIX FORKS SC	Prioritization
092-0021	RALEIGH	T AND J CLEANERS - GATEWAY PLAZA SHOPPING CENTER	Assessment
092-0022	RALEIGH	MEDLIN DAVIS CLEANERS - KIDDS HILL PLAZA SHOPPING CTR	Prioritization
092-0023	RALEIGH	POPES DRY CLEANERS - GREYSTONE VILLAGE SHOPPING CTR	Certified

Table 3. DSCA Certified Dry-cleaning Sites

DSCA ID	City	Site Name	Status
Wake County (cont.)			
092-0024	RALEIGH	PLEASANT VALLEY CLEANERS - TOWNRIDGE SHOPPING CTR	Prioritization
092-0025	RALEIGH	HILKERS CLEANERS - SUTTON SQUARE SHOPPING CENTER	Certified
092-0027	RALEIGH	EAGLE CLEANERS - SPRINGFIELD COMMONS RETAIL SC	Prioritization
092-0028	RALEIGH	JOY CLEANERS - FAYETTEVILLE RD	Emergency Action
092-0029	CARY	GALAXY CLEANERS - WAVERLY PLACE SHOPPING CENTER	Prioritization
092-0030	APEX	BEST DRY CLEANERS - PEAK PLAZA SHOPPING CENTER	Certified
Wilson County (6)			
098-0001	WILSON	KORETIZING CLEANERS - WARD BLVD	Certified
098-0002	WILSON	DISCOUNT CLEANERS - FIKEWOOD PLAZA SHOPPING CENTER	Prioritization
098-0003	WILSON	EXCLUSIVE CLEANERS - S GOLDSBORO ST	Certified
098-0004	WILSON	EXCLUSIVE CLEANERS - PARKWOOD MALL & PLAZA SC	Certified
098-0006	WILSON	EXCLUSIVE CLEANERS - PARKWOOD MALL AND PLAZA SC	Certified
098-0007	WILSON	EXCLUSIVE CLEANERS - CENTURA VILLAGE SHOPPING CTR	Certified

119 Certified Sites

Table 4. DSCA Site Statistics

Petition Status	Number	Percent of Total
Sites Petitioned in Program	128	
Sites Certified	119	94
Sites Pending Certification	7	5
Sites Denied Certification	2	1
Site Status		
Sites with Executed Agreements	66	
Sites Prioritized	56	
Site Classification		
Abandoned	75	58
Wholesale Distribution	2	2
Operating	49	38
Undetermined	2	2
Size Distribution of Operating Sites		
Small Size (1-4 employees)	17	35
Medium Size (5 - 9 employees)	12	24
Large Size (≥ 10 employees)	20	41
Distribution and Classification of Petitions		
Property Owners	108	64
Dry-cleaning Business Owners/Operator	61	36

(3) COST ESTIMATE FOR ASSESSMENT AND REMEDIATION OF CERTIFIED SITES

Actual costs to assess and remediate DSCA sites are anticipated to vary widely from site to site. Factors influencing costs include site geology, age of release, the chemical nature of the solvents released and the threats posed to potential receptors. However, an annual spending cap of $200,000 per site is applied by statute unless contamination at a site poses an imminent threat to public health. In these cases, annual expenditures are capped at $400,000 per site.

Based on costs figures provided by other states, DSCA can calculate an approximate total cleanup cost for those sites that have been certified into the program. Using an average total cleanup cost of $250,000 per site, the total projected cost to remediate the 119 presently certified sites is approximately $30 million. Based on figures from the North Carolina Department of Labor, there are at least 2,000 active and abandoned dry-cleaning facilities in the state. Investigations performed across the nation indicate that contamination is present in about 75 percent of all dry-cleaning operations. Applying this percentage to the number of current and former facilities in North Carolina, a total of 1,500 contaminated sites may be present. If only 50 percent of these contaminated sites are accepted into the DSCA Program, the projected total cleanup cost would be approximately $188 million.

[1] Assessment and Remediation Agreements
[2] Reflects multiple petitioners for some sites

The DSCA Program controls site costs by reviewing and pre-approving all work plans submitted by its state-lead contractors prior to the start of field activities. All plans are required to provide sufficient detail (e.g., unit costs, subcontractor bids) to allow for an effective pre-approval review. DSCA's contracts include set unit rates that the contractors must follow for all assigned work.

(4) RECEIPTS AND DISBURSEMENTS FOR THE FUND

The primary funding sources for the dry-cleaning solvent cleanup fund are a tax on dry-cleaning solvents and, beginning in July 2003, the state portion of the current sales tax on dry-cleaning. The DSCA Fund's finances through FY 2004-05 (ending June 30, 2005) are summarized below:

Collections FY 97-98	$ 474,717.47
Collections FY 98-99	$ 927,004.50
Collections FY 99-00	$ 968,993.09
Collections FY 00-01	$ 863,772.16
Collections FY 01-02	$1,061,298.70
Collections FY 02-03	$1,076,826.57
Collections FY 03-04	$9,487,233.94 *
Collections FY 04-05	$9,660,612.84
Solvent Tax Revenue (all years)	$6,612,247.74
Sales Tax on Dry-cleaning Revenue	$16,618,958.95
Deductible/Co-Pay Payments from Petitioners	$ 8,488.50
Interest	$ 1,280,764.08
Total Collections	**$24,520,459.27**
Dept. of Revenue Expenses	$ 30,764.42 **
Cleanup Expenses	
Reimbursements to Petitioners	$ 1,373,689.96
Payments to State-lead Contractors	$ 125,202.32
DENR Administrative Expenses	$ 1,589,114.16
Total Expenditures	**$ 3,118,770.86**
Fund Balance	**$21,401,688.41**
Funds Encumbered in Contracts	$11,409,797.68

* The significant increase in collections during FY 03-04 compared to previous years is due to the addition of the sales tax on dry-cleaning revenue.

** This represents the actual amount charged by the Department of Revenue for its expenses. The Department of Revenue is authorized by DSCA to charge no more than $125,000 per year.

Fund expenditures for site work will increase significantly when additional contracts with environmental engineering firms are executed and the risk-based rules are completed. The DSCA Program up to this time has been assessing the extent of contamination at certified sites and performing remediation to address imminent hazard situations such as treatment and replacement of contaminated drinking water and excavation of hazardous soil. Once developed and implemented, the risk-based rules will enable the Program to determine site-specific cleanup levels at all sites. Remediation, the most expensive phase of site work, can then commence at those sites where the risks posed by the contamination are unacceptable as defined by the rules. Expenditures are projected to increase by approximately 230 percent beginning in FY 2006-07.

(5) CLAIMS AGAINST THE FUND

There are two types of claims against the DSCA Fund. The majority of claims come from petitioners that incurred past investigative/remedial costs in response to an order or notice of violation from DENR prior to DSCA implementation. Past-cost claims that meet the requirements of Section 2.(a) of House Bill 1062 (Session Law 2001-265) were described previously in the section on "Past-Cost Reimbursement". Of those eligible past costs totaling $1,517,518.21, a total of $1,198,417.49 has been reimbursed and the remaining $319,100.72 will be reimbursed in FY 2005-06 and FY 2006-07.

The second type of claim against the DSCA Fund is for approved costs for site work which exceed the site's deductible that was performed by an environmental contractor hired by the petitioner. Beginning in September 2004, the DSCA Program began assigning all site work to its state-lead contractors. However, some claims will be submitted for prioritization assessments conducted by contractors hired by petitioners prior to that time. After subtracting the deductible amount for each of these sites, approximately $150,000.00 will be reimbursed to these petitioners.

(6) RECOMMENDATIONS TO ASSURE THE SOLVENCY OF THE FUND

DENR has no recommendations regarding fund solvency at this time. Prior to passage of statutory amendments to DSCA in 2000 (S.L. 2000-19), it was clear that the fund balance was inadequate to address all of the dry-cleaning sites in the state. However, with the passage of the DSCA Amendments that established a second funding mechanism, the General Assembly took the most important step necessary to assure future fund solvency. With the infusion of the sales tax monies, which began in July 2003, DSCA now appears to have sufficient financial resources to assess and remediate the contaminated dry-cleaning facilities on a priority basis.

The Fiscal Note on the DSCA Amendments (S.L. 2000-19) anticipated that the funding mechanisms would provide the fund with $8 million to $10 million annually. As noted above, total collections for FY 2004-05 were approximately $9.7 million. Therefore, the DSCA Program is solvent.

EXHIBIT D-6

ENVIRONMENTAL MANAGEMENT COMMISSION

NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

David H. Moreau
Chairman
Charles Petersor
Vice Chairman

Michael F. Easley, Governor
William G. Ross Jr., Secretary

Delilah Blanks
Donnie Brewer
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Marion Deerhake
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Freddie Harrill
Larry Jordan
Kevin Martin
Dickson Phillips III
Frank Shaw
Stephen Smith
Charles Wakild
Kenny Waldroup
Steven D. Weber
Forrest R. Westall, Sr.

April 3, 2006

The Honorable Charles W. Albertson, Co-Chair
The Honorable Daniel G. Clodfelter, Co-Chair
The Honorable Pryor A. Gibson, III, Co-Chair
Environmental Review Commission

Subject: Emissions Reductions Beyond the Clean Smokestacks Act

Dear Senator Albertson, Senator Clodfelter, Representative Gibson:

SL2002-4 Section 11 (attached) requires the Environmental Management Commission to study the desirability of requiring and the feasibility of obtaining reductions in emissions of oxides of nitrogen (NO_x) and sulfur dioxide (SO_2) beyond those required by the Clean Smokestacks Act. It also requires the EMC report its findings and recommendations to the General Assembly and the Environmental Review Commission annually.

Since the Clean Smokestacks Act was passed in June 2002, significant Federal regulatory changes have occurred. Specifically, the Clean Air Interstate Rule (CAIR) requires North Carolina's neighboring states to achieve major reductions in NO_x and SO_2 -- reductions that require installation of state-of-the-art control equipment. Although there may be questions about the timing and emissions reductions of CAIR, the Division of Air Quality (DAQ) believes CAIR will ultimately provide major benefits to North Carolina's air quality.

The Clean Smokestacks Act already requires that state of the art control equipment be installed on many units in North Carolina. CAIR annual NO_x and SO_2 emissions budgets are even lower than those set by the Clean Smokestacks Act and this could result in even more units in North Carolina having state of the art control equipment applied.

Given the recent action by the Federal government regarding power plant emissions, it is recommended that the study as to whether or not further State action is required be deferred until an evaluation is made of the progress of North Carolina and her neighbors in complying with CAIR. The EMC would propose that the reporting begin on December 1, 2013. This will give

the specified electric generation facilities in North Carolina time to implement their control strategies and will also give the DAQ time to quantify the air quality impacts. Requiring reporting prior to the complete implementation of these control technologies will provide little new or beneficial information. Furthermore, the evolution of new control technologies is fairly long term and it is recommended that the frequency of the reporting thereafter be on a three-year basis.

Sincerely,

David Moreau, PhD.
Chair, EMC

Cc: Keith Overcash
Brock Nicholson
Sheila Holman
Johanna Reese

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 2001

SESSION LAW 2002-4
SENATE BILL 1078

AN ACT TO IMPROVE AIR QUALITY IN THE STATE BY IMPOSING LIMITS ON THE EMISSION OF CERTAIN POLLUTANTS FROM CERTAIN FACILITIES THAT BURN COAL TO GENERATE ELECTRICITY AND TO PROVIDE FOR RECOVERY BY ELECTRIC UTILITIES OF THE COSTS OF ACHIEVING COMPLIANCE WITH THOSE LIMITS.

The General Assembly of North Carolina enacts: ...

SECTION 11. The Environmental Management Commission shall study the desirability of requiring and the feasibility of obtaining reductions in emissions of oxides of nitrogen (NOx) and sulfur dioxide (SO2) beyond those required by G.S. 143-215.107D, as enacted by Section 1 of this act. The Environmental Management Commission shall consider the availability of emissions reduction technologies, increased cost to consumers of electric power, reliability of electric power supply, actions to reduce emissions of oxides of nitrogen (NOx) and sulfur dioxide (SO2) taken by states and other entities whose emissions negatively impact air quality in North Carolina or whose failure to achieve comparable reductions would place the economy of North Carolina at a competitive disadvantage, and the effects that these reductions would have on public health, the environment, and natural resources, including visibility. In its conduct of this study, the Environmental Management Commission may consult with the Utilities Commission and the Public Staff. The Environmental Management Commission shall report its findings and recommendations to the General Assembly and the Environmental Review Commission annually beginning 1 September 2005. ...

In the General Assembly read three times and ratified this the 19th day of June 2002.

EXHIBIT E

ENVIRONMENTAL MANAGEMENT COMMISSION

NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

David H. Moreau
Chairman
Charles Peterson
Vice Chairman

Michael F. Easley, Governor
William G. Ross Jr., Secretary

Delilah Blanks
Donnie Brewer
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Freddie Harrill
Larry Jordan
Kevin Martin
Dickson Phillips III
Frank Shaw
Stephen Smith
Charles Wakild
Kenny Waldroup
Steven D. Weber
Forrest R. Westall, Sr.

April 1, 2006

TO: Senator Dan Clodfelter
Senator Charlie Albertson
Representative Pryor Gibson

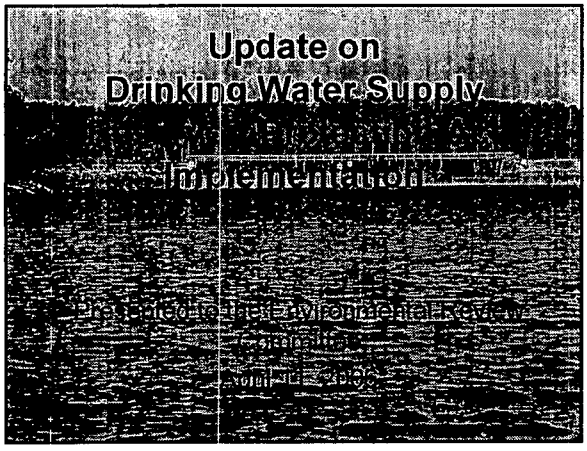
FROM: David H. Moreau, Chairman

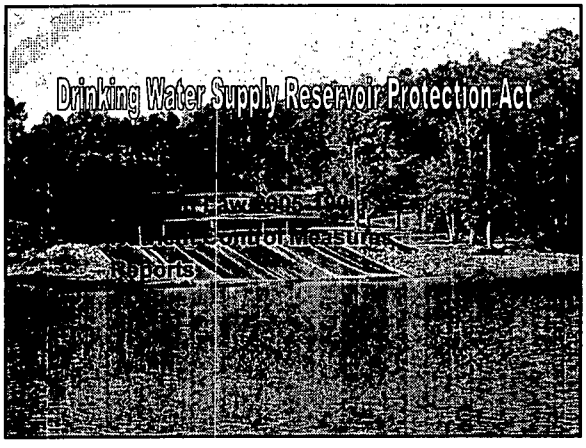
RE: REPORTS IN ACCORDANCE WITH SESSION LAW 2005-190 (Senate Bill 981)

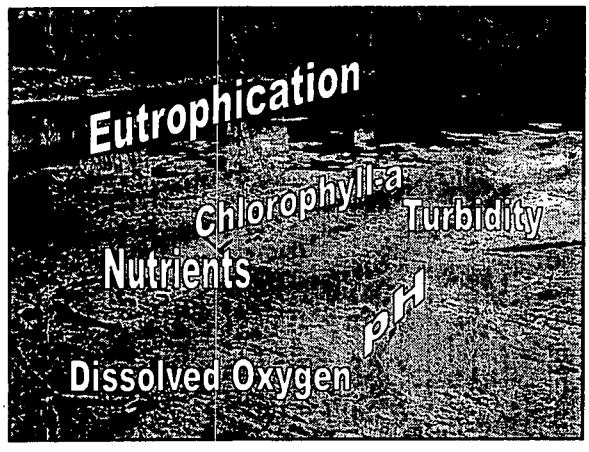
Session Law 2005-190 requires the Environmental Management Commission to report to the Environmental Review Commission. Section 2(a) of Session Law 2005-190 requires a report to the ERC by 1 May 2006. This report is enclosed, entitled: *Report to the Environmental Review Commission on the Status of Water Quality in Water Supply Reservoirs Sampled by the Division of Water Quality.*

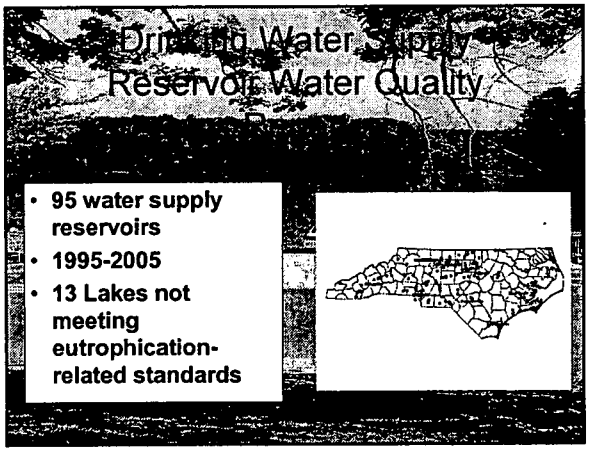
Section 2(b), Section 3 and Section 4 of Session Law 2005-190 requires reports to the ERC by April 1, 2006 and as part of the EMC's quarterly reports to the ERC. These requirements are covered in the report enclosed, entitled: *Report to the Environmental Review Commission on the Status of Nutrient Management Strategies for Drinking Water Reservoirs Session Lay 2005-190.*

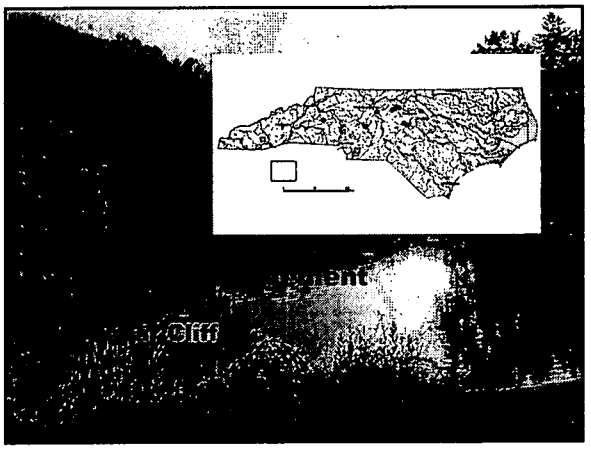
Attachments

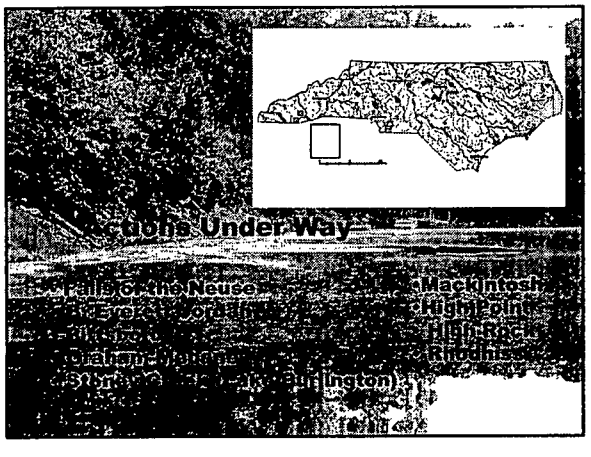

Update on
Drinking Water Supply
Implementation


Drinking Water Supply Reservoir Protection Act


Eutrophication
Chlorophyll a
Turbidity
Nutrients
pH
Dissolved Oxygen


Drinking Water Supply
Reservoir Water Quality
• 95 water supply reservoirs
• 1995-2005
• 13 Lakes not meeting eutrophication-related standards




Machintosh
Rock

Additional Findings

- Data/Resource Limitations
  - 30 lakes/year
  - Limited data
  - Trends - downward
  - Special Studies
- Water Action Plan

Recommendations

- Updating Nutrient Control Strategies
  - Jordan Lake Watershed
  - Falls of the Neuse Watershed
- Complete study & model development - Eight Rod?

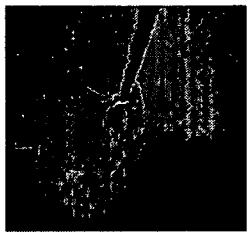
Recommendations

- Listing as Impaired
  - High Point
  - Rhodhiss
- Additional Sampling
  - Lake Lac
  - Lake Twitty

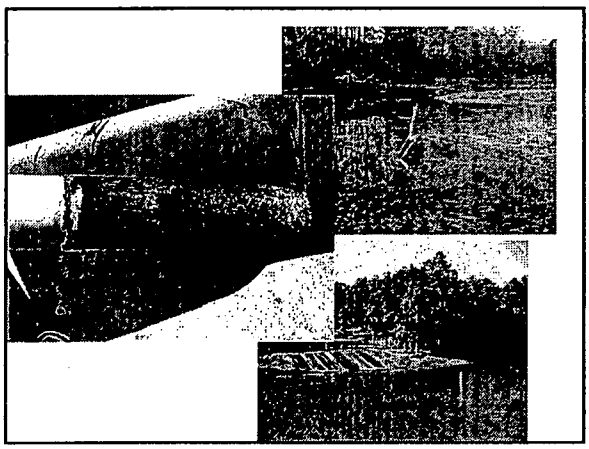
Why Nutrient Control Criteria?



Phelps Lake July 2005



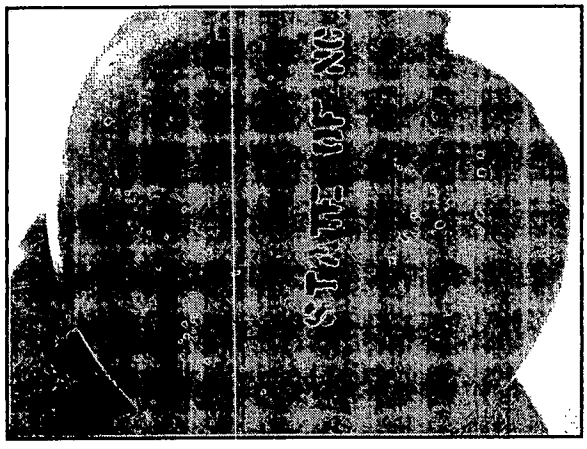
Jordan Reservoir
Haw River arm August 2005

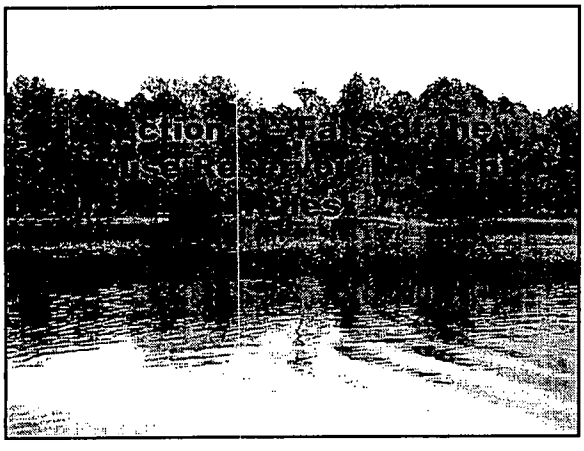




Nutrient Control Criteria Development

- Chlorophyll a, pH, Dissolved Oxygen, Turbidity
- EPA Approved Plan
- 2016 Deadline

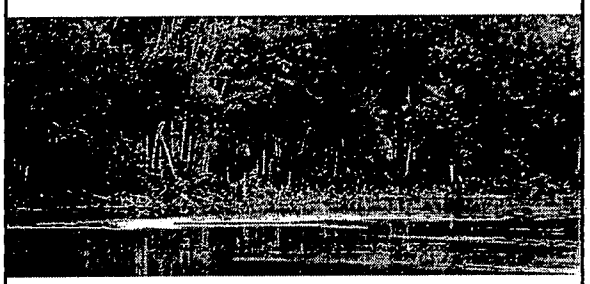




Section 3 Report

- Field Study
- Technical Advisory Committee
- Chlorophyll-a
- [illegible]

Section 4 – Jordan Lake Nutrient Rules





- Town of Pittsboro – no expansion
- Comprehensive Concepts Meetings 2005
- Revising per March 2006 WQC

GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2005

SESSION LAW 2005-190
SENATE BILL 981

AN ACT TO DIRECT THE ENVIRONMENTAL MANAGEMENT COMMISSION: (1) TO STUDY WATER QUALITY IN DRINKING WATER SUPPLY RESERVOIRS IN THE STATE, (2) TO ADOPT NUTRIENT CONTROL CRITERIA FOR DRINKING WATER SUPPLY RESERVOIRS, (3) TO DEVELOP AND IMPLEMENT A NUTRIENT MANAGEMENT STRATEGY FOR CERTAIN DRINKING WATER SUPPLY RESERVOIRS THAT ARE IMPAIRED OR THAT MAY BECOME IMPAIRED WITHIN FIVE YEARS, (4) NOT TO MAKE ANY NEW OR INCREASED NUTRIENT LOADING ALLOCATION TO ANY IMPAIRED DRINKING WATER SUPPLY RESERVOIR UNTIL RULES TO IMPLEMENT A NUTRIENT MANAGEMENT STRATEGY FOR THAT RESERVOIR BECOME EFFECTIVE, AND (5) TO REPORT TO THE ENVIRONMENTAL REVIEW COMMISSION ON PROGRESS IN DEVELOPING AND IMPLEMENTING NUTRIENT MANAGEMENT STRATEGIES FOR DRINKING WATER SUPPLY RESERVOIRS WITH IMPAIRED WATER QUALITY.

The General Assembly of North Carolina enacts:

SECTION 1. Legislative findings. – The General Assembly finds that:

(1) Drinking water supply reservoirs are an essential source of water needed to meet municipal, industrial, and agricultural needs.

(2) Drinking water supply reservoirs provide recreational opportunities and wildlife habitat and, if properly managed, improve water quality.

(3) Management and protection of the quality and quantity of water in drinking water supply reservoirs are essential to the economic vitality of North Carolina.

(4) Excessive nutrients are a major source of impairment of water quality in drinking water supply reservoirs.

(5) It would be beneficial for the State to study the condition of drinking water supply reservoirs and to develop nutrient control criteria to prevent drinking water supply reservoirs from becoming impaired.

(6) It would be beneficial for the State to develop calibrated nutrient response models and nutrient management strategies to ensure that drinking water supply reservoirs that are showing evidence of impairment are protected, as envisioned by Part 1 of Article 21 of Chapter 143 of the General Statutes and S.L. 1997-458, the Clean Water Responsibility and Environmentally Sound Policy Act.

SECTION 2.(a) Study of drinking water supply reservoirs. – The Environmental Management Commission shall study the water quality in the drinking water supply reservoirs in the State to determine whether the reservoirs meet current water quality standards. The Commission shall analyze existing data and report its findings and recommendations to the Environmental Review Commission by 1 May 2006.

SECTION 2.(b) Nutrient control criteria. – Based on the results of the study of drinking water supply reservoirs and an evaluation of current water quality standards, the Environmental Management Commission shall identify any nutrient

control criteria necessary to prevent excess nutrient loading in each drinking water supply reservoir in order to protect public health and other designated uses by 1 January 2009. The Commission shall adopt final nutrient control criteria for each drinking water supply reservoir by 1 May 2010. If the Commission finds that the nutrient control criteria for any drinking water supply reservoir are not being achieved, the Commission shall develop and implement a plan for enhanced water quality monitoring in that drinking water supply reservoir within one year of the determination. The Commission shall report its progress in implementing this section, including its findings and recommendations, to the Environmental Review Commission as a part of each quarterly report it makes pursuant to G.S. 143B-282(b).

SECTION 3.(a) Applicability of section to certain reservoirs. – This section applies only to drinking water supply reservoirs that meet all of the following criteria as of 1 July 2005:

(1) The reservoir serves a population greater than 300,000 persons.
(2) The Environmental Management Commission has classified all or any part of the water in the reservoir as a nutrient sensitive water (NSW).
(3) Water quality monitoring data indicates that water quality in the reservoir violates the chlorophyll A standard.
(4) The Division of Water Quality of the Department of Environment and Natural Resources has not prepared or updated a calibrated nutrient response model for the reservoir since 1 July 2002.

SECTION 3.(b) Temporary limitation on increased nutrient loading. – If the Environmental Management Commission determines either that water quality in all or in any part of a drinking water supply reservoir to which this section applies does not meet current water quality standards or that it is likely that water quality will not meet water quality standards at any time prior to 1 July 2010, the Commission shall not make any new or increased nutrient loading allocation to any person who is required to obtain a permit under G.S. 143-215 for an individual wastewater discharge directly or indirectly into that reservoir. This limitation on new or increased nutrient loading allocation shall not be construed to prohibit a person who holds a permit for a wastewater discharge into a drinking water supply reservoir from purchasing a nutrient loading allocation from another person who holds a permit for a wastewater discharge into the same drinking water supply reservoir. This subsection expires with respect to a drinking water supply reservoir when permanent rules adopted by the Commission to implement the nutrient management strategy for that reservoir become effective.

SECTION 3.(c) Nutrient management strategy. – The Environmental Management Commission shall develop a nutrient management strategy for drinking water supply reservoirs to which this section applies by 1 July 2008. The nutrient management strategy shall be based on a calibrated nutrient response model that meets the requirement of G.S. 143-215.1(c5). The nutrient management strategy shall include specific mandatory measures to achieve the reduction goals. The Commission shall consider the cost of the proposed measures in relation to the effectiveness of the measures. These measures could include, but are not limited to, buffers, erosion and sedimentation control requirements, post-construction stormwater management, agricultural nutrient reduction measures, the addition of nutrient removal treatment processes to point source permitted wastewater treatment plants, the removal of point source discharging wastewater treatments through regionalization and conversion to non-discharge treatment technologies, and any other measures that the Commission determines to be necessary to meet the nutrient reduction goals. To the extent that one or more other State programs already mandate any of these measures, the nutrient management strategy shall incorporate the mandated measures and any extension of those measures and any additional measures that may be necessary to achieve the nutrient reduction goals. In making a nutrient loading allocation to a permit holder, the Commission shall, to the extent allowed by federal and State law, give consideration to

all voluntary efforts taken by the permit holder to protect water quality prior to the development of the nutrient management strategy.

SECTION 3.(d) Eligibility under the Clean Water Revolving Loan and Grant Act. – The definitions set out in G.S. 159G-3 apply to this subsection. The operator of a wastewater treatment works that is owned by an agency of the State may apply for a loan or grant under Chapter 159G of the General Statutes on the same basis as any other applicant if the operator is a local government unit and if the local government unit operates the wastewater treatment works pursuant to a contract with the State agency that contemplates that the local government unit will eventually acquire ownership of the wastewater treatment works.

SECTION 3.(e) Implementation; rulemaking. – The Environmental Management Commission shall adopt permanent rules to implement the nutrient management strategies required by this section by 1 July 2008. The rules shall require that reductions in nutrient loading from all sources begin no later than five years after the rules become effective.

SECTION 3.(f) Reports. – The Environmental Management Commission shall report its progress in implementing this section to the Environmental Review Commission as a part of each quarterly report it makes pursuant to G.S. 143B-282(b).

SECTION 4. Other drinking water supply reservoirs. – The Environmental Management Commission shall not make any new or increased nutrient loading allocation to any person who is required to obtain a permit under G.S. 143-215 for an individual wastewater discharge directly or indirectly into any drinking water supply reservoir for which the Division of Water Quality of the Department of Environment and Natural Resources has prepared or updated a calibrated nutrient response model since 1 July 2002 until permanent rules adopted by the Commission to implement the nutrient management strategy for that reservoir become effective. The Commission shall report its progress in developing and implementing nutrient management strategies for reservoirs to which this section applies to the Environmental Review Commission by 1 April 2006.

SECTION 5. Effective date. – This act is effective when it becomes law.

In the General Assembly read three times and ratified this the 7th day of July, 2005.

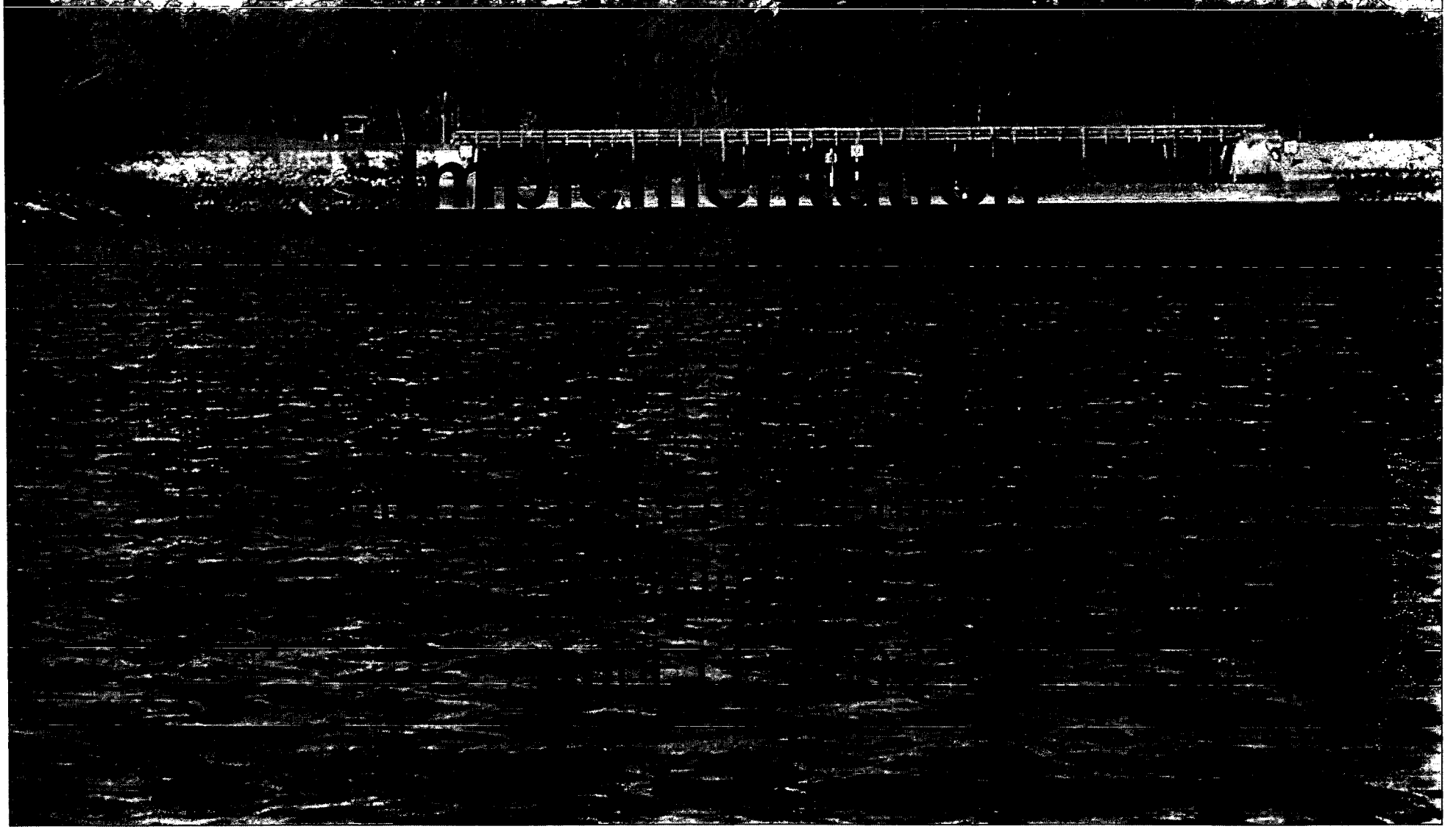
s/ Beverly E. Perdue
President of the Senate

s/ James B. Black
Speaker of the House of Representatives

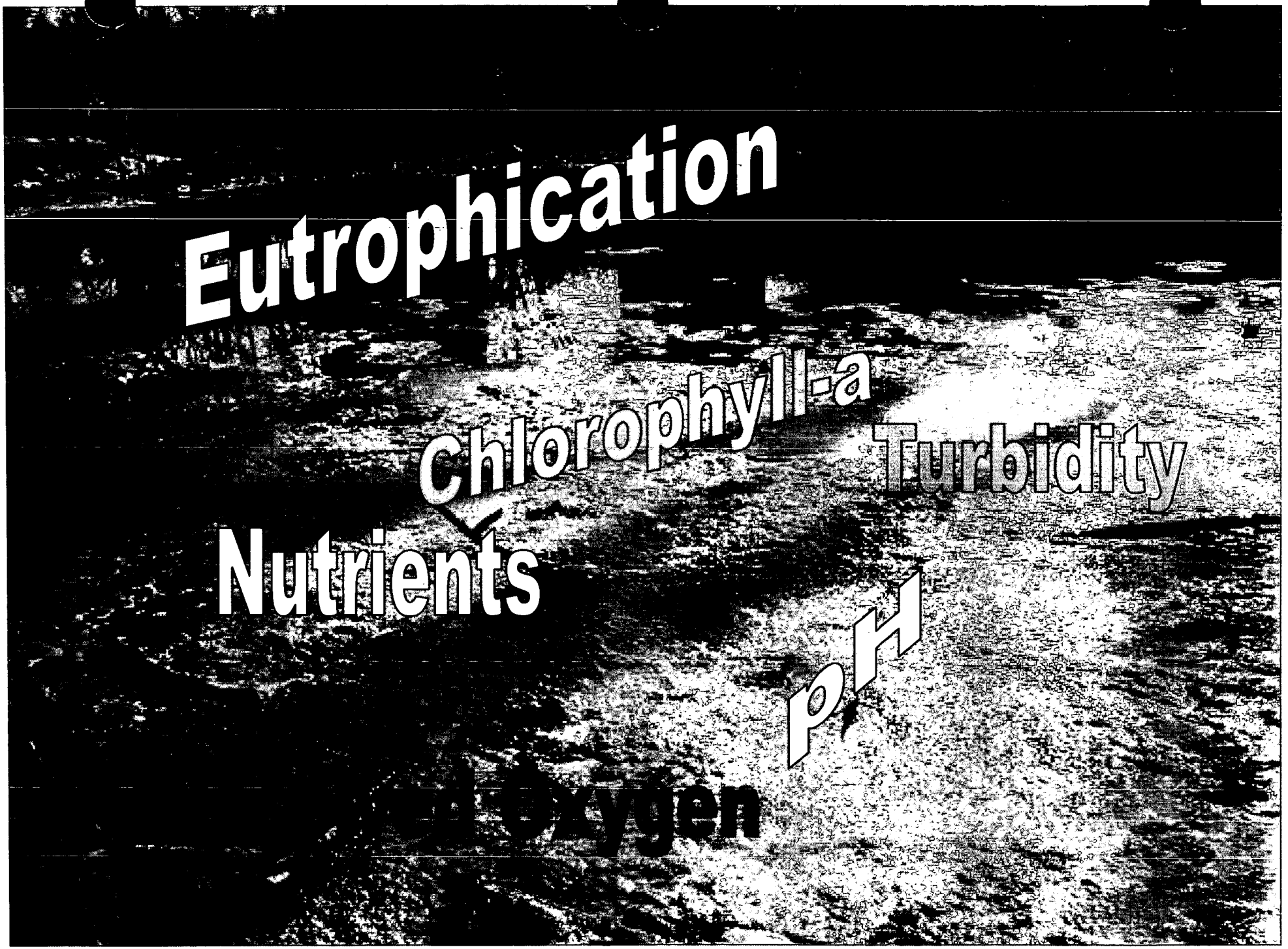
s/ Michael F. Easley
Governor

Approved 12:41 p.m. this 15th day of July, 2005

Update on Drinking Water Supply

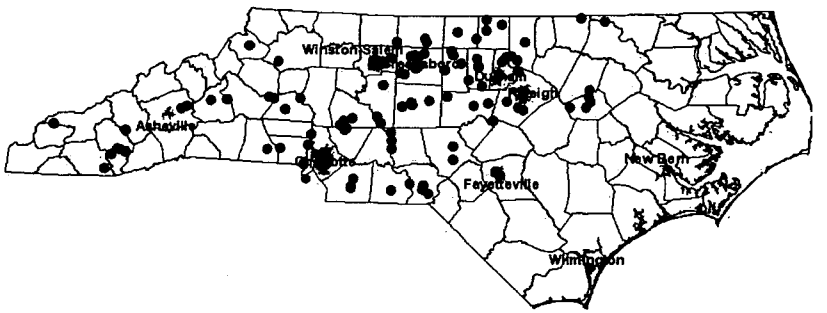


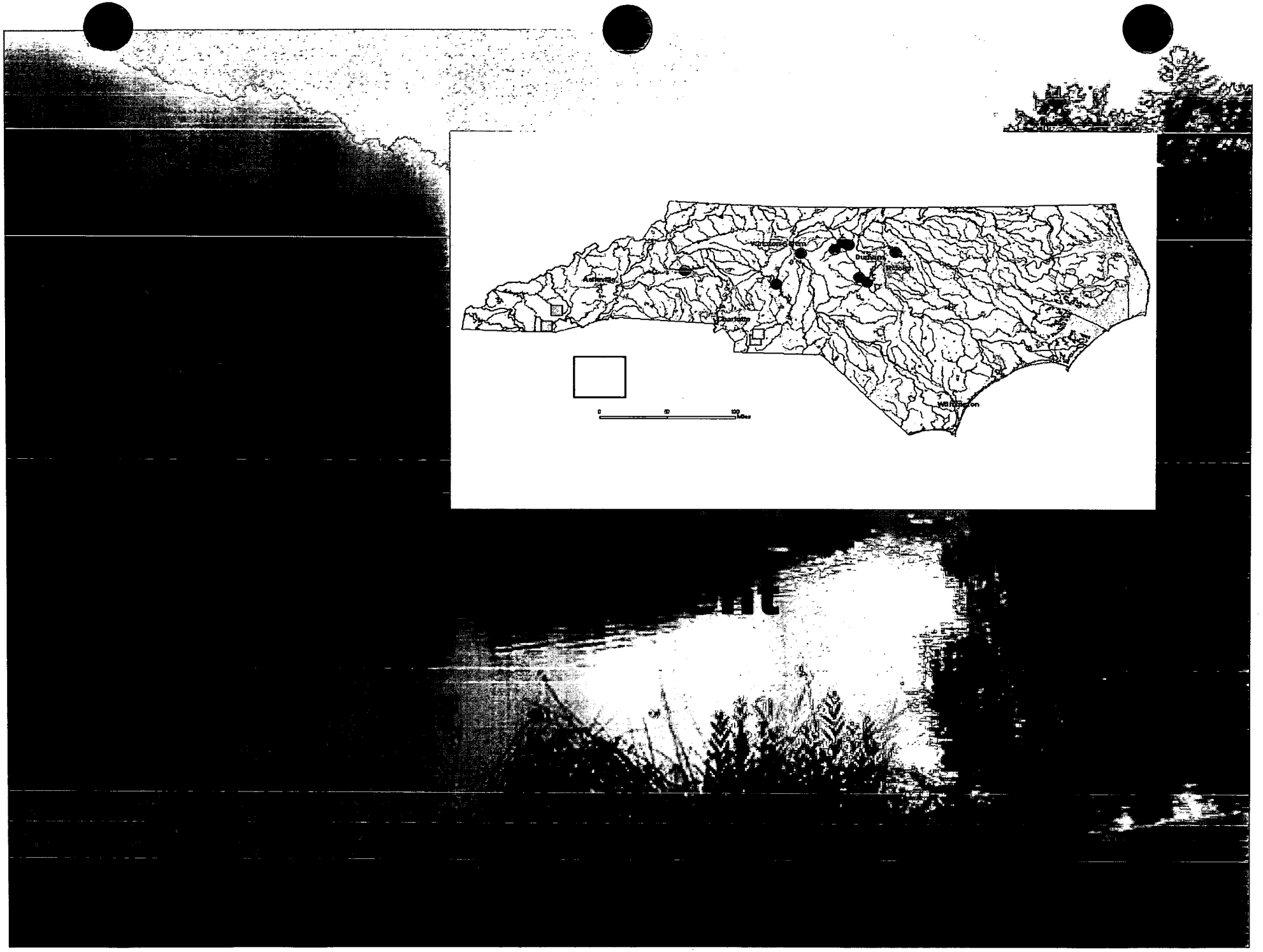

Drinking Water Supply Reservoir Protection Act
Review 2005-190
Control Measures
Reports

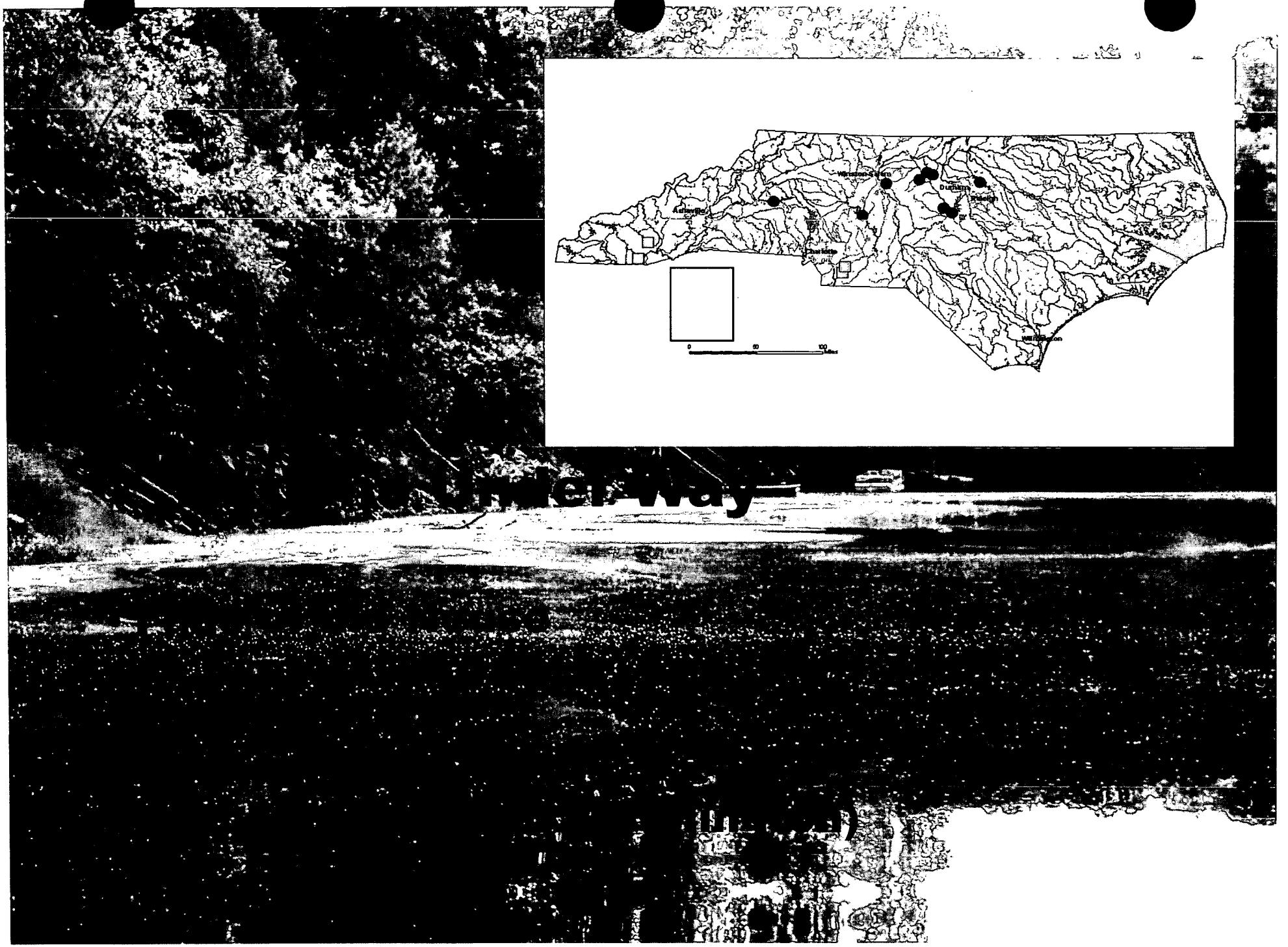

Eutrophication
Chlorophyll-a
Turbidity
Nutrients
pH

Drinking Water Supply Reservoir Water Quality Report

- **95 water supply reservoirs**
- **1995-2005**
- **13 Lakes not meeting eutrophication-related standards**

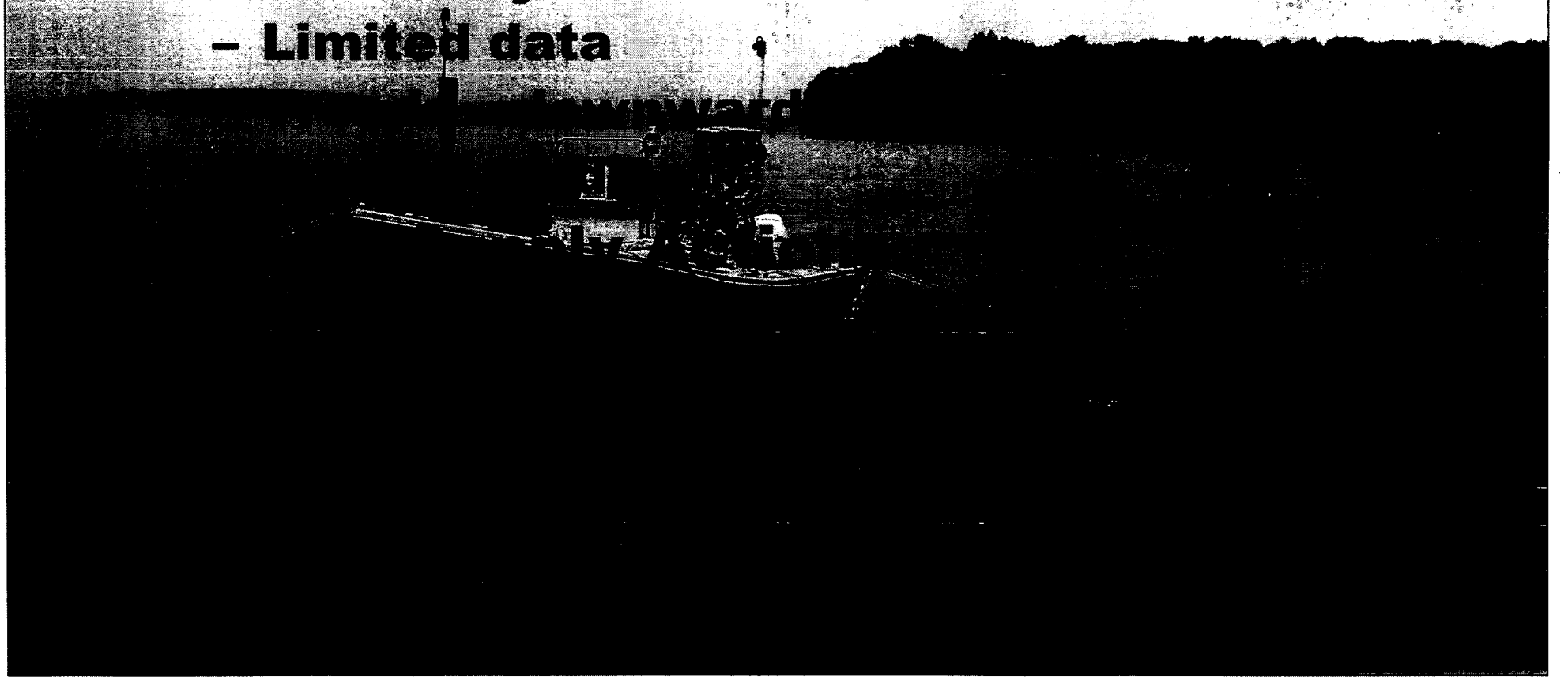



Asheville
Charlotte
Durham
Raleigh
Wilmington
0
50
100
Miles


Asheville
Charlotte
Raleigh
Durham
Wilmington
0
50
100

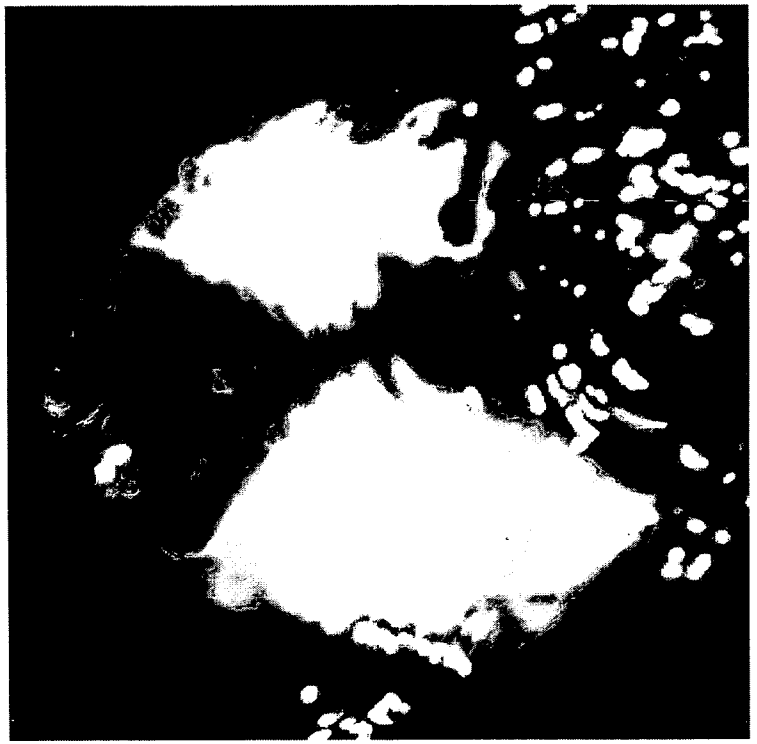
Additional Findings

- **Data/Resource Limitations**
  - **30 lakes/year**
  - **Limited data**



- Complete study & model development - High Rock

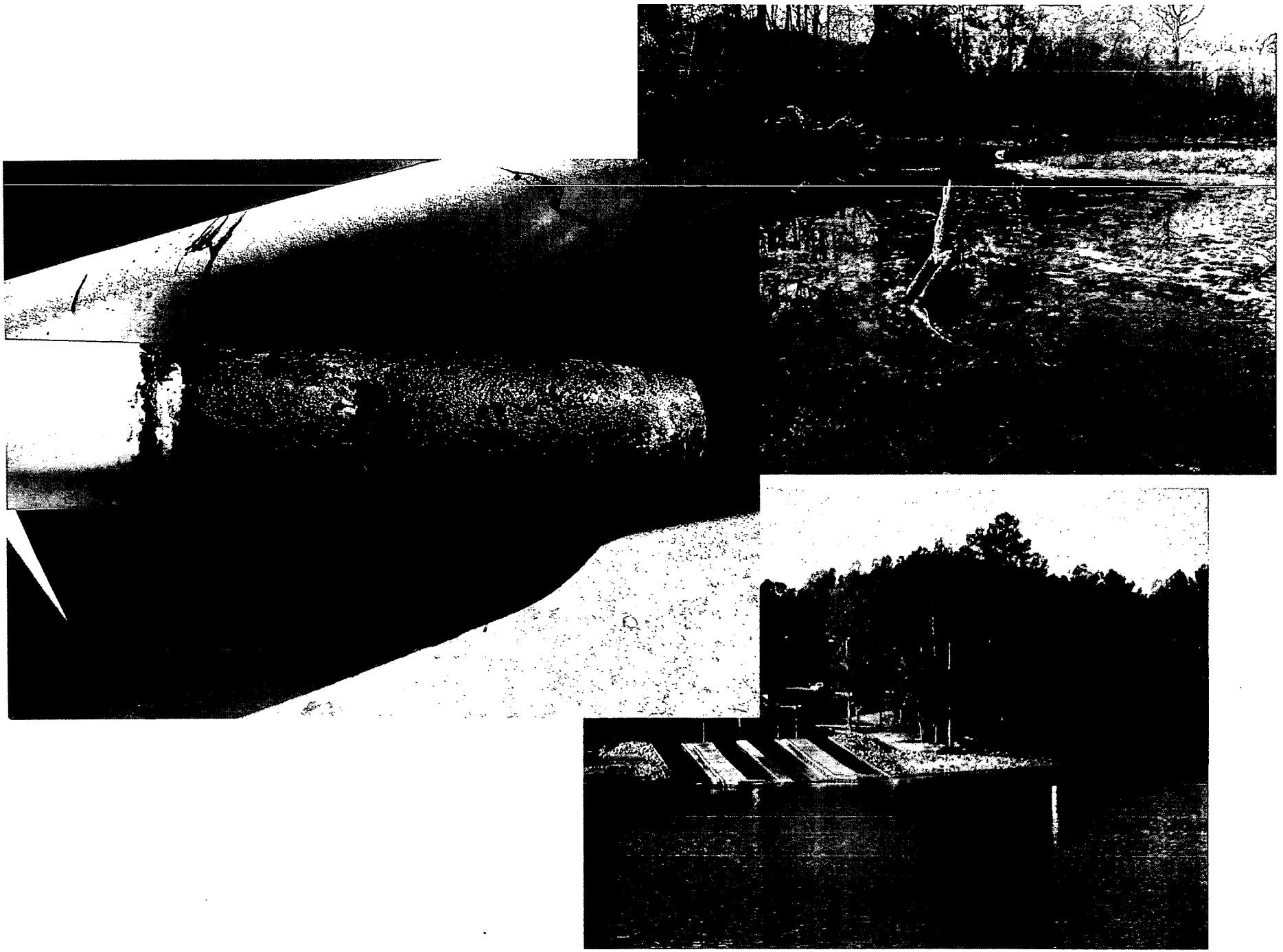
Why Nutrient Control Criteria?



Phelps Lake July 2005



Jordan Reservoir
Haw River arm August 2005



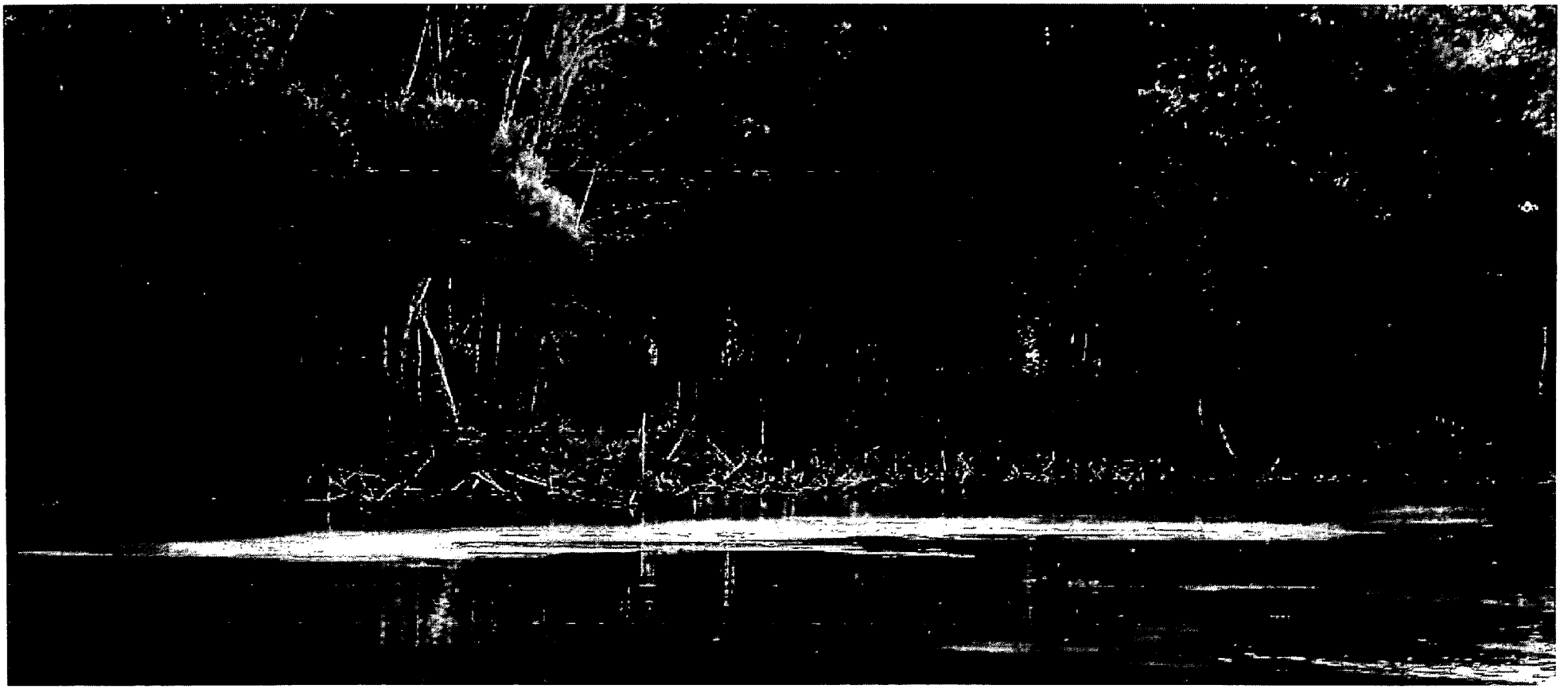

BOAT LAUNCH
CLOSED
TEMPORARILY
DUE TO
WATER LEVEL
Rock
rvoir



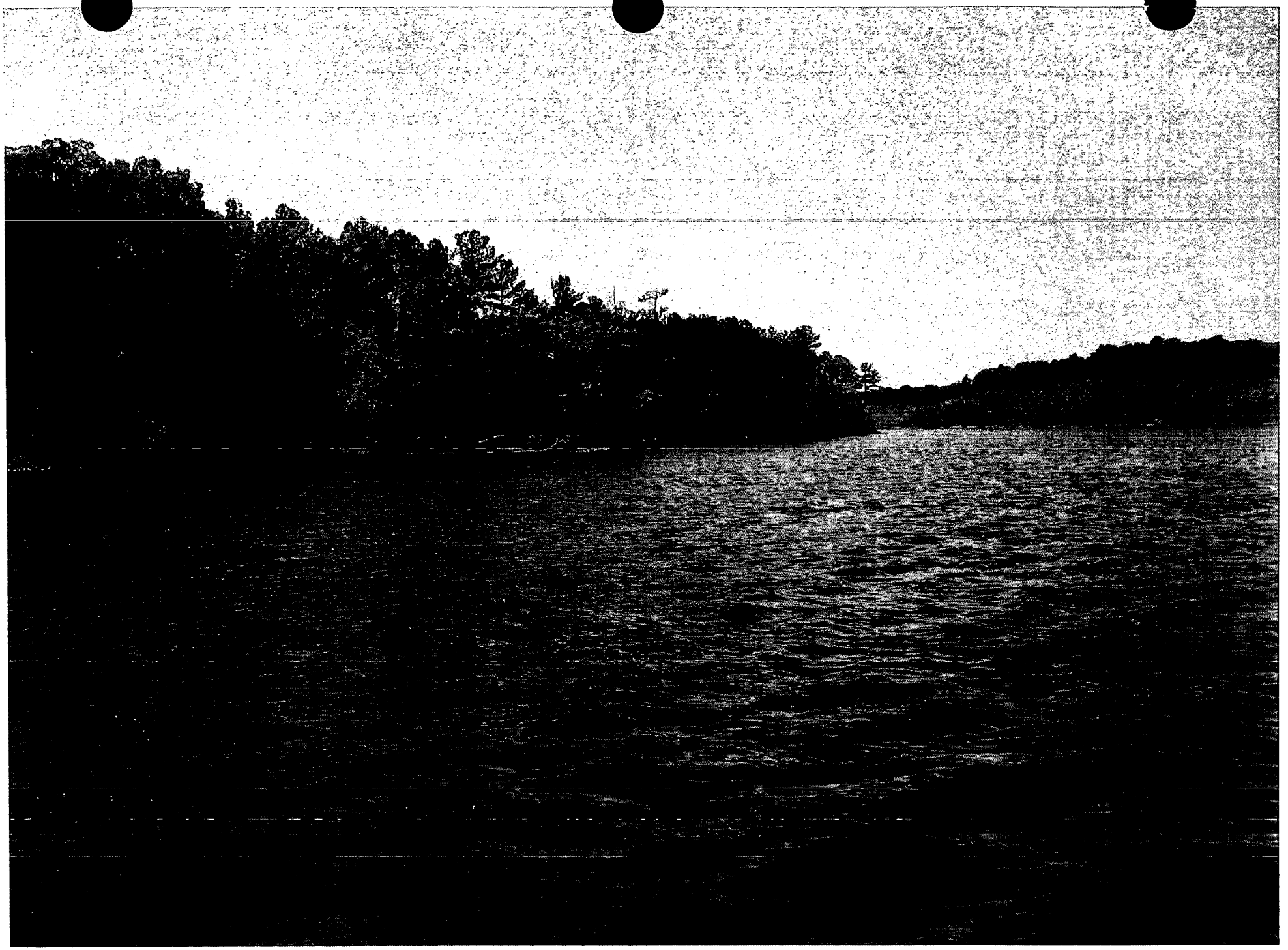
Section 3 Report

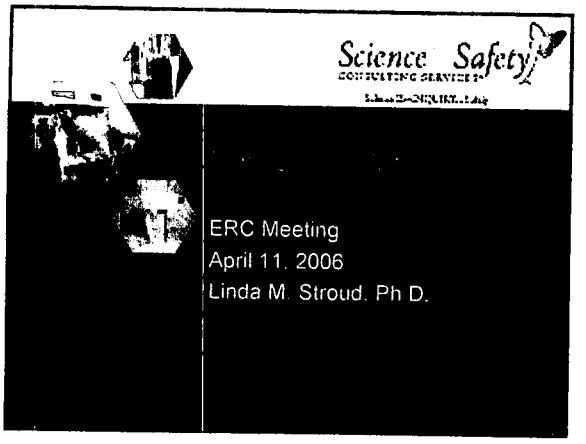
- Field Study
- Technical Advisory Committee
- Chlorophyll-a

Section 4 – Jordan Lake Nutrient Rules




expansion
Meetings 2005





North Carolina Schools

34 LEAs–Science Safety Presentations / Customized Comprehensive Science Safety Program

175 Middle / Secondary School Assessments

States with School Mercury Programs

State	Laws/ Regs	Lab Clean-out	Collect/ Replace Inst.	Ed Program
CT		X	X	
IL	X		X	
IN	X		X	X
KS				
ME		X		
MD	X			
MA			X	X
MI	X			
MN			X	
NY	X	X	X	
OR	X			
VT		X		
VA		X		
WI	X			X

Massachusetts School Mercury Cleanout



26 elementary, 24 middle, 53 high schools

- Thermometers
  - Lab 4322
  - Fever 1368
- Sphygmomanometers 112
- Barometers 65

Total Mercury 936 lbs.
Elemental Mercury 699 lbs.

Items That Contain Mercury

- Bulk elemental mercury
- Laboratory chemicals
  - Mercury II oxide
  - Mercury II chloride
  - Mercury II sulfate
  - Mercury II nitrate
  - Mercury II iodide
- Mercury containing instruments
  - Thermometers
    - Lab thermometers
    - Fever thermometers
  - Sling psychrometers
  - Barometers
  - Mercury switches
  - Fluorescent lights



Mercury Vapor



- UV Lamp (254/356 nm)
- Thin Layer Chromatography Paper
- Glass Jar with Mercury: Tightly Capped
- Emission of Vapor
- 75 – 80 % Hg absorbed by inhalation
- Higher temperature: more vaporization of Hg



Non-Mercury Alternatives



Chemical	Alternative
Mercury II oxide	**Copper catalyst**
Mercury II chloride	**Magnesium chloride** **Sulfuric acid**
Mercury II sulfate	**Silver nitrate (?)**
Mercury II nitrate	**Ammonia, Copper II sulfate, Neosporin**
Source: www.epa.gov **WI DNR Mercury Sourcebook: Educational Institutions**	

Non-Mercury Alternatives



Instrument	Amount of Hg (grams)	Alternatives
Thermometers	1/2 - 3	Alcohol thermometers, (glass-teflon coated), digital
Manometers	29 - 74	Non mercury gauges
Psychrometers	5.2 - 6	Digital, Spirit-filled glass sling psychrometers
Gauges	>1	Electronic (digital)
Barometers	395 - 622	Aneroid, piston or capsule, electronic digital
Sphygymomanometers	104 - 124	Aneroid and electronic devices

ERTCO Recycling Program

- Fisher
- NC Public Schools
- All North Carolina colleges and universities

- Thermometers
- Sling Psychrometers
- Barometers



Mercury Cleanup Cost



- Granville County: (2005) $3000 –$4000 / classroom (19)
- Triangle Area – April 3 or 4, 2006

K-8 School - < 1 tsp = 5 mL = 67.95 g = 2.4 oz

Principal called Emergency Response

Lumex Instrument needed to quantify mercury levels to determine if it was safe for children

Only 1 company in state has Lumex instrument

April 6, 2006 – Another Mercury Spill in NC

Pre-K – Middle School in Chapel Hill

Mercury in sink trap during maintenance

- Water and mercury spilled onto countertop and floor
- Most of mercury removed but tracked into carpet
- Certified mercury cleanup group, Hepaco, used

Gerome instrument to measure mercury (only tells if mercury is present). Luminex measures amount of mercury present

- Children allowed back into classroom 3 days
- School called Health Department over weekend

UNC-only Luminex available in state

- Mercury vapor levels as high as 10,000 ng/m^2
- EPA recommends maximum level 1,000 ng/m^2
- Cleanup planned this week; children not allowed to use classroom

Health Symptoms Within a Few Hours of Mercury Vapor Exposure

- GI – nausea, vomiting, abdominal pain, diarrhea
- Neurological – headaches, tremor, visual disturbances
- Respiratory – cough, shortness of breath, chest tightness

Health Symptoms Following Long-term Exposure (Weeks)

- Psychiatric effects including – depression, loss of self-confidence, shyness, anger, irritability, anxiety, insomnia, aggressiveness, nervousness and impatience

Science Safety Needs in North Carolina Schools

Science Safety Needs in North Carolina Schools

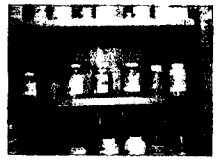


- Lack of PPE for teachers/students
- Need for updated facilities:
  - 40% are outdated buildings
- New facilities does not necessarily meet safety standards
- No chemical management (procurement, inventory, storage and disposal)
- Lack of equipment and materials to support instruction and meet safety regulations
- Poor air quality in labs
- Overcrowding in laboratories
- No ventilation in chemical storage rooms

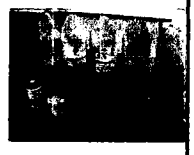
Chemical Hazards in NC Schools

Photographs courtesy of:
Larry Cockrell, Risk Management Specialist,
NCDPI-Insurance Section

The Correct Storage of Chemicals







The Way Most Store Rooms / Prep Rooms Look!

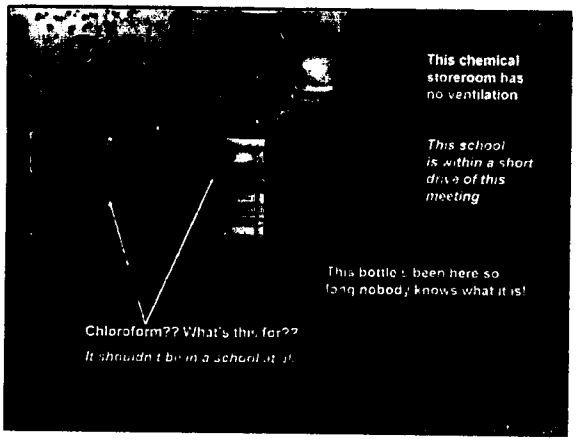




The Way Most Store Rooms / Prep Rooms Look!







Incompatible Storage and Excess Volumes



Nasty Chemicals in Schools

Forms Explosives
- Picric Acid
- Ethyl Ether
- Sodium azide

Carcinogens
- Benzene
- Formaldehyde
- Pyrogallic acid
- Asbestos wire mats
- Arsenic
- Chromium, lead compounds

Radioactive
- Uranium acetate – 7 lbs
- Strontium nitrate – 1 lb
- Cesium

Shock Sensitive
- Ammonium perchlorate
- Ammonium nitrate
- Mercury fulminate
- Nitroglycerin
- Nitrogen triiodide
- Fulminating gold
- Fulminating silver

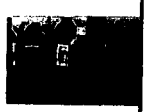
Nasty Chemicals in Schools

Ingredients to make
- 20 lbs gunpowder
- Nitroglycerine
- Crystal Meth

Costs of Chemical Clean-up

Arsenic	$3000
Ethyl ether	$5000
Uranium acetate	$4000
Strontium nitrate	$5000
Per School Clean out	$4-7000
LEA Clean out	$22000

Costs given by Professional Waste Disposal Companies



Mercury Cleanup Cost



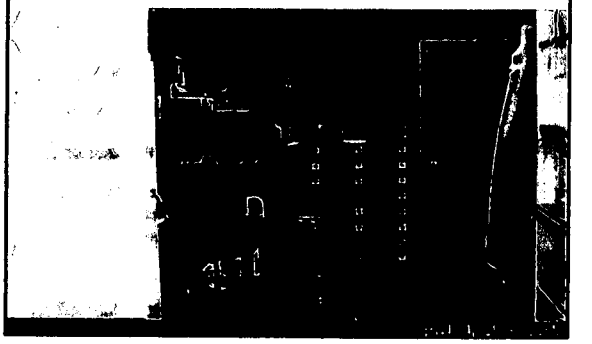
- Broken thermometer: 1/2 gram $75 – $110 *Foster, B. JCE 2005*
- EPA: 12 schools: (2004) $1000 – $200,000
- Granville County: (2005) $3000 – $4000 classroom (19)
- Ballou High School, Washington DC: (2005) $1.5 million

Costs of Chemical Clean-up

- Arsenic - $3000
- Ethyl ether - $5000
- Uranium acetate - $4000
- Strontium nitrate - $5000
- LEA Clean out - $22,000
- $3.00 to dispose of a fluorescent light bulb that cost 90 cents



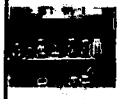
My Office



Recommendations

Recommendations

K-12 Schools



- Eliminate Hg, Hg compounds, Hg-containing instruments
- Eliminate hazardous / unwanted chemicals
- Require LEAs / schools to have a comprehensive chemical management system to prevent constant buildup of hazardous waste

Expand HB 1531 to Include

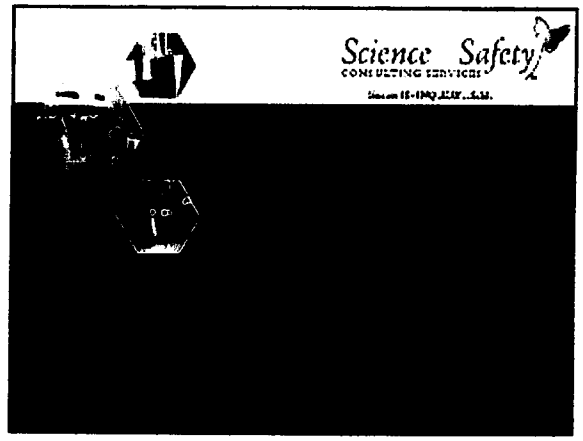
- Policy similar to: NC School Board Association Policy 7265: Occupational Exposure to Chemicals
- Require NCDPI and LEAs to follow State Board of Education Policy HSP-F-017
- Establish / fund School Safety Officer @ NCDPI to implement a 5-year plan to bring all LEAs into OSHA laboratory standards compliance.

Expand HB 1531 to include:

- **Policy similar to NC School Board Association Policy 7265: Occupational Exposure to Chemicals**
- **Require State Board of Education Policy HSP-F-017 to be followed by NCDPI and LEAs**
- **Establish/fund School Safety Director @ NCDPI to implement a 5-year plan to bring all LEAs into OSHA laboratory standards compliance. (Write grants for removal chemical waste from schools-Homeland Security and EPA)**

Expand HB 1531 to Include

- Establish compliance and accountability standards for laboratory safety
- Require Audit and Technical Assistance System by NCDPI to LEAs
- Implement Professional Development Program for personnel:
  29 CFR 1910.1200 Hazard Communication Plan
  29 CFR 1910.1450 Laboratory Standard
  29 CFR 1910.1030 Bloodborne Pathogen



House Bill 1531

ERC Meeting

April 11, 2006

Linda M. Stroud, Ph.D.

North Carolina Schools

34 LEAs–Science Safety Presentations / Customized Comprehensive Science Safety Program

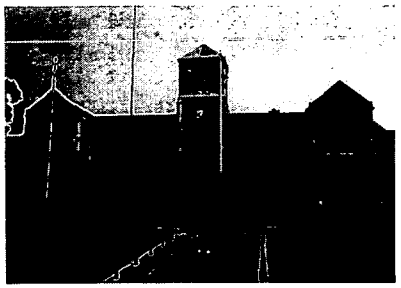
175 Middle / Secondary School Assessments

States with School Mercury Programs

State	Laws/ Regs	Lab Clean-out	Collect/ Replace Inst.	Ed Program
CT		X	X	
IL	X		X	
IN	X		X	X
KS				
ME		X		
MD	X			
MA			X	X
MI	X			
MN			X	
NY	X	X	X	
OR	X			
VT		X		
VA		X		
WI	X			X

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Massachusetts School Mercury Cleanout



26 elementary, 24 middle, 53 high schools

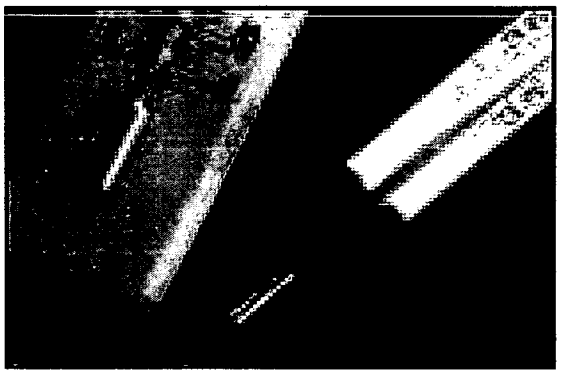
• Thermometers	
Lab	4322
Fever	1368
• Sphygmomanometers	112
• Barometers	65

Total Mercury	936 lbs.
Elemental Mercury	699 lbs.

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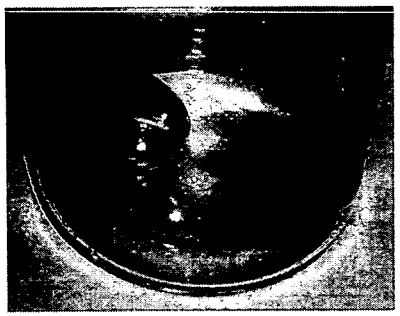
Items That Contain Mercury

- Bulk elemental mercury
- Laboratory chemicals
  - Mercury II oxide
  - Mercury II chloride
  - Mercury II sulfate
  - Mercury II nitrate
  - Mercury II iodide
- Mercury containing instruments
  - Thermometers
    - Lab thermometers
    - Fever thermometers
  - Sling psychrometers
  - Barometers
  - Mercury switches
  - Fluorescent lights

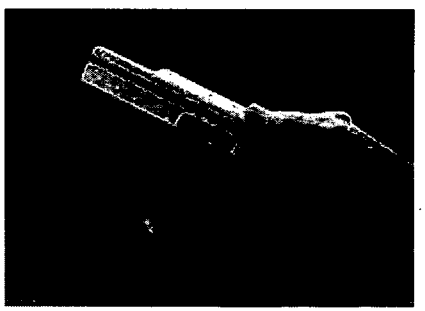


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Mercury Vapor



- UV Lamp (254/356 nm)
- Thin Layer Chromatography Paper
- Glass Jar with Mercury: Tightly Capped
- Emission of Vapor
- 75 – 80 % Hg absorbed by inhalation
- Higher temperature: more vaporization of Hg



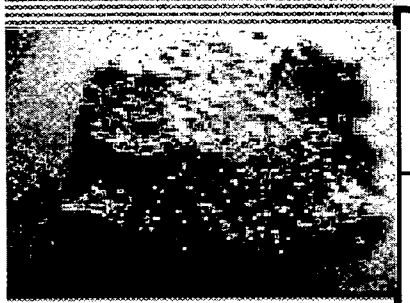
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Non-Mercury Alternatives



Chemical	Alternative
Mercury II oxide	Copper catalyst
Mercury II chloride	Magnesium chloride Sulfuric acid
Mercury II sulfate	Silver nitrate (?)
Mercury II nitrate	Ammonia, Copper II sulfate, Neosporin
Source: www.epa.gov WI DNR Mercury Sourcebook: Educational Institutions	

Non-Mercury Alternatives

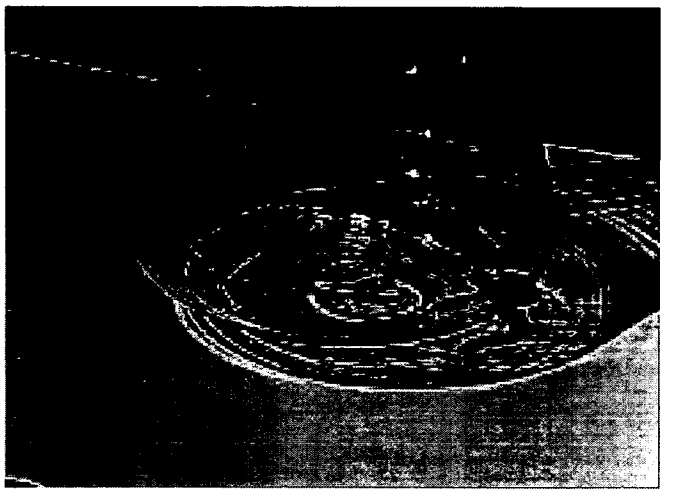


Instrument	Amount of Hg (grams)	Alternatives
Thermometers	1/2 - 3	Alcohol thermometers, (glass-teflon coated), digital
Manometers	29 - 74	Non mercury gauges
Psychrometers	5.2 - 6	Digital, Spirit-filled glass sling psychrometers
Gauges	>1	Electronic (digital)
Barometers	395 - 622	Aneroid, piston or capsule, electronic digital
Sphygymomanometers	104 - 124	Aneroid and electronic devices

ERTCO Recycling Program

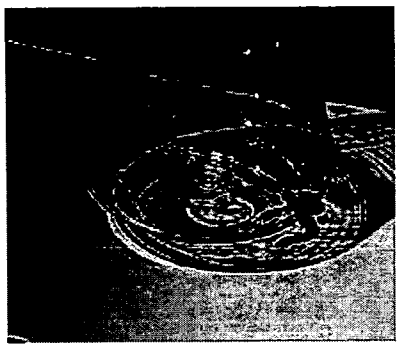
- Fisher
- NC Public Schools
- All North Carolina colleges and universities

- Thermometers
- Sling Psychrometers
- Barometers



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Mercury Cleanup Cost



- Granville County: (2005) $3000 –$4000 / classroom (19)
- Triangle Area – April 3 or 4, 2006

  K-8 School - < 1 tsp = 5 mL = 67.95 g = 2.4 oz

  Principal called Emergency Response

  Lumex Instrument needed to quantify mercury levels to determine if it was safe for children

  Only 1 company in state has Lumex instrument

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April 6, 2006 - Another Mercury Spill in NC Pre-K to Middle School in Chapel Hill

- Mercury in sink trap during maintenance
- Water and mercury spilled onto countertop and floor
- Most of mercury removed but tracked into carpet
- Certified mercury cleanup group Hepaco used Gerome instrument to measure mercury (only tells you if mercury is present) didn't use Lumex
- Children allowed back into classroom three days
- School called State Health Department over weekend - UNC has only Lumex available in state
- Mercury vapor levels as high as 10,000 ng/m^3 which is greater than EPA recommended level 1,000 ng/ m^3
- Cleanup planned this week but children not allowed to use classroom

Health Symptoms Within a Few Hours of Mercury Vapor Exposure

GI - nausea, vomiting, abdominal pain, diarrhea

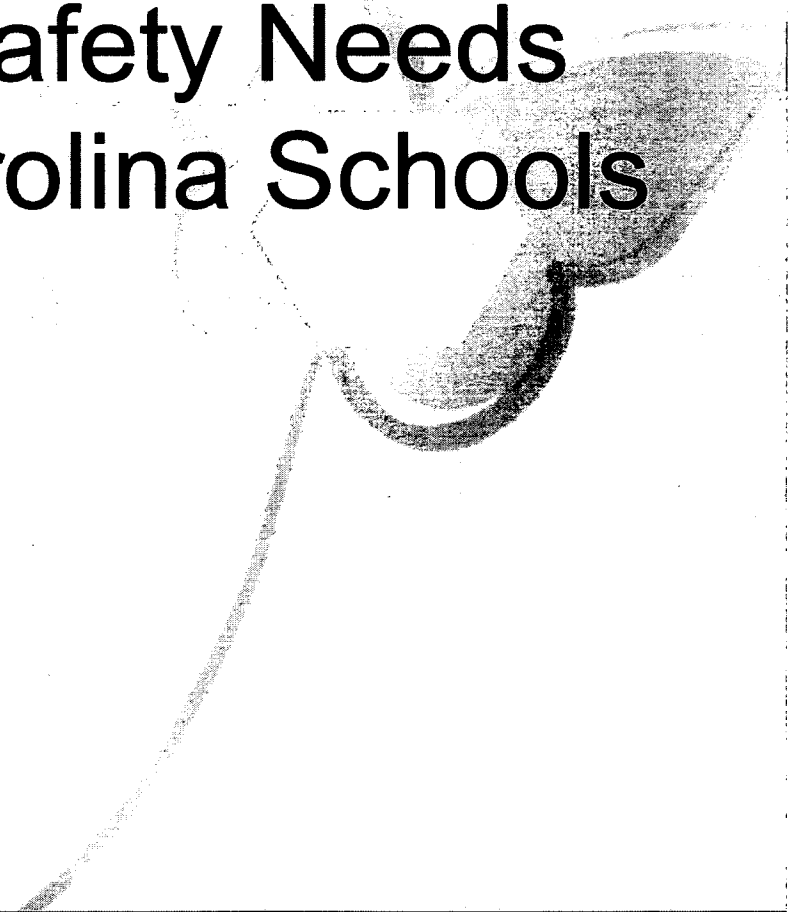
Neurological - headache, tremor, visual disturbances

Respiratory - cough, shortness of breath, chest tightness

Health Symptoms Following Long-term exposure (Weeks)

Psychiatric effects including depression, loss of self confidence, shyness, anger, irritability, anxiety, insomnia, aggressiveness, nervousness and impatience

Science Safety Needs in North Carolina Schools



Science Safety Needs in North Carolina Schools



- Lack of PPE for teachers/students
- Need for updated facilities:
  - 40% are outdated buildings
- New facilities does not necessarily meet safety standards
- No chemical management (procurement, inventory, storage and disposal)
- Lack of equipment and materials to support instruction and meet safety regulations
- Poor air quality in labs
- Overcrowding in laboratories
- No ventilation in chemical storage rooms

Chemical Hazards in NC Schools

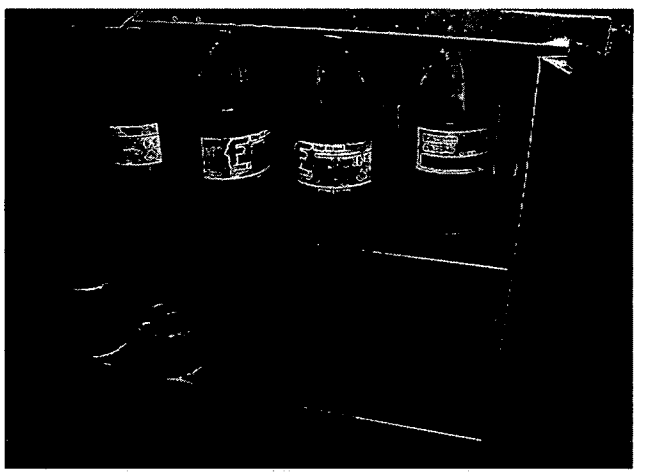
Photographs courtesy of:
Larry Cockrell, Risk Management Specialist,
NCDPI-Insurance Section

EXHIBIT F

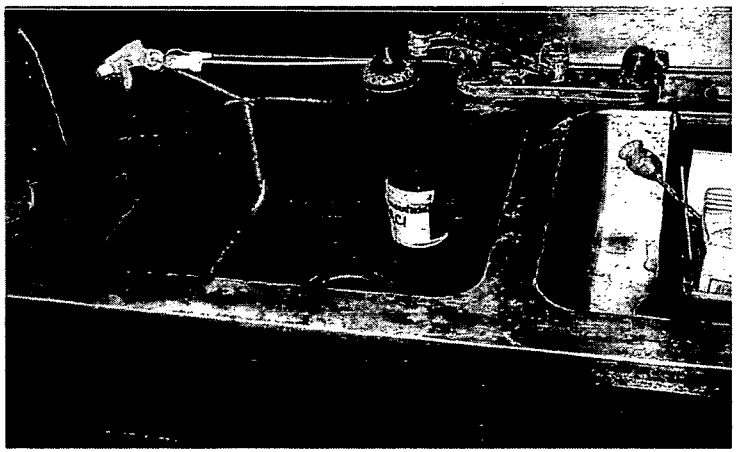
The Correct Storage of Chemicals







The Way Most Store Rooms / Prep Rooms Look!

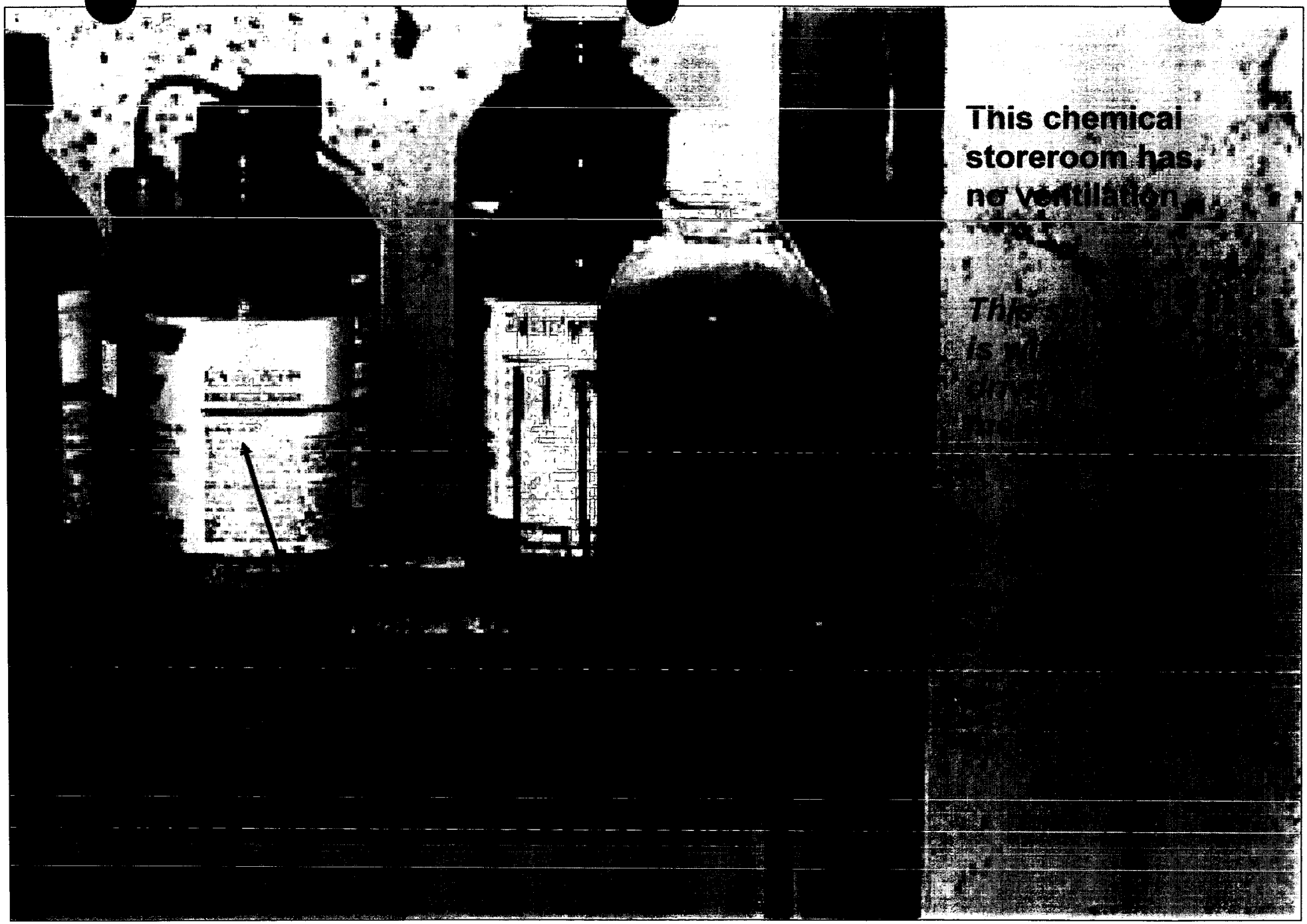




The Way Most Store Rooms / Prep Rooms Look!

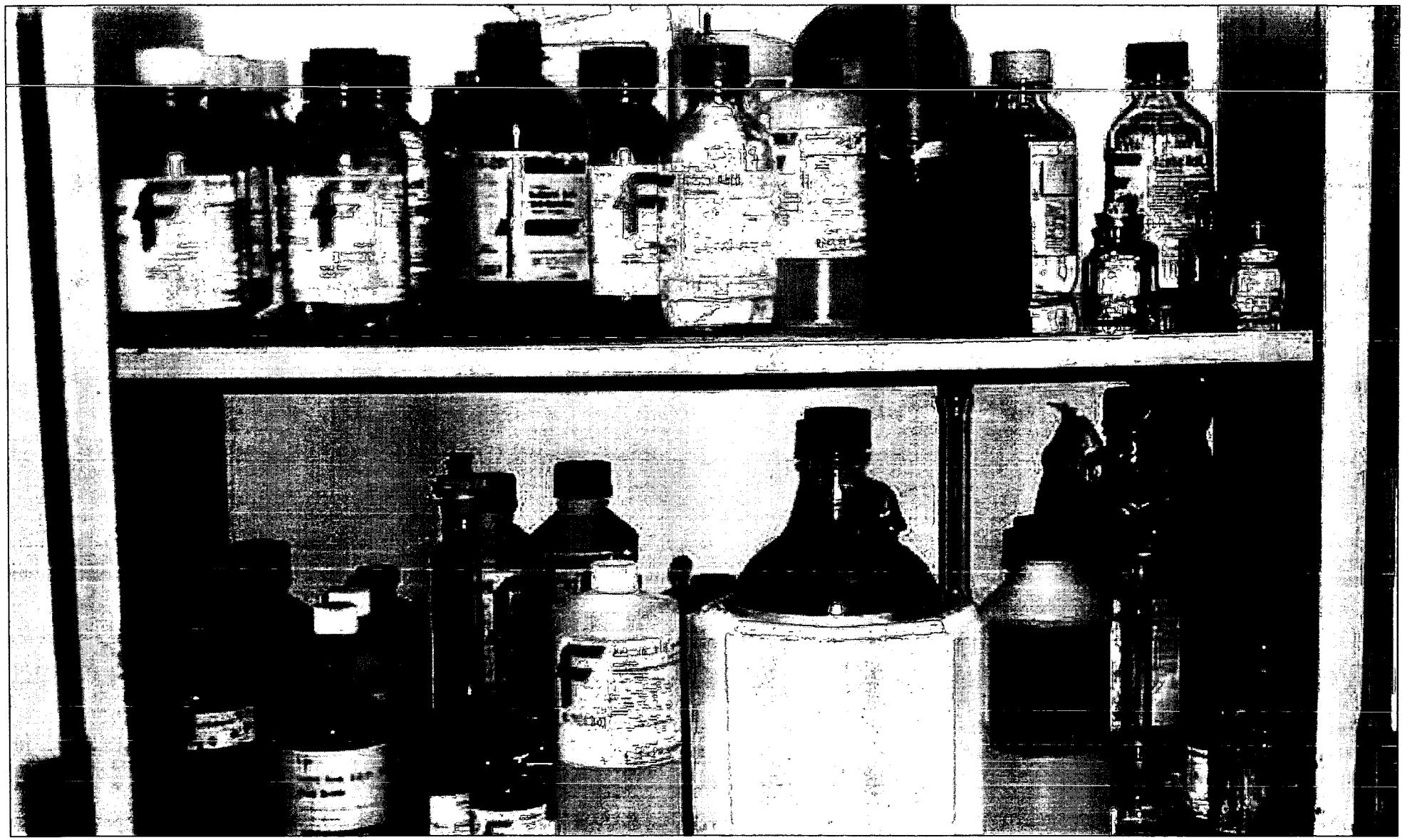






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Incompatible Storage and Excess Volumes



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Nasty Chemicals in Schools

Forms Explosives

- **Picric Acid**
- **Ethyl Ether**
- **Sodium azide**

Carcinogens

- **Benzene**
- **Formaldehyde**
- **Pyrogallic acid**
- **Asbestos wire mats**
- **Arsenic**
- **Chromium, lead compounds**

Radioactive

- **Uranium acetate – 7 lbs**
- **Strontium nitrate – I lb**
- **Cesium**

Shock Sensitive

- **Ammonium perchlorate**
- **Ammonium nitrate**
- **Mercury fulminate**
- **Nitroglycerin**
- **Nitrogen triiodide**
- **Fulminating gold**
- **Fulminating silver**

Nasty Chemicals in Schools

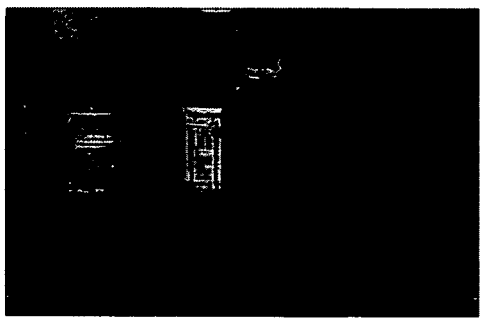
Ingredients to make

- 20 lbs gunpowder
- Nitroglycerine
- Crystal Meth

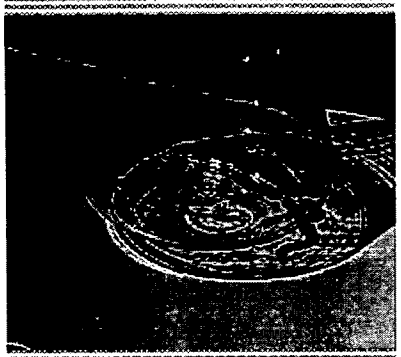
Costs of Chemical Clean-up

Arsenic	$3000
Ethyl ether	$5000
Uranium acetate	$4000
Strontium nitrate	$5000
Per School Clean out	$4-7000
LEA Clean out	$22000

Costs given by Professional Waste Disposal Companies



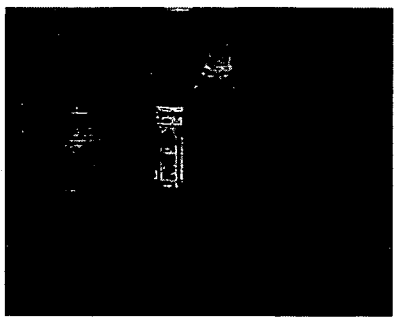
Mercury Cleanup Cost



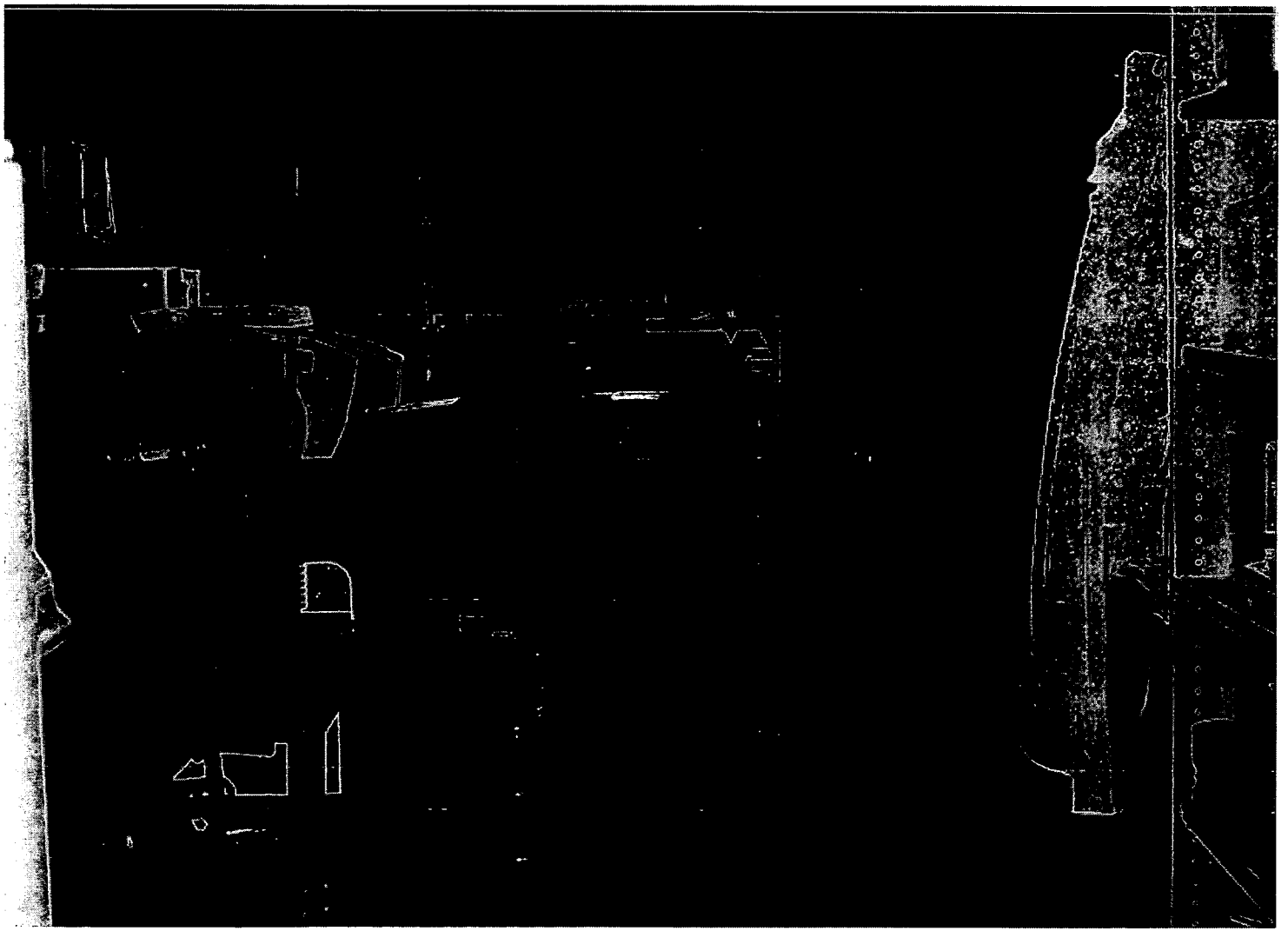
- Broken thermometer: 1/2 gram $75 – $110
  Foster, B. JCE 2005
- EPA: 12 schools: (2004) $1000 – $200,000
- Granville County: (2005) $3000 – $4000 classroom (19)
- Ballou High School, Washington DC: (2005) $1.5 million

Costs of Chemical Clean-up

- Arsenic - $3000
- Ethyl ether - $5000
- Uranium acetate - $4000
- Strontium nitrate - $5000
- LEA Clean out - $22,000
- $3.00 to dispose of a fluorescent light bulb that cost 90 cents

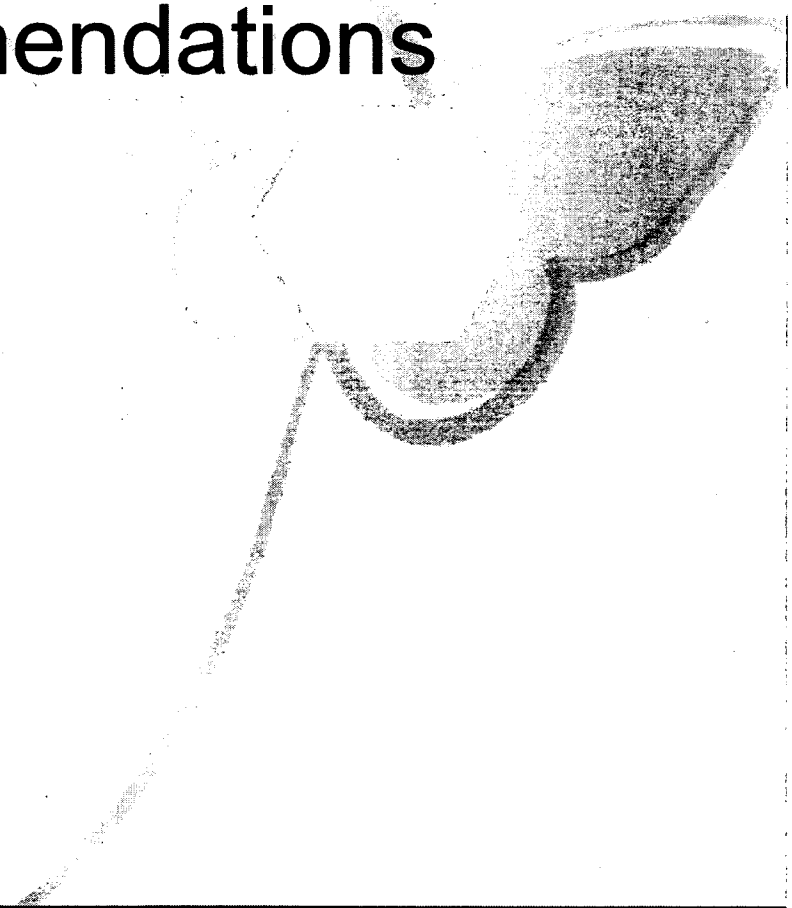


My Office



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Recommendations



Recommendations

K-12 Schools



- Eliminate Hg, Hg compounds, Hg containing instruments
- Eliminate hazardous / unwanted chemicals
- Require LEAs / schools to have a comprehensive chemical management system to prevent constant buildup of hazardous waste

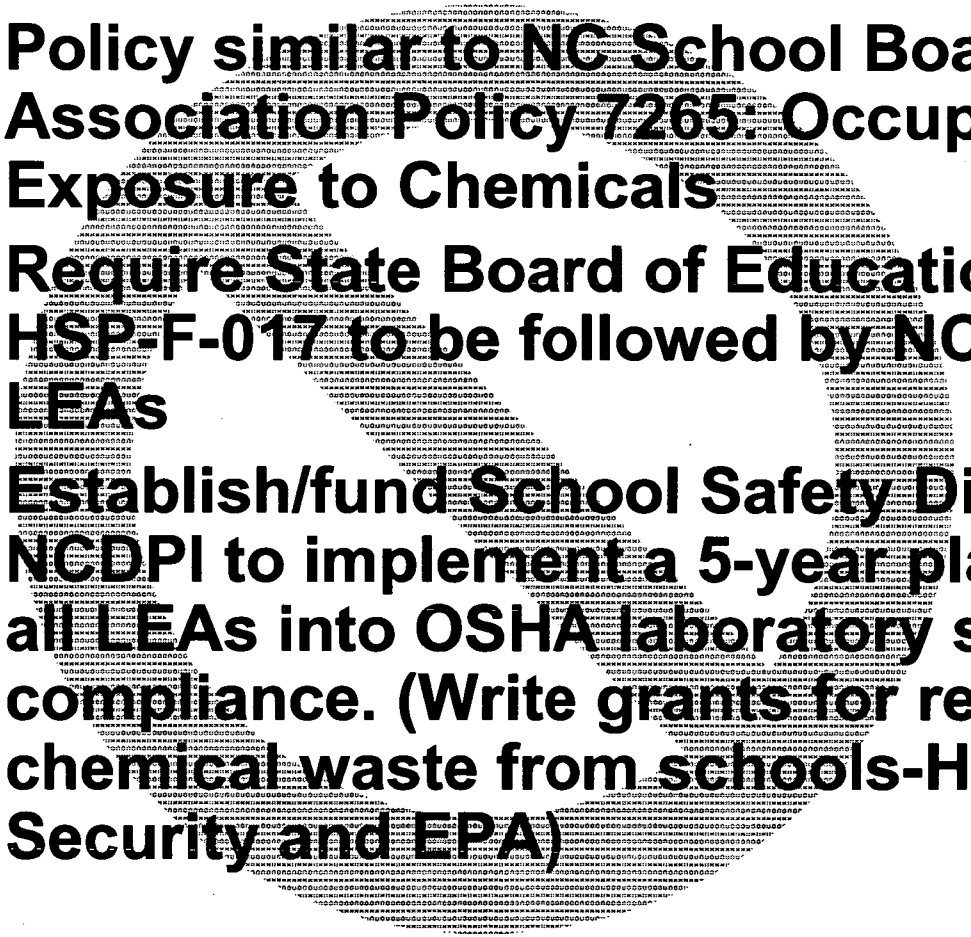
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Expand HB 1531 to Include

- Policy similar to:
  NC School Board Association Policy 7265:
  Occupational Exposure to Chemicals
- Require NCDPI and LEAs to follow
  State Board of Education Policy HSP-F-017
- Establish / fund School Safety Officer @
  NCDPI to implement a 5-year plan to bring all
  LEAs into OSHA laboratory standards
  compliance.

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Expand HB 1531 to include:



- **Policy similar to NC School Board Association Policy 7265: Occupational Exposure to Chemicals**
- **Require State Board of Education Policy HSP-F-017 to be followed by NCDPI and LEAs**
- **Establish/fund School Safety Director @ NCDPI to implement a 5-year plan to bring all LEAs into OSHA laboratory standards compliance. (Write grants for removal chemical waste from schools-Homeland Security and EPA)**

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Expand HB 1531 to Include



- **Establish compliance and accountability standards for laboratory safety**
- **Require Audit and Technical Assistance System by NCDPI to LEAs**
- **Implement Professional Development Program for personnel:**

  29 CFR 1910.1200 Hazard Communication Plan

  29 CFR 1910.1450 Laboratory Standard

  29 CFR 1910.1030 Bloodborne Pathogen

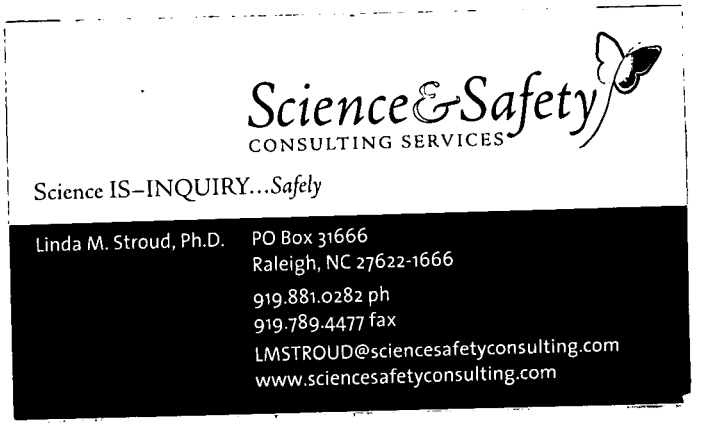
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Thank You!

EXHIBIT F-1

Chemicals Removed from North Carolina Schools by Private Waste Disposal Company
Examples of Hazardous Chemicals

Gases:
- Cyclopropane
- Dimethyl Ether
- Hydrogen
- Hydrogen Iodide
- Methane
- Nitric Oxide



Flammable Liquids/Solids:
- Ethanol
- Isopropanol
- Gasoline
- Metal Powders
- Phosphorous

Reactives:
- Aluminum Alkyls
- Calcium Hydride
- Iron Oxide
- Lithium
- Potassium Borohydride
- Sodium Sulfide

Oxidizers:
- Chlorates
- Nitrates
- Inorganic Peroxides
- Perchlorates
- Permanganates

Toxic:
- Chloroform
- Cyanides
- Heavy Metals
- Methylene Chloride
- Pesticides
- Phenol

Corrosive:
- Acetic Acid
- Ammonium Hydroxide
- Bromine
- Hydrochloric Acid
- Nitric Acid
- Sodium Hydroxide

Shock Sensitive Materials
Removed from NC Schools by Private Waste Disposal Company

The following materials are shock-sensitive, and may decompose violently if struck or heated. Solids are also prone to explosive decomposition if ground, for example with pestle and mortar. A few of the materials listed are not, of themselves, explosive, but mixtures of them with combustible material such as organic reagents, may be dangerous.

Acetaldehyde
Aluminum Ophorite
Amatol
Ammonal
Ammonium Nitrate
Ammonium Perchlorate
Ammonium Picrate
Benzoyl Peroxide
2-Butanol
Butyl Tetryl
Calcium Nitrate
Copper Acetylide
Cumene
Cyanuric Triazide
Cyanogen Bromide
Cyclohexane
Cyclotrimethylenetrinitramine
Dicylcopentadiene
Diethyl Ether
Dinitroresorcinol
Dinitroethyleneurea
Dinitroglycerine
Dinitrophenol
Dinitrophenolates
Dinitrophenyl Hydrazine
Dinitrotoluene
Dioxane
Dipicrylamine
Dipicryl Sulfone
Erythritol Tetranitrate
Ethylene Glycol Dimethyl Ether
Ethyl Ether
Ethyl Vinyl Ether
Fulminating Mercury
Fulminating Gold
Fulminating Platinum
Fulminating Silver
Gelatinized Nitrocellulose
Guanyl Nitrosamino
Guanyltetrazene
Guanylidene
Hydrazine
Hydrazoic Acid
Heavy Metal Azides
Hexanite
Hexanitrodiphenylamine
Hexanitrostilbene
Hexogen
Hydrazinium Nitrate
Isopropyl Ether
Lead Azide
Lead Mannite
Lead Mononitroresorcinate
Lead Picrate
Lead Salts
Lead Styphnate
Magnesium Ophorite
Magnesium Perchlorate
Mannitol Hexanitrate
Mercury Oxalate
Mercury Fulminate
Mercury Tartrate
Mononitrotoluene
Nitrated Carbohydrate
Nitrated Glucoside
Nitrated Polyhydric Alcohol
Nitrogen Triiodide
Nitrogen Trichloride
Nitroglycerin
Nitroglycide
Nitroglycol
Nitrolguanidine
Nitromethane
Nitronium Perchlorate

Nitroparaffins
Nitrotoluene
Nitrourea
Organic Amine Nitrates
Organic Peroxides
Organic Nitramines
Perchloric Acid
Picramic Acid
Picramide
Picratol
Picric Acid
Picryl Chloride
Picryl Fluoride
Polynitro Aliphatic Compounds
Potassium Metal
Potassium Nitroaminotetrazole
Potassium Perchlorate
Robenzoic Acid
Silver Acetylide
Silver Azide
Silver Fulminate
Silver Styphnate
Silver Tetrazene
Sodatol
Sodium Amatol
Sodium Azide
Sodium Dinitro-ortho-cresolate
Sodium Nitrate/Potassium Nitrate (mixture)
Sodium Perchlorate
Sodium Picramate
Styrene
Syphnic Acid
Tert-butyl Hydroperoxide
Tetrahydrofuran (THF)
Tetranitrocarbazole
Tetraze
Tetrytol
Triethylene Glycol Divinyl Ether
Trimethylolethane
Trimonite
Trinit
Trinitroresorcinol
Trinitroanisole
Trinitrobenzene
Trinitrobenzoic Acid
Trinitrocresol
Trinitro-meta-cresol
Trinitronephthalene
Trinitrophenetol
Trinitrophloroglucinol
Trinitrotoluene (TNT)
Urea Ammonium Nitrate
Urea Nitrate
Vinyl Chloride
Vinylidene Chloride Acetylides

NORTH CAROLINA STATE BOARD OF EDUCATION
Policy Manual

Policy Identification
Priority: High Student Performance
Category: Standard Course of Study
Policy ID Number: HSP-F-017

Policy Title: Science Laboratory Safety

Current Policy Date: 08/04/2005

Other Historical Information:

Statutory Reference:

Administrative Procedures Act (APA) Reference Number and Category:

Responsibility-The superintendent of the Local Education Agency (LEA) has the ultimate responsibility for the Chemical Hygiene Plan (CHP) for the LEA and must, with other employees, see that it is implemented and provided with continuing support.

Purpose of the CHP-Standard operating procedures, applicable policies, state and federal laws, and professional standards, personal protective equipment and laboratory equipment are to detail required precautions intended to minimize employees of the LEA from health hazards associated with hazardous chemicals used in the science laboratories of the LEA. The CHP is a written program developed and implemented by the LEA.

Scope-Aspects of the CHP should address, include, but are not limited to:
1. identification of hazardous chemicals;
2. minimization of exposure to employees;
3. development of an outline of the responsibilities of the LEA, other administrators, Chemical Hygiene Officer, employees, other identified stakeholders;
4. discussion of safe procedures;
5. determination of lab facilities and equipment needed;
6. discussion of procedures for procurement, distribution, storage of chemicals;
7. actions to address chemical exposure problems;
8. implementation of a plan for monitoring safety equipment and storage areas;
9. establishment of a process for recording and retaining chemical hazard records;
10. establishment of a plan for posting chemical hazard signs and labels;
11. development of a written emergency plan to address accidents involving chemicals;

12. establishment of a science laboratory safety training program for stakeholders;
13. development of a chemical waste disposal program;
14. any additional guidelines for a science laboratory safety program necessary for compliance with laws, codes, and professional standards.

Local Availability of the CHP-The plan will be available to all employees for review and copies located in other areas within the LEA as deemed appropriate by the superintendent.

Local Review of the CHP-The plan will be minimally reviewed on an annual basis by a committee appointed by the superintendent and updated as necessary.

Accountability to the State Board of Education (SBE)-A copy of the updated CHP for each LEA must be submitted to the SBE office by January 31 of each school year.

Responsibilities of the SBE and DPI- DPI will monitor the submission and implementation of the LEA plans. Any LEA may request a DPI review of their CHP and the LEA's Comprehensive Science Safety Program. If compliance is validated, the LEA will be awarded with recognition of compliance by the State Board of Education. DPI will serve as a clearinghouse for dissemination of information necessary to conduct annual updates. Technical assistance to plan a comprehensive science laboratory safety program will be available to the LEAs by DPI staff or SBE endorsed professional development providers.

Professional Development-Recognizing the liability for incorrect information, providers of Science Laboratory Safety professional development in North Carolina Public Schools must apply for endorsement. The project manager of the Science Laboratory Safety Program for DPI will manage the endorsement process. Minimum criteria for the DPI endorsement to provide Science Laboratory Safety professional development in North Carolina Public Schools must include:

- a minimum of 10 years teaching science in North Carolina (preferably chemistry)
- a minimum of a Master's Degree in Science Education, Chemistry or related science
- a minimum of 40 hours safety training using the N.C. Total Science Safety System©
- a minimum of 40 hours NIOSH safety training for schools (not industry)
- demonstration of ability to lead a science laboratory safety training that is supervised either by DPI staff or a DPI endorsed provider. Training must also use DPI approved materials.
- completion of planning a comprehensive science laboratory safety program for an LEA that is supervised either by DPI staff or a DPI endorsed provider.

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North Carolina School Board of Education Policy
NC G.S. § 115C-105.47
"Safe, Orderly & Caring Schools Assessment Inventory"



Requirements Checklist

At LEA / school level:

_____ Established policy and procedure to enable science teacher to advise the administration of conditions deemed unsafe and in need of correction

_____ Annual updates on safety regulations and / or when a procedure or chemical is deemed unsafe

_____ MSDS accessible to teachers for all chemicals used

_____ Prohibitions on the use of pathogens or procedures / materials in any lab above Biosafety Level 1

_____ Compliance with OSHA Right-to-Know legislation

_____ Compliance with Bloodborne Pathogen Regulations

_____ Compliance with Laboratory Standards—Chemical Hygiene Plan

_____ Compliance with safety rules and guidelines established by the profession

_____ Teachers who model and students that are taught to properly manipulate scientific equipment

_____ Teachers who model and students that are taught to care for and handle live organisms

_____ Teachers who model and students that are taught to perform laboratory procedures

_____ Teachers who model and students that are taught to react if an accident occurs

_____ Inventory of chemicals

_____ Appropriate labeling of chemicals

_____ Appropriate storage of chemicals

_____ Appropriate procedures for disposal and cleanup of biohazards

_____ Appropriate procedures for disposal and cleanup of chemicals

From: North Carolina State School Board of Education Policy Manual

Linda M. Stroud, Ph.D. PO Box 31666 Raleigh, NC 27622-1666 919-881-0282 ph 919-789-4477 fax LMSTROUD@sciencesafetyconsulting.com www.sciencesafetyconsulting.com
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Occupational Exposure to Hazardous Chemicals

NCSBA Policy Code 7265

It is the policy of the board to comply with federal regulations and state statutes regarding hazardous chemicals as set forth in the Federal Register, 29 CFR 1910.1450 and the North Carolina Administrative Code, 13 NCAC 7A.O606, by attempting to limit occupational exposure of employees to hazardous chemicals or other potentially hazardous materials that could cause injury or death.[1]

A. Universal Precautions

Universal precautions will be in force at all times. All chemicals and unknown substances will be handled as if hazardous. The program standards for the control of hazardous chemicals as outlined in the Occupational Safety and Health Act (OSHA) rule, "Occupational Exposure to Hazardous Chemicals in Laboratories" (standard 1910.1450), the North Carolina Administrative Code, and/or the most current standards available will be followed.

B. School District Requirements

The superintendent will ensure that:

1. All elements of a Chemical Hygiene Plan are met including, but not limited to, standard operating procedures for handling hazardous chemicals such as the use of personal protective equipment and hygiene practices, control measures to reduce employee exposure to hazardous chemicals, standards for laboratory protective equipment, identification of laboratory procedures and activities requiring prior approval, proper employee training, and the assignment of a Chemical Hygiene Officer;[2]

2. Labels on incoming containers of hazardous chemicals are not removed or defaced, all material safety data sheets received with incoming shipments are maintained and readily accessible to employees, and a current inventory of chemicals is in use and maintained;[3]

3. All employees are trained and apprised of the hazards of chemicals present in their work area and understand how to report unsafe conditions and how to perform proper cleanup.[4]

4. All employees have access to a copy of the Hazardous Chemicals Policy and Chemical Hygiene Plan;[5]

5. Science laboratories comply with the OSHA Right-to-Know legislation, bloodborne pathogens regulations (see policy 7260, Occupational Exposure to Bloodborne Pathogens), laboratory standards as provided by the Chemical Hygiene Plan and other safety rules and guidelines of the profession;[6]

6. Records are established and maintained of any measurements taken to monitor employee exposures and any medical consultations or examinations required; and

7. This policy is reviewed and updated annually.

D. Testing

Whenever an event takes place in the work area such as a spill, leak, explosion or other occurrence resulting in the likelihood of a hazardous exposure the employee exposed to the hazard may receive a medical examination at the school district's expense.[8]

Legal References

29 C.F.R. l910.1450; 13 NCAC 7A.O606;
Safe, Orderly and Caring Schools Assessment Inventory, Safety Provisions—Science Education (North Carolina Department of Public Instruction, Division of School Improvement)

Cross References

Occupational Exposure to Bloodborne Pathogens (Policy 7260)

Issued: August 18, 2003

[1] This policy is required by federal regulations.
[2] OSHA Standard 1910.1450(e)
[3] OSHA Standard 1910.1450(h) and DPI Safety Provisions for Science Education
[4] OSHA Standard 1910.1450(f); 13 N.C.A.C. 7A.0606; and DPI Safety Provisions for Science Education
[5] OSHA Standard 1910.1450(f)(3)(ii)
[6] DPI Safety Provisions for Science Education
[7] OSHA Standard 1910.1450(j)
[8] OSHA Standard 1910.1450(g)(1)(iii) and (g)(2)

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Linda M. Stroud, Ph.D. PO Box 31666 Raleigh, NC 27622-1666 919-881-0282 ph 919-789-4477 fax LMSTROUD@sciencesafetyconsulting.com www.sciencesafetyconsulting.com
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Mercury Presents a Significant Hazard

Mercury, mercury compounds and mercury-containing instruments are hazardous substances that must not be in K-12 schools. Mercury spills require special mercury spill kits and / or HAZMAT Team clean up. Never vacuum mercury with a vacuum cleaner. Vacuuming mercury creates an even more hazardous situation because it becomes an aerosol. Such spills not only contaminate the spill area but more than likely will be transported into other areas of the school and even to homes of students.

Take heed. Get rid of all mercury, mercury compounds or mercury-containing instruments in K-12 schools by appropriate waste disposal methods. Call your LEA Science Consultant or LEA Facilities Director.

Get informed about the hazards of mercury. Visit these websites:
www.ilpi.com
www.epa.gov
www.arsdr.cdc.gov

MERCURY VAPOR INCIDENT
Granville County Schools, NC,
October 2005

The release of mercury vapors into classrooms on two wings of a 1250-student secondary school required closure of the school for an EPA-guided cleanup. Additionally, two students each took about 3 ounces of mercury home necessitating investigation and cleanup of their residences where vapors levels were found to be greater than 50,000 ng/m^3, exceeding the safe level. Buses were also checked but did not approach EPA action level.

Out of 75 school classrooms in the building, 19 had average mercury vapor areas equal to or greater than EPA action level for air (3,000 ng/m^3). However, the average mercury vapor level in the 19 impacted classrooms was 10 times below the levels reported to be associated with health effects. The EPA mercury school and home clean up level is 1000ng/m^3. This school level assumes 5-days-a-week, 8-hours-a-day exposure. Note: Normal ambient mercury vapor levels for the outside air, no impact classrooms, and classrooms at a nearby elementary school ranged from 80 – 150 ng/m^3.

Mercury is highly toxic and carries a Health Hazard Rating of 3. Adverse effects chiefly result from inhalation exposure to mercury or mercury vapor. Mercury is not well absorbed through the skin or gastrointestinal tract. Ingestion of mercury usually does not produce acute toxicity unless a GI fistula or other GI inflammatory disease is present, or the mercury is retained for a prolonged period in the GI tract. Handling of mercury can result in allergic dermatitis.

Symptoms which may appear within a few hours of mercury vapor exposure include weakness, chills, metallic taste, nausea, vomiting, abdominal pain, diarrhea, headache, tremor, visual disturbances, shortness of breath, cough, and chest tightness. Long-term exposure to mercury vapor can lead to more serious psychiatric effects including depression, loss of self confidence, shyness, anger, irritability, anxiety, insomnia, aggressiveness, nervousness, and / or impatience. Chronic vapor exposure can also lead to kidney failure.

Aggravation of Pre-existing Conditions:
Individuals with previous nervous disorders, impaired kidney function, respiratory function, allergy history or a known sensitization to mercury may be more susceptible to the effects of the substance.

While the mercury incident was a major disruption to instruction and operations, the good news—and the most overriding factor—is that no students or staff members reported health effects due to the release of mercury vapor at the school.

The cleanup process involved a team of EPA-dedicated contractors who monitored the mercury vapor levels throughout the 6-day time period (3 missed student days).

Linda M. Stroud, Ph.D. PO Box 31666 Raleigh, NC 27622-1666 919-881-0282 ph 919-789-4477 fax LMSTROUD@sciencesafetyconsulting.com www.sciencesafetyconsulting.com
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Cleaning the school involved:

- Locating mercury product, proper removal of the product
- Providing heat and ventilation to speed evaporation
- Cleaning hard surfaces
- Removal of soft surfaces such as carpet and mops from impacted areas
- Estimated cost of clean up was $3000 - $4,000 per classroom

If a mercury spill occurs at school, EPA recommends:

- Evacuate students and allow no one to return to the classroom in order to eliminate exposure and prevent tracking of product into other rooms.
- Isolate the area.
- Lower the temperature.
- Turn off HVAC system for impacted classroom.
- Open windows.
- Put all contaminated material including clothing, shoes, and bookbags in a sealed plastic bag.
- Contact local emergency management (fire department and public health officials) for cleanup directives. Inform the emergency management team if students are believed to have carried any mercury to a home or any place outside of the impacted area.

Do Not...

- **Do not** use traditional cleaning procedures such as sweeping, mopping and vacuuming. These procedures increase the spread throughout any facility that has a common HVAC System.
- **Do not** pour mercury down a drain or bury it.
- **Do not** launder clothes and other materials contaminated with mercury.
- **Do not** walk around in shoes that are possibly contaminated with mercury.
- **Do not** attempt to clean spills greater than 1/2 gram of mercury (amount found in a mercury thermometer).

Mercury cleanup is expensive. It has been estimated that the cost to clean up one-half gram of mercury from a broken thermometer is $75-$110. (Foster, Barbara; JCE Vol 82 No. 2 February 2005). An increasing number of elemental mercury spills have been reported to EPA in recent years. In 2004, six EPA regional offices responded to mercury spills that included 12 emergency removals from schools. These spills create public health issues and generally necessitate costly cleanups. EPA cleanup costs for elemental mercury in 2004 ranged from $1,000 to $200,000 per site. That year, EPA also funded local government efforts to cleanup mercury spills at several schools. State and local governments and local school districts also contributed funds to the cleanups. A more costly site was Ballou High School in Washington, DC which amounted to $1,500,000.

Small amounts of mercury may be cleaned up with special mercury cleanup kits from scientific supply houses. Zinc powder may be used to amalgamate the mercury; however, a respirator is required for this method. The contaminated material will still require proper disposal. Two tablespoons of mercury weighs one pound.

EPA provides information for school administrators, faculty, staff, local health jurisdictions, and parent groups on how to reduce the hazards of mercury on children's health, avoid chemical liabilities, develop planning tools, and establish collection programs for mercury. Mercury is used in many items found in schools, such as thermometers, barometers, switches, thermostats, flowmeters, lamps, and laboratory reagents in chemistry and science labs. Two major causes of mercury spills at schools are improper storage and mishandling of these items. EPA encourages schools to prevent spills by removing all mercury compounds and mercury-containing equipment, and by discontinuing their use. Professional organizations such as National Science Teachers Association (NSTA) do not support the use of mercury, mercury compounds or mercury containing instruments in schools.

In the 2005 North Carolina Legislative Session, House Bill 1531 was introduced to remove mercury from North Carolina K-12 schools. It is expected that a new bill for removal of all mercury, mercury compounds and mercury-containing instruments will be introduced in the 2006 North Carolina Legislative Session.

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States that prohibit mercury, mercury compounds, and mercury containing instruments in schools are:

- Michigan
- Indiana
- Massachusetts
- Kansas
- Maryland
- Maine
- Wisconsin
- Minnesota
- Oregon
- Vermont
- Virginia

Some states stipulate that if no reasonably acceptable, mercury-free alternative exists for an instrument, the school may use the instrument that contains the lowest mercury content available on the market.

For more information on the Granville County incident, visit the Granville County Schools' website at: www.gcs.k12.nc.us.

For more information regarding these recommendations and health risks from exposure to mercury, call Dr. Luanne Williams with the North Carolina Department of Health and Human Services at 919-707-5912.

For more information on mercury in schools, visit: www.epa.gov

The EPA website was a source for some of the preceding information on the topic of mercury.
For additional information, visit www.epa.gov

FISHER MERCURY EXCHANGE PROGRAM

Fisher Science Education, in conjunction with Ever Ready Thermometer Co., Inc. (ERTCO), is offering a program to help customers recycle their mercury thermometers. This program offers the opportunity to trade in a mercury thermometer or sling psychrometer each time a new non-mercury thermometer or sling psychrometer is purchased from Fisher Science Education. ERTCO will take your old mercury instruments and properly reclaim them free of charge.

1. Place an order for a Fisher Science Education Ever-Safe Thermometer or non-mercury sling psychrometer.
2. Call ERTCO at 1-800-453-7826 for a return authorization number. Then fax your Sales Invoice (for proof of purchase) to (973) 812-7250.
3. ERTCO will send you a "Customer Verification Statement" to be completed and returned with your mercury instrument for recycling.
4. ERTCO will accept an equal quantity of any mercury thermometer for each new Fisher non-mercury instrument purchased.
5. ERTCO will provide approved shipping tubes and customers are responsible for properly packaging mercury instruments designated for recycling. Any damaged or broken units will not be accepted and will be returned to the customer for appropriate handling. (The customer remains responsible for broken or damaged units). Please ensure that all packaging complies with federal and state regulations to minimize breakage of instruments. Customer compliance is mandatory.

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Linda M. Stroud, Ph.D. PO Box 31666 Raleigh, NC 27622-1666 919-881-0282 ph 919-789-4477 fax LMSTROUD@sciencesafetyconsulting.com www.sciencesafetyconsulting.com
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DC HAZMAT responds to mercury contamination

Ballou High School, Washington, DC, 2003

On October 2, 2003, the Washington, DC, Fire Department HAZMAT Unit responded to an emergency call unlike any call Ballou High School had ever made. What the DC HAZMAT Unit found that afternoon proved to be the beginning of a long, exhausting search for, and clean up of, an elemental mercury spill. A student had obtained 250 milliliters of liquid elemental mercury from a science laboratory and had sold some of it to other students. Students had to be dismissed. By the time the DC HAZMAT Unit and the DC public health officials arrived, it was too late to contain all the spills; varying amounts of mercury were found in the classrooms, gymnasium, and cafeteria. EPA responded by establishing a mobile command post, measuring mercury air concentrations and noting visual contamination of the science laboratory, cafeteria, gym and administration areas.

Contamination did not stop at the school. Students unknowingly carried mercury on contaminated shoes and clothing through the streets, onto city and school buses, and into their homes. Eleven homes and one common area were found to be contaminated and about 16 families were displaced for a month. EPA assisted with screening of residences. As a result of the spill, Ballou High School was closed for 35 days and over 200 homes were tested for mercury contamination. Total cleanup costs were about $1,500,000.



Mercury spill clean up is expensive. Special disposal is required.

Look at the MSDS for the health hazards of mercury. Exposure can occur by skin, inhalation and ingestion. Some symptoms of methylmercury are as follows: impairment of the peripheral vision; disturbances in sensations ("pins and needles" feelings, usually in the hands, feet, and around the mouth); lack of coordination of movements; impairment of speech, hearing, walking; and muscle weakness. People concerned about their exposure to methylmercury should consult their physicians.

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FLINN SCIENTIFIC INC.

"Your Safer Source for Science Supplies"

Material Safety Data Sheet (MSDS)

MSDS #: 506.00
Revision Date: November 25, 2002

Section 1 — Chemical Product and Company Identification

Mercury

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261
CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Mercury
Synonym: quicksilver, hydragyrum
CAS#: 7439-97-6

Section 3 — Hazards Identification

Silvery, very heavy metallic liquid. Odorless.
Highly toxic by ingestion, skin absorption and inhalation of fume or vapor. Absorbed by respiratory and intestinal tract. Corrosive to skin, eyes and mucous membranes.

FLINN AT-A-GLANCE
Health-3
Flammability-0
Reactivity-1
Exposure-3
Storage-1

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.
Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.
Eye: Immediately flush with fresh water for 15 minutes.
External: Wash continuously with fresh water for 15 minutes.
Internal: Rinse out mouth, give 1 to 2 cups of water or milk, induce vomiting. After vomiting, give mixture of 2 Tbs. of activated charcoal mixed with one cup of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Non combustible liquid.
When heated to decomposition, emits toxic fumes of Hg.
Fire Fighting Instructions: Use triclass, dry chemical fire extinguisher. Firefighters should wear PPE and SCBA with full facepiece operated in positive pressure mode.

NFPA CODE
None Established

Section 6 — Accidental Release Measures

Spillage may be a toxic hazard because of proliferation of droplets. Cleanup requires special care. Clean up all droplets and transfer to a safe container. Use zinc dust to amalgamate the mercury into a solid. Ventilate and wash the area in which the spill occurs.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Inorganic #1. Store with metals and metal hydrides.
Dispense mercury in a plastic tray so that spillage can easily be recovered. Enclose the glass or plastic container with the mercury in a Flinn Chem-Saf bag. This will eliminate the mercury from easily escaping.

Section 8 — Exposure Controls , Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron. Use ventilation to keep airborne concentrations below exposure limits. Always wear a NIOSH-approved respirator with proper cartridges or a positive pressure, air-supplied respirator when handling this material in emergency situations (spill or fire).
Exposure guidelines: STEL 0.03d mg/m3; ceiling 0.1 mg/m3 (NIOSH, ACGIH)

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Section 9 — Physical and Chemical Properties

Silvery, very heavy liquid, metal. Odorless.
Solubility: Soluble in liquids. Soluble in nitric acids.
Insoluble in water, alcohol, and ether.
Formula: Hg
Formula Weight: 200.59

Specific Gravity: 13.59
Melting Point: -38.85 C
Boiling Point: 3569 C

Section 10 — Stability and Reactivity

Avoid ammonia, aluminum, potassium, lithium, sodium, bromine, halogens, sulfuric acid, oxidizing agents, and nitric acid.
Shelf life: Good, if stored properly.

Section 11 — Toxicological Information

Acute effects: Highly toxic, corrosive
Chronic effects: N.A.
Target organs: Skin, respiratory system, CNS, kidneys, eyes

ORL-RAT LD50: N.A.
IHL-RAT LC50: N.A.
SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.
Returning mercury to a mercury reprocessor is one option.

Section 14 — Transport Information

Shipping Name: Mercury
Hazard Class: 8, Corrosive
UN Number: UN2809

N/A = Not applicable

Section 15 — Regulatory Information

TSCA listed. EINECS-listed, RCRA U151.

Section 16 — Other Information

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals. This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

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"Your Safer Source for Science Supplies"

Flinn Chemicals--Your Best Choice

flinn@flinnsci.com www.flinnsci.com
P.O. Box 219 Batavia IL 60510
(800) 452-1261 Fax (866) 452-1436

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EXHIBIT G

Mercury Education and Awareness

April 11, 2006

Division of Pollution Prevention and Environmental Assistance (DPPEA)

For the Romans, Mercury was the deity of commerce and trade, and the patron deity of merchants. That's interesting trivia, especially because mercury is an element that is contained in many products we all purchase and use.



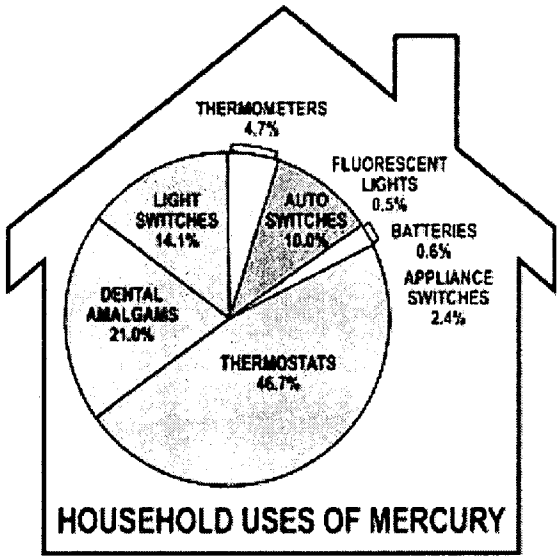
Table 5. Mercury in Common Household Products and Toiletries

Product Type	Number Products Tested	Range of Concentration (ng/L)	
		Minimum	Maximum
Toothpaste	5	490	3,800
Shaving Cream	4	90	670
Deodorant/Antiperspirant	2	1,010	1,350
Soap/Shampoo	5	835	25,000
Toilet Tissue	3	220	1,510
Laundry Detergent	6	560	2,490
Bleach	2	<200	6,170
Dish/Dishwasher Detergent	4	560	1,320
Drain Cleaners	2	2,970	5,490
Soft Drinks/Drink Mixes[1]	3	25	6,070
Fruit Juices	3	789	3,560
Fruit/Vegetables[2]	4	116	874
Rice/Grains	2	26	<200
Processed Meats	6	<100	290
Beef/Chicken	2	29	<40
Condiments[3]	4	133	1,956
Food Coloring[4]	4	96	137,000

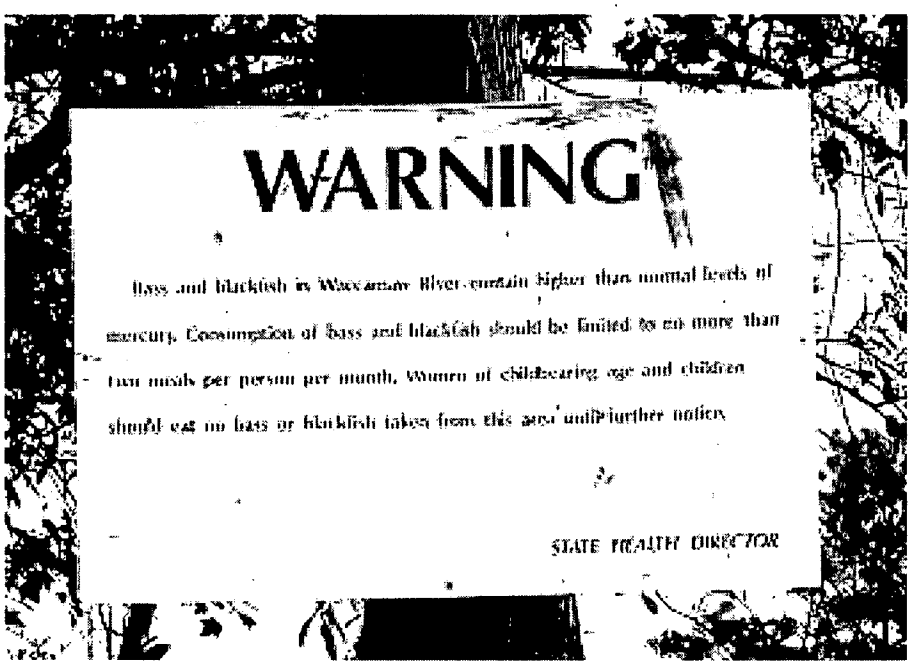
[1] With yellow or red dyes.
[2] Fresh, frozen and canned.
[3] Salt and sugar.

From: Association of Metropolitan Sewerage Agencies (AMSA) report, *Evaluation of Domestic Sources of Mercury*, published in August 2000.

NOTE: The Division of Water Quality has established a freshwater water quality limit for mercury at 12 ng/l (0.0120 ug/l).



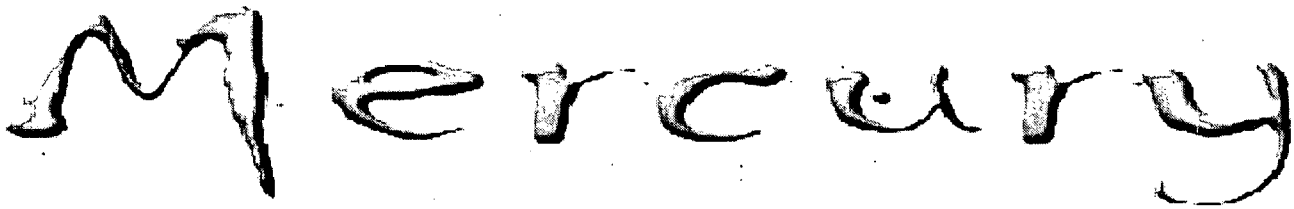
Products containing mercury are thermostats, fluorescent lamps, barometers, switches, relays, and button batteries. Mercury containing solid waste, burned in a municipal solid waste or medical waste incinerator, releases mercury to the atmosphere. Landfilled wastes create mercury-containing leachate. Land-applied sludge and ash contain quantities of mercury that may runoff into receiving streams.



Mercury is a persistent and conservative material. Once altered into the form of methylmercury by biological activity, it is absorbed into the tissues of fish.

Source Reduction is part of solution. Education and awareness is how to start!

Division of Pollution Prevention's Mercury Webpage



Home | General Information | Health Effects | Household Tips | In the Schools | Government Projects

This Web site is designed to offer general information on mercury to the citizens of North Carolina. Included are links to documents and Web sites containing general mercury information, information on mercury found in the home (including how to clean up a mercury spill), information on mercury found in schools, information on the health effects of mercury, mercury emissions, how to perform a mercury audit, and mercury reduction options. Some of the information on each different page included in this Web site may overlap, so you may want to check more than one if you are searching for specific information.

General Information

Mercury and Health

Mercury in Households

Mercury in Schools

What is Government Doing?

Fluorescent Lights

North Carolina Department of Environment and Natural Resources (NCDENR)

Mercury Home - For questions, contact Ron Pridgeon (919) 715-6517
N.C. Division of Pollution Prevention and Environmental Assistance (DPPEA)
1639 Mail Service Center ▪ Raleigh NC 27699-1639 ▪ (919) 715-6500 ▪ (800) 763-0136
Leave Feedback

The Division of Pollution assists the public, businesses, industries, and municipalities with mercury reduction. Our staff frequently responds to mercury related requests for information and technical assistance. Our mercury webpage is a portal for vital information needed to understand this complex issue and to deal with daily situations encountered by North Carolinians. We are not a scientific authority on mercury - we are practitioners in education and fostering a culture of source reduction know-how.

Examples of DPPEA Hg Assistance

- Site-specific alternatives to mercury-containing products.
- Community Business Assistance Section tracks recycling markets for mercury-containing items: thermostats, auto switches, medical devices, cathode ray tubes, fluorescent lights, dental amalgam waste, etc.
- DPPEA partners with the Waste Reduction Resource Center (WRRC) to provide information specific to the needs of particular core sectors:
  - Dental;
  - Healthcare;
  - Automotive;
  - Homeowners.
- Partnering with municipalities to reduce mercury. The City of Gastonia held a Mercury Collection Day and Thermometer Exchange resulting in removal of 894 mercury-containing items from the environment for recycling, plus four containers of liquid mercury. The Town of Tryon's Mercury Collection Day collected 175 pounds of mercury-containing materials.
- Working with partners in DENR's Environmental Stewardship Initiative on the issue of environmental sustainability by emphasizing energy efficiency and device retrofitting - Promoting the concept of LEED: Leadership in Energy and Environmental Design.

NORTH CAROLINA Recycling Markets Directory

RBAC Home | Search Directory | Get Listed | N.C. WasteTrader | Need Help?

The following companies accept "Monitors-Cathode Ray Tubes" from N.C.:

Company Name	City	County	State	Phone Number
Aarwin, Inc.	Elmira		NY	(607) 733-6666
AERC Recycling Solutions	Ashland		VA	(804) 798-9295
AERC/MTI - Advanced Env. Recycling Corp.	Allentown	Lehigh	PA	(800) 554-2372
Alternative Waste Management Solutions, Inc	Asheville	Buncombe	NC	(828) 225-7558
Asset Recovery Corporation	Durham	Durham	NC	(800) 472-2081
Blue Ridge Computer Recycling, LLC	Asheville	Buncombe	NC	(828) 232-5766

Partial Screen-Shot from DPPEA's Recycling Markets Directory

Winter 2003 Vol. 12, No. 2

North Carolina Division of Pollution Prevention and Environmental Assistance

waste minimization FOCUS

Providing pollution prevention assistance to North Carolina industries since 1984

Mercury: The N.C. Connection

According to the N.C. Department of Health and Human Services, in all waters south and east of Interstate 85 , citizens are advised to limit consumption of certain species of fish to a few meals per month; pregnant women and children are cautioned to avoid eating some fish completely. The concern is mercury. While there are no postings in western North Carolina to date, and the fish there are safe to eat, mercury is a problem even in the mountains (For specific details on N.C. fish advisories please visit http://www.epi.state.nc.us/epi/fish).

Mercury, sometimes known as quicksilver, is a naturally occurring metal. It is released into the environment by volcanoes, forest fires and other natural sources. Human activities also emit significant quantities of mercury by burning coal, smelting ore and mining. Once released into the atmosphere, elemental mercury vapor is capable of long-range transport through the upper atmosphere over thousands of miles. It can then be "washed" out of the air by precipitation "scrubbing," or fall out in dry conditions through a process called dry depo-sition. This means that although a local mercury source may very well increase mercury levels in local rivers and lakes, the lack of a local source does not mean that mercury will be nonexistent in the water. See the above depiction of the mercury cycle from the air to the water to the fish population.

Work is underway in North Carolina to minimize mercury releases to our environment. Businesses, industries and citizens can go to DPPEA's Web site at http://www.p2pays.org/mercury for a wide selection of resources on mercury and its impacts in North Carolina. This issue provides the latest information from the Department of Environment and Natural Resources (DENR) and its multi-divisional efforts to identify and minimize the state's mercury sources.

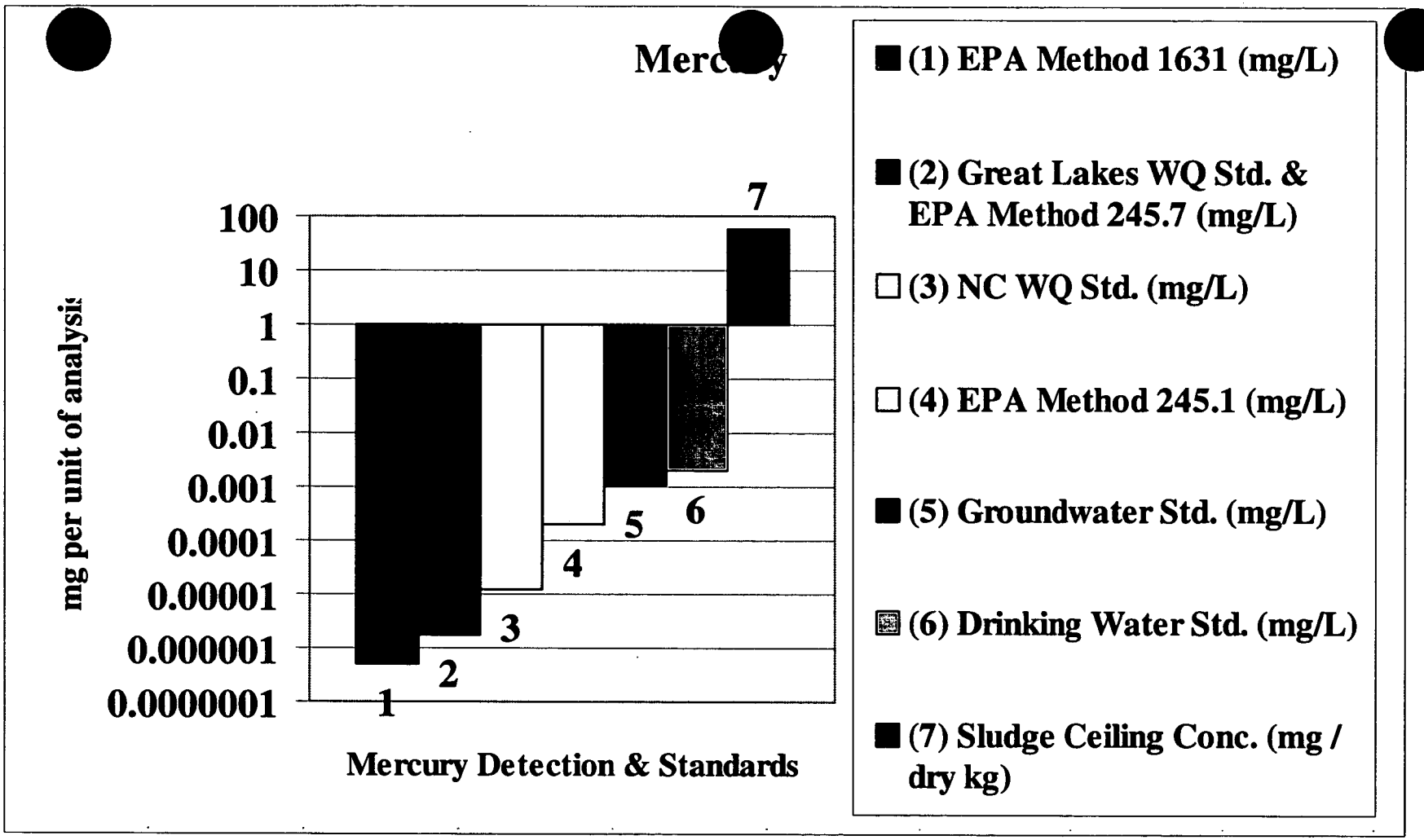
The Mercury Connection



Graphic courtesy of the N.C. Wildlife Resources Commission

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N.C. Businesses Turn Trash to Cash 8



Note: Graph is Log Scale

		mg / L	ug / L	ng / L
1	EPA Method 1631 MDL (PQL is 1 ng/L)	0.0000005	0.0005	0.5
2	Great Lakes WQ Std. & Method 245.7	0.0000018	0.0018	1.8
3	NC WQ Std.	0.0000120	0.0120	12.0
4	EPA Method 245.1	0.0002000	0.2000	200.0
5	Groundwater Standard	0.0011000	1.1000	1,100.0
6	Drinking Water Standard	0.0020000	2.0000	2,000.0
7	Land Application Residuals Standard	57 mg / dry kg	57,000 ug/ dry kg	57,000,000 ng/ dry kg

EXHIBIT G-1

GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2005

H **1**

HOUSE BILL 1531

Short Title:	Mercury Reduction and Education.	(Public)
Sponsors:	Representatives Harrison, Bordsen,, Martin, Fisher (Primary Sponsors); Hackney, Insko, and Weiss.	
Referred to:	Environment and Natural Resources.	

April 21, 2005

A BILL TO BE ENTITLED

AN ACT TO REDUCE THE QUANTITY OF MERCURY THAT IS RELEASED INTO THE ENVIRONMENT, THAT IMPACTS NATURAL RESOURCES, AND THAT HARMS THE PUBLIC HEALTH OF THE CITIZENS OF THE STATE.

The General Assembly of North Carolina enacts:

SECTION 1. Article 9 of Chapter 130A of the General Statutes is amended by adding a new Part to read:

"Part 6. Mercury Reduction and Education Act of 2005.

"**§ 130A-310.50. Short title.**

This Part may be cited as the Mercury Reduction and Education Act of 2005.

"**§ 130A-310.51. Definitions.**

(a) Definitions. – As used in this Part:

(1) "Automotive mercury switch" includes a convenience switch, such as a switch for a trunk or hood light, and a mercury switch in antilock brake systems.

(2) "Health care facility" includes a hospital, nursing home, extended care facility, long-term care facility, clinical or medical laboratory, State or private health or mental institution, clinic, physician's office, or health maintenance organization.

(3) "Manufacturer" includes any person, firm, association, partnership, corporation, governmental entity, organization, or joint venture that produces a mercury-added product or an importer or domestic distributor of a mercury-added product produced in a foreign country. In the case of a multicomponent product containing mercury, the manufacturer is the last manufacturer to produce or assemble the product. If the multicomponent product or mercury-added product is produced in a foreign country, the manufacturer is the first importer or domestic distributor.

(4) "Mercury-added button-cell battery" means a button-cell battery to which the manufacturer intentionally introduces mercury for the operation of the battery.

(5) "Mercury-added novelty" means a mercury-added product intended mainly for

personal or household enjoyment or adornment. Mercury-added novelties include, but are not limited to, items intended for use as practical jokes, figurines, adornments, toys, games, cards, ornaments, yard statues and figures, candles, jewelry, holiday decorations, items of apparel, and other similar products. Mercury-added novelty does not include games, toys, or products that require a button-cell or lithium battery, liquid crystal display screens, or a lamp that contains mercury.

(6) "Mercury-added product" means a product, commodity, or chemical, or a product with a component that contains mercury or a mercury compound intentionally added to the product, commodity, or chemical in order to provide a specific characteristic, appearance, or quality, or to perform a specific function, or for any other reason. Mercury-added products include, but are not limited to, mercury thermometers, mercury thermostats, and mercury switches in motor vehicles.

(7) "Mercury manometer" means a mercury-added product that is used for measuring blood pressure.

(8) "Mercury thermometer" means a mercury-added product that is used for measuring temperature.

(9) "Retailer" means a retailer of a mercury-added product.

(10) "Wholesaler" means a wholesaler of a mercury added product.

"**§ 130A-310.52. Purpose.**

The purpose of this Part is to reduce the quantity of mercury that is released into the environment, that impacts natural resources, and that harms the public health of the citizens of the State.

"**§ 130A-310.53. Scope.**

Nothing in this Part shall apply to any of the following:

(1) A crematory regulated under Article 13F of Chapter 90 of the General Statutes.

(2) The following items regulated by the United States Food and Drug Administration:

a. Prescription drugs regulated under the Federal Food, Drug, and Cosmetic Act (21 U.S.C. § 301, et seq.).

b. Any substance that may be lawfully sold over the counter without a prescription regulated under the Federal Food, Drug, and Cosmetic Act (21 U.S.C. § 301, et seq.).

c. Medical equipment or reagents used in medical or research tests regulated under the Federal Food, Drug, and Cosmetic Act (21 U.S.C. § 301, et seq.).

d. Biological products regulated under the Public Health Service Act (42 U.S.C. § 262, et seq.).

"**§ 130A-310.54. Prohibition on sale of certain mercury-added products.**

(a) No person may sell, offer for sale, or distribute for sale or use in this State a mercury-added novelty. A manufacturer of mercury-added novelties shall notify all retailers that sell the novelties about the provisions of this subsection and how to properly dispose of any remaining mercury-added inventory.

(b) No person may sell, offer for sale, or distribute for sale or use in this State a manometer used to measure blood pressure or a thermometer that contains mercury. A

manufacturer of thermometers that contain mercury shall notify all retailers that sell the product about the provisions of this subsection and how to properly dispose of any remaining thermometer inventory. This subsection does not apply to any of the following:

(1) An electric thermometer with a button-cell battery containing mercury.

(2) A thermometer that contains mercury and that is used for food research and development or food processing, including the processing of meat, dairy products, and pet food.

(3) A thermometer that contains mercury and that is a component of an animal agriculture climate control system or an industrial measurement system or for use in veterinary medicine.

(4) A thermometer or manometer that contains mercury that is used for calibration of other thermometers, manometers, apparatus, or equipment.

(5) A thermometer that is provided by prescription. A manufacturer of a mercury thermometer shall supply clear instructions on the careful handling of the thermometer to avoid breakage and proper cleanup should breakage occur.

(6) A manometer or thermometer sold or distributed to a hospital or a health care facility controlled by a hospital if the hospital has adopted a plan for mercury reduction that has been approved by the Department.

(c) No person may sell, install, or reinstall a commercial or residential thermostat that contains mercury unless the manufacturer of the thermostat conducts or participates in a thermostat recovery or recycling program designed to assist contractors in the proper disposal of thermostats that contain mercury in accordance with 42. U.S.C. § 6901, et seq.

(d) No person may sell, offer for sale, or distribute for sale or use in this State a motor vehicle of model year 2009 or later, if the motor vehicle contains an automotive mercury switch.

(e) Nothing in this section shall restrict the ability of a manufacturer, importer, or domestic distributor from transporting products through the State or storing products in the State for later distribution outside of the State.

"**§ 130A-310.55. Fluorescent lamp labelling.**

(a) A manufacturer, wholesaler, or retailer shall not knowingly sell at retail a fluorescent lamp if the fluorescent lamp contains mercury unless the fluorescent lamp is labeled in accordance with subsection (b) of this section.

(b) A fluorescent lamp is considered labeled for purposes of subsection (a) of this section if the lamp is labeled in compliance with the labelling requirements of another state or the lamp has a label that does all of the following:

(1) Displays the internationally recognized symbol for the element mercury.

(2) Informs the purchaser that mercury is present in the lamp.

(3) Explains that the lamp should be disposed of according to applicable federal, State, and local laws.

(4) Provides a tol -free telephone number and a uniform resources locator internet address to a Web site that contains information on applicable disposal laws.

(c) The requirements of this section do not apply to products containing mercury-added lamps.

"**§ 130A-310.56. Purchase of products by the Department of Administration.**

The Department of Administration shall give priority and preference to the purchase of equipment, supplies, and other products that contain no mercury-added compounds or components unless there is no economically feasible nonmercury-added alternative that performs a similar function, or the product containing mercury is designed to reduce electricity

consumption by at least forty percent (40%) and there is no nonmercury or lower-mercury alternative available that saves the same or a greater amount of electricity as the exempted product. In circumstances where a nonmercury-added product is not available, preference shall be given to the purchase of products that contain the least amount of mercury added to the product necessary for the required performance.

"**§ 130A-310.57. Prohibit mercury in primary and secondary education.**

(a) A school may not purchase bulk elemental mercury or mercury compounds for use in teaching in primary or secondary schools.

(b) All primary and secondary schools shall remove and properly dispose of all bulk elemental mercury and bulk mercury compounds used as teaching aids in science classrooms, not including barometers.

"**§ 130A-310.58. Mercury education and information.**

(a) The Department shall develop educational materials and an education plan for schools, local governments, businesses, and the public on the hazards caused by the release of mercury into the environment and on the proper disposal methods for mercury and mercury-added products.

(b) The Department is authorized to participate in regional or multistate clearinghouses to assist in carrying out the provisions of this Part. A clearinghouse may also be used to study notification and label requirements, to develop education and outreach activities, and to maintain a list of all mercury-added products."

SECTION 2.(a) There is appropriated from the General Fund to the Department of Environment and Natural Resources the sum of one hundred thousand dollars ($100,000) for the 2005-2006 fiscal year to implement G.S. 130A-310.58, as enacted by Section 1 of this act.

SECTION 2.(b) There is appropriated from the General Fund to the Department of Public Instruction the sum of two hundred thousand dollars ($200,000) for the 2005-2006 fiscal year and the sum of two hundred thousand dollars ($200,000) for the 2006-2007 fiscal year to implement G.S. 130A-310.57(b), as enacted by Section 1 of this act. It is the intent of the General Assembly that the appropriation made by this subsection be a continuing appropriation through the 2008-2009 fiscal year. It is the intent of the General Assembly that all bulk elemental mercury and bulk mercury compounds be removed from all primary and secondary schools and properly disposed of as provided in G.S. 130A-310.57(b) by July 1, 2009.

SECTION 3. Except as provided in this section, Section 1 of this act becomes effective January 1, 2006. G.S. 130A-310.56, as enacted by Section 1 of this act, becomes effective January 1, 2007. G.S. 130A-310.54, as enacted by Section 1 of this act, becomes effective January 1, 2008. Section 2 of this act becomes effective July 1, 2005. Section 3 of this act is effective when it becomes law.

(DRAFT) Seller's Ocean Hazards Disclosure Form

In accordance with N.C.G.S. § 39-51, the following are disclosures by the Seller to a prospective buyer about the Ocean Hazards that may exist on this property. This form is intended to make prospective buyers aware of the special risks and conditions associated with development in this area. The North Carolina Coastal Resources Commission has implemented rules for coastal development intended to minimize, but not eliminate, property loss from hazards.

Ocean Erodible Areas

Property on the oceanfront or adjacent to an inlet has a moving property line along the shore that is subject to the forces of nature. Short-term erosion associated with storms (*e.g.*, hurricanes, nor'easters, tropical depressions, etc.) is often severe because large quantities of sand can be moved quickly offshore from the beach and dunes, causing the shoreline to recede much further landward. As conditions calm, the shoreline may or may not return to its original profile.

The coastal shoreline is also subject to long-term erosion, caused by the daily forces of wind, waves, tides and a gradual rising sea level (approximately one foot per 100 years). Annual erosion rates along N.C.'s coast averaged over long-term periods of 50 years or more can range up to 20 feet per year. These average annual long-term erosion rates determine *erosion setbacks* for oceanfront construction. Erosion setbacks for a given project are based on the type and size of development activity. For most single-family homes, setbacks are determined by multiplying the long-term average annual erosion rate by 30, with a minimum setback of 60 feet.

The setback is measured landward from the primary dune, the frontal dune, or the first line of stable natural vegetation. If the beach adjacent to your property was part of a large-scale beach nourishment project, the line from which setbacks are measured is a line denoting where the vegetation existed or was located before the temporary benefits from the project occurred. A state or local Coastal Management representative determines setbacks on a case-by-case basis when development is proposed.

The *average annual long-term erosion rate setback* for this property is available on maps located in the County Clerk of Court's office. The most current erosion setback maps are also available on Coastal Management's web site at *http://dcm2.enr.state.nc.us/Maps/ER_1998/SB_Factor.htm.*

Erosion Control Measures

The state prohibits permanent shoreline stabilization devices on the oceanfront. Included in this ban are seawalls, groins and other hardened structures. Temporary erosion control structures (*sandbags*) may be allowed only to protect *imminently threatened* structures. A structure is classified as imminently threatened when it is located less than 20 feet from the erosion scarp. A particular piece of property may use sandbags only once, regardless of ownership.

Sandbags may remain in place for up to two years if the protected structure is 5,000 square feet or less, or for up to five years if the structure is larger than 5,000 square feet. After this time, sandbags may have to be removed at the landowner's expense. Sandbags require a permit from the Division of Coastal Management.

Any structure built after 1989 that becomes imminently threatened by erosion must be dismantled or relocated landward within two years of being threatened.

High Hazard Flood Areas

Properties along the oceanfront are subject to flooding, high waves and heavy water currents during major storms. These lands are identified as *coastal flood with velocity hazard*, or *V zones*, on flood insurance rate maps prepared by the Federal Insurance Administration. These maps are usually available at your local building inspector's office.

Inlet Hazard Areas

Lands next to ocean inlets are especially vulnerable to erosion and flooding and can shift suddenly and dramatically. For each inlet along the coast, the Division of Coastal Management prepares a hazard area map that is reviewed and approved by the Coastal Resources Commission. The size and type of permitted development is limited in these areas. To determine if this property is located in an inlet hazard area, you may consult the Coastal Management maps available in the County Clerk of Court's office or on the Division of Coastal Management's web site at *http://dcm2.enr.state.nc.us/Maps/ER_1998/SB_Factor.htm.*

Coastal Development Rules

The North Carolina Administrative Code contains rules governing coastal development. The rules are located in 15A NCAC Chapter 7, and can be accessed via the Division of Coastal Management's web site at *http://www.nccoastalmanagement.net/Rules/current.htm* or at the Office of Administrative Hearings web site at *http://www.oah.state.nc.us/rules/.*

Property Address:

_____

_____

_____ _____

Seller's Signature Date

_____ _____

Buyer's Signature Date

For more information, contact your local CAMA permit officer, or Division of Coastal Management Staff at 1-888-4RCOAST. Or visit www.nccoastalmanagement.net.

Failure of the Seller to provide this form allows a Buyer those remedies found in G.S. § 47E-2

EXHIBIT I

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 2005

H **1**

HOUSE BILL 1512

Short Title:	Coastal Hazards Disclosure.	(Public)
Sponsors:	Representative Harrison.	
Referred to:	Rules, Calendar, and Operations of the House.	

April 21, 2005

A BILL TO BE ENTITLED

AN ACT TO PROVIDE FOR DISCLOSURE OF COASTAL NATURAL HAZARDS TO PURCHASERS OF COASTAL PROPERTIES.

The General Assembly of North Carolina enacts:

SECTION 1. Article 9 of Chapter 39 of the General Statutes is amended by adding a new section to read:

"**§ 39-51. Disclosure of coastal natural hazards.**

(a) Legislative Findings. – The General Assembly finds that there are many properties along the Atlantic Ocean that are particularly susceptible to coastal natural hazards, including but not limited to erosion, flooding, storm damage, and inlet migration. The natural features of the beach system are highly dynamic and there is a high degree of potential loss of life and property in certain particularly hazardous areas. The nature and extent of these coastal natural hazards for particular parcels of land are not readily apparent to or known by potential purchasers of property. It is therefore in the public interest that the General Assembly establish a system whereby purchasers of coastal properties subject to certain natural hazards can receive reasonable notice of these hazards prior to acquisition of property. Public disclosure of these hazards is essential to fully apprise prospective purchasers of the coastal natural hazards involved with development and use of property, to prevent any misrepresentation as to the coastal natural hazards affecting the property, and to allow potential purchasers to have complete and accurate information regarding property that may be affected by coastal natural hazards.

(b) Scope. – The provisions of this section apply to all properties that have been designated as ocean hazard areas of environmental concern by the Coastal Resources Commission pursuant to G.S. 113A-113 and G.S. 113A-115.

(c) Description of Coastal Natural Hazards Filed With the Clerk of Court. – The Coastal Resources Commission shall file with the clerk of court in each county that includes property that has been designated as an ocean hazard area of environmental concern a detailed description of each area and the specific coastal natural hazards that affect the property, with appropriate supporting materials. The Coastal Resources Commission shall update the filing whenever a designation in a county is amended.

(d) Disclosure Form. – The Coastal Resources Commission shall prepare and make available at no charge a simple form on which a seller shall provide the disclosures required by subsection (e) of this section. The form shall include information relative to rules affecting potential development or redevelopment of the property. Any information that is required to complete the disclosure form shall be provided at no charge by the Coastal Resources Commission. The Coastal Resources Commission shall maintain current information on annual erosion rates, storm recession estimates, flood levels, inlet movement and other relevant data for all property subject to this section. The disclosure form shall include notice of the remedies available under subsection (h) of this section.

(e) Duties of Seller. – A seller of real property described in subsection (b) of this section shall provide every prospective purchaser of the real property with a written document that discloses the coastal natural hazards affecting the property. This disclosure shall be made upon a form provided by the Coastal Resources Commission and shall be made at least 72 hours prior to the time the purchaser signs a purchase contract or at least 72 hours prior to the receipt of any consideration by the seller, whichever occurs first. If the property is subject to Chapter 47E of the General Statutes, disclosure as provided in that Chapter satisfies the requirements of this section.

(f) Limitations on Construction of Section. – This section shall not be construed to relieve a seller of any other legal duty, obligation, or liability of disclosure. A disclosure under this section shall not be construed to constitute a warranty by the seller that the property may be developed or redeveloped or that the property is not subject to hazards in addition to those required to be disclosed under this section.

(g) Exemption. – The requirements of this section shall not apply to any gratuitous transfer of property, including, but not limited to those transfers made by gift, bequest, will, or other means in which the transferor receives no consideration either directly or indirectly from the recipient of the property.

(h) Remedies. – If a seller fails to make the disclosure required by subsection (e) of this section, the purchaser has the rights set out in G.S. 47E-5(b). These rights shall be in addition to any other remedies available under any other provision of law."

SECTION 2. G.S. 47E-4(b) reads as rewritten:

"(b) The North Carolina Real Estate Commission shall develop and require the use of a standard disclosure statement to comply with the requirements of this section. The disclosure statement shall specify that certain transfers of residential property are excluded from this requirement by G.S. 47E-2, including transfers of residential property made pursuant to a lease with an option to purchase where the lessee occupies or intends to occupy the dwelling, and shall include at least the following characteristics and conditions of the property:

(1) The water supply and sanitary sewage disposal ~~system;~~system.

(2) The roof, chimneys, floors, foundation, basement, and other structural components and any modifications of these structural ~~components;~~components.

(3) The plumbing, electrical, heating, cooling, and other mechanical ~~systems;~~systems.

(4) Present infestation of wood-destroying insects or organisms or past infestation the damage for which has not been ~~repaired;~~repaired.

(5) The zoning laws, restrictive covenants, building codes, and other land-use restrictions affecting the real property, any encroachment of the real property from or to adjacent real property, and notice from any governmental agency affecting this real ~~property; and~~property.

(6) Presence of lead-based paint, asbestos, radon gas, methane gas, underground storage tank, hazardous material or toxic material (whether buried or covered), and other environmental contamination.

(7) The existence of coastal natural hazards that are required to be disclosed under G.S. 39-51.

(b1) The disclosure statement shall provide the owner with the option to indicate whether the owner has actual knowledge of the specified characteristics or conditions, or the owner is making no representations as to any characteristic or condition. This subsection does not apply to subdivision (7) of subsection (b) of this section."

SECTION 3. This act becomes effective 1 July 2006 and applies to all property that is sold or offered for sale on or after that date. The Coastal Resources Commission shall complete the filings required by G.S. 39-51(c), as enacted by Section 1 of this act, and shall develop the disclosure form required by G.S. 39-51(d), as enacted by Section 1 of this act, no later than 1 January 2006.

EXHIBIT I-1

Audubon NC • Brunswick Environmental Action Team
Conservation Council of NC • New River Foundation NC Coastal Federation
NC Conservation Network • NC Environmental Defense NC Public Interest Research Group • NC Sierra Club • Neuse River Foundation
Pamlico-Tar River Foundation • PenderWatch & Conservancy
Southern Environmental Law Center • Sunset Beach Taxpayers Association

August 22, 2005

Dear Representative:

We would like to request your support of the Coastal Hazards Disclosure bill (HB 1512). We anticipate this bill will be voted upon this week.

Properties along the Atlantic Ocean and its inlets experience significant long-term shoreline erosion, as well as short-term storm surge and flooding during hurricanes, nor'easters and tropical depressions. Last year 240 properties were imminently threatened due to severe erosion.

The bill requires sellers of properties on the Atlantic Ocean and its inlets to provide a Coastal Hazards Disclosure Statement to every prospective buyer. The Coastal Hazards Disclosure Statement provides prospective buyers with information on rules affecting future development or redevelopment of the property.

For instance, buyers who have lived in other states may not realize that North Carolina prohibits seawalls. The statement also provides information on annual erosion rates, vegetation lines, setbacks, 100-year storm recession estimates, high hazard flood areas, inlet hazard areas, and flood elevation levels.

The state Coastal Resources Commission will provide a standard form and all information needed to complete the form at no charge to the seller. The Coastal Hazards Disclosure Statement will be given to the potential buyer at the same time and manner as other disclosures forms already required by state law.

Citizens considering the purchase of property in high hazard areas need to know the facts in order to make an informed decision, with full knowledge of the risks and limitations involved with owning land and structures next to the ocean or inlets.

Please vote in favor of the Coastal Hazards Disclosure bill. Thank you.

Jim Stephenson
NC Coastal Federation

Vic D'Amato
NC Sierra Club

Grady McCallie
NC Conservation Network

Mike Nelson
Conservation Council of NC

Michelle Duval
NC Environmental Defense

Amy Pickle
Southern Environmental Law Center

Christine Wunsche
NC Public Interest Research Group

Betty Sanders-Seavey
New River Foundation

Jan Harris
Brunswick Environmental Action Team

Chris Canfield
Audubon NC

Mary Alsentzer
Pamlico-Tar River Foundation

Larry Baldwin
Neuse River Foundation

Donald Ellson
PenderWatch & Conservancy

Sue Weddle
Sunset Beach Taxpayers Assoc.

EXHIBIT J

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NC 27603
PHONE: (919) 733-2578
FAX: (919) 715-5460

SUSAN S. IDDINGS
ASSISTANT COMMISSION COUNSEL
401 LEGISLATIVE OFFICE BUILDING
PHONE: (919) 733-6660

JENNIFER L. MCGINNIS
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
PHONE: (919) 733-2578

DOROTHY M. WAUGAMAN
COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NC 27603
PHONE: (919) 715-2525
FAX: (919) 754-3232

JEFF W. HUDSON
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
PHONE: (919) 733-2578

TIMOTHY R. DODGE
COMMISSION ANALYST
545 LEGISLATIVE OFFICE BUILDING
PHONE: (919) 733-2578

11 April 2006

Transmitted via electronic mail to SRS_Land_Sales@fs.fed.us and by surface mail.

Mark E. Rey, Under Secretary,
Natural Resources and Environment, Unites States Department of Agriculture
SRS Comments, Lands 4S,
1400 Independence Ave, SW, Mailstop 1124
Washington, DC 20250-0003

RE: Proposed disposition of National Forest lands in North Carolina

Dear Mr. Rey:

The Environmental Review Commission (ERC) is a permanent, statutory commission of the General Assembly of North Carolina (N. C. Gen Stat. 120-70.41 et seq.). The ERC is responsible for providing legislative oversight and study of agencies, programs, issues, and proposals related to protection of the environment and conservation of the natural resources of the State.

At its 14 March 2006 meeting, the ERC heard information regarding a proposal by the United States Forest Service to dispose of National Forest lands in North Carolina to generate revenues to pay for reauthorization of the Secure Rural Schools and Communities Self-Determination Act of 2000 (P.L. 106-393). The U.S. Forest Service has identified nearly 10,000 acres of National Forest land in North Carolina for disposition including 3,835 acres on the Nantahala National Forest, 2,780 acres on the Pisgah National Forest, 2,317 acres on the Uwharrie National Forest, and 895 acres on the Croatan National Forest.

After discussion, the ERC unanimously adopted a motion in opposition to this proposal.

North Carolina values National Forest lands in North Carolina for recreation, wildlife habitat, watershed protection, and other uses. The General Assembly of North Carolina has endorsed efforts to increase public lands in North Carolina by one million acres by 2009 to respond to growing demands for outdoor recreation and to protect forests and other lands for future generations. Sale of National Forest lands would set back the State's on-going efforts to expand public lands for the use

and enjoyment of our citizens and visitors from other areas. While the Forest Service characterizes the lands proposed for disposition as isolated and difficult to manage, the ERC received testimony that refutes this assertion with respect to much of the land proposed for sale.

The proposed National Forest land sale also is only a short-term fix to the funding program for rural schools and communities. Funds generated by the sale of National Forest lands would be used to phase out this funding over five years. Moreover, the proposed disposition of National Forest land and distribution of revenues is fundamentally unfair to North Carolina. While the amount of National Forest land proposed for disposition in North Carolina and Oregon is nearly the same, Oregon would receive approximately $163 million under the proposal while North Carolina would receive only $1 million.

We strongly urge you to abandon the proposal to dispose of National Forest lands in North Carolina and find an appropriate source of revenue to fund the Secure Rural Schools program.

Sincerely,

Senator Charles W. Albertson
Co-Chair, Environmental Review Commission

Senator Daniel G. Clodfelter
Co-Chair, Environmental Review Commission

Representative Pryor Gibson, III
Co-Chair, Environmental Review Commission

cc: President George W. Bush
North Carolina Congressional Delegation
- Senator Elizabeth Dole
- Senate Richard Burr
- Representative G. K. Butterfield (1st District)
- Representative Robert Etheridge (2nd District)
- Representative Walter B. Jones (3rd District)
- Representative David E. Price (4th District)
- Representative Virginia Foxx (5th District)
- Representative Howard Coble (6th District)
- Representative Mike McIntyre (7th District)
- Representative Robin Hayes (8th District)
- Representative Sue Myrick (9th District)
- Representative Patrick McHenry (10th District)
- Representative Charles H. Taylor (11th District)
- Representative Melvin L. Watt (12th District)
- Representative Brad Miller (13th District)

Michael Johanns, Secretary of Agriculture
Dale N. Bosworth, Chief, U.S. Forest Service
Senator Marc Basnight, President Pro Tempore of the Senate, North Carolina General Assembly
Representative James B. Black, Speaker of the House of Representatives, North Carolina General Assembly
Governor Michael F. Easley
William G. Ross, Jr., Secretary of Environment and Natural Resources, North Carolina Department of Environment and Natural Resources

EXHIBIT K

North Carolina Department of Environment and Natural Resources (NCDENR)



One-Stop Permit Assistance and Coordination

One-Stop Permit Coordination offers customers the option of working with a permit assistance coordinator to answer questions, address concerns, and help identify and solve potential problems related to permits. Permit coordinators provide front-end assistance and guide the applicant through the permitting process.

Services of the coordinator include:

- Identifying early in the process which environmental permits may be needed
- Coordinating activities among DENR permitting agencies
- Developing a project action plan, including timelines for projected permit decisions
- Arranging pre-application meetings
- Tracking permit review times
- Coordinating express permitting, when appropriate

EXPRESS
Permit Review

Express Permit Review

Express Permitting offers a more timely review of certain environmental permits than the traditional permit review process. It offers quicker permit decisions and certification as well as consultation to identify necessary environmental requirements. A pre-application meeting is required, and a well-documented application, along with supporting technical information, is necessary for thorough and swift review. Higher fees are charged to support additional staff for the express review. Multiple permits that may be required for a project can be concurrently reviewed.

The following permits and certifications are currently part of the express program:

- Coastal stormwater permits
- Water quality wetland certifications
- Stream origin determinations
- Erosion and sedimentation control plans
- Permits under the Coastal Area Management Act
- Water quality non-discharge permits

Customer Service Center
Toll Free 1-877-623-6748
E-mail: denr.permits@ncmail.net
Web site: www.envhelp.org

ONE-STOP
&
EXPRESS PERMIT COORDINATION

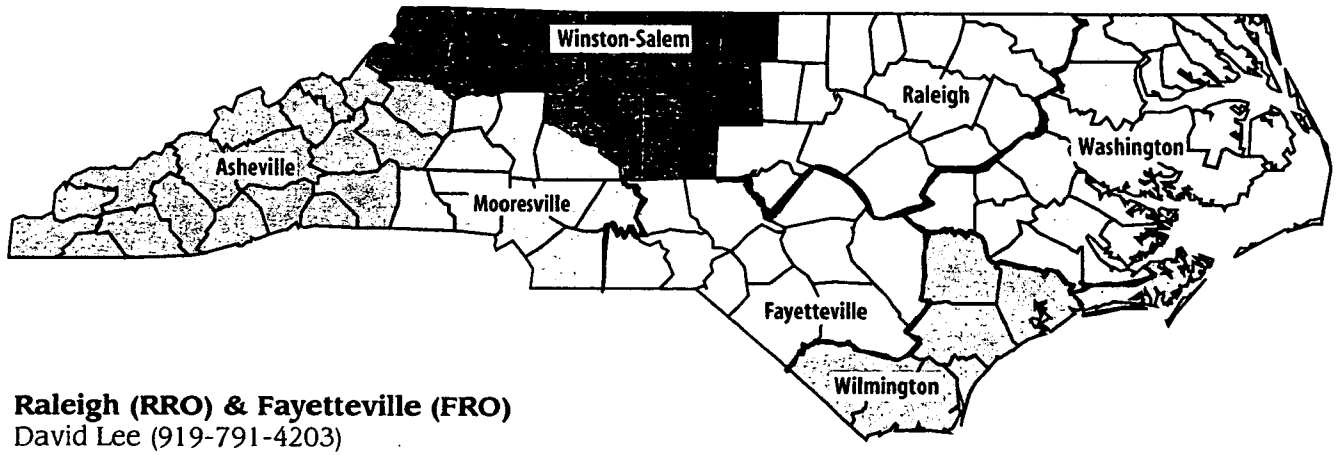
North Carolina Department of Environment and Natural Resources

Edythe McKinney
Customer Service Center- Parker Lincoln Building
1640 Mail Service Center
Raleigh, NC 27699-1640
Toll free # 877-623-6748
E-mail: denr.permits@ncmail.net

Mooresville (MRO) & Asheville (ARO)
Patrick Grogan (704-235-2107)
610 East Center Ave.
Mooresville, NC 28115
E-mail: patrick.grogan@ncmail.net

MRO: Alexander, Cabarrus, Catawba, Cleveland, Gaston, Iredell, Lincoln, Mecklenburg, Rowan, Stanly, Union

ARO: Avery, Buncombe, Burke, Caldwell, Cherokee, Clay,Graham, Haywood, Henderson, Jackson, Macon, Madison, McDowell, Mitchell, Polk, Rutherford, Swain, Transylvania, Yancey



Wilmington (WIRO)
Cameron Weaver (910-796-7307)
127 Cardinal Drive Extension
Wilmington, NC 28405
E-mail: cameron.weaver@ncmail.net

WIRO: Brunswick, Carteret, Columbus, Duplin, New Hanover, Onslow, Pender

Raleigh (RRO) & Fayetteville (FRO)
David Lee (919-791-4203)
3800 Barrett Drive
Raleigh, NC 27609
E-mail: david.lee@ncmail.net

RRO: Chatham, Durham, Edgecombe, Franklin, Granville, Halifax, Johnston, Lee, Nash, Northampton, Orange, Person, Vance, Wake, Warren, Wilson

FRO: Anson, Bladen, Cumberland, Harnett, Hoke, Montgomery, Moore, Richmond, Robeson, Sampson, Scotland

Washington (WARO)
Lyn Hardison (252-948-3842)
943 Washington Square Mall
Washington, NC 27889
E-mail: lyn.hardison@ncmail.net

WARO: Beaufort, Bertie, Camden, Chowan, Craven, Currituck, Dare, Gates, Greene, Hertford, Hyde, Jones, Lenoir, Martin, Pamlico, Pasquotank, Perquimans, Pitt, Tyrrell, Washington, Wayne

Winston-Salem (WSRO)
Sonja Basinger (336-771-5060)
585 Waughtown St.
Winston-Salem, NC 27107
E-mail: sonja.basinger@ncmail.net

WSRO: Alamance, Alleghany, Ashe, Caswell,Davidson, Davie, Forsyth, Guilford, Randolph, Rockingham, Stokes, Surry, Watauga, Wilkes, Yadkin

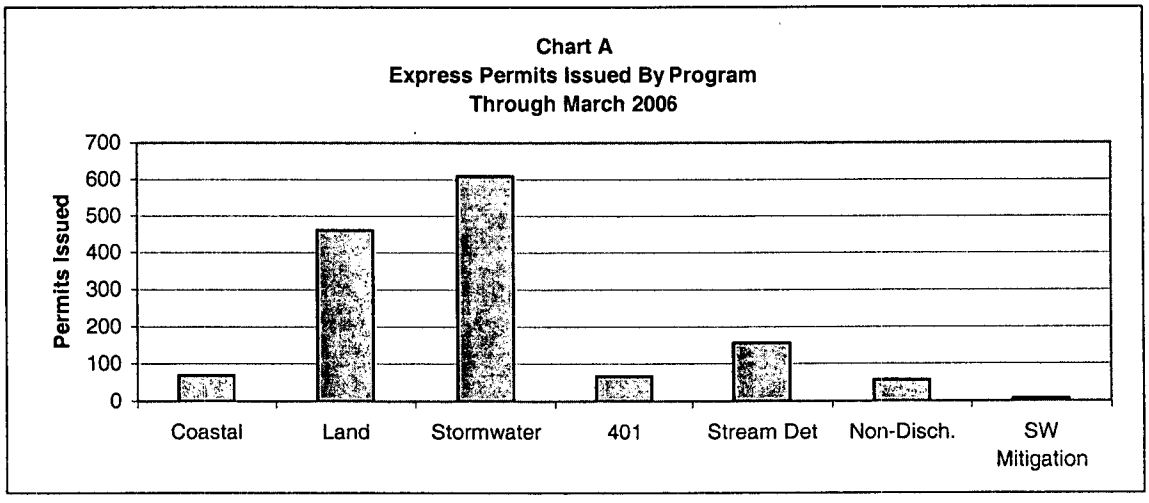
North Carolina Department of Environment and Natural Resources
Customer Service Center
Express Permit Review Legislative Report
April 2006

This report fulfills the requirements of Session Law 2005-276, Section 12.2 (c) to report on the success of the Express Permit Review Program in the N.C.Department of Environment and Natural Resources. This program was authorized as a pilot in two regions in January 2004 and expanded statewide in January 2006. Coastal stormwater, water quality wetland certifications, erosion and sedimentation plans, coastal area management, and land application non-discharge permits are included in the express review process. Higher fees are charged for express review and used to support the program, including hiring of additional technical staff to review the permit applications.

Past reports, including the One-stop Permit Assistance Report presented to the committee in December 2005, provided a detailed review of types of permits and processing times under the express review program. This report is an update and addresses several program developments or modifications.

Program Developments and Results

- Over 1400 permits were issued through March 2006 (see Chart A for a breakdown by program).
- 43% of the express permits issued were for coastal stormwater projects.
- 32% of the express permits issued were for land quality erosion and sediment control plans. This segment has been steadily growing as the express program has expanded to inland regions.
- Processing times have been greatly reduced without relaxing environmental rules or standards; average processing time for stormwater permits reduced by 57% and for erosion and sediment control plans by 90%.
- To date, more than half of the express permits have been issued through the Wilmington Regional Office.



Advocate groups were concerned that the express review process might not provide adequate time to examine the potential impact of large coastal projects. To ensure sufficient time for review of environmentally sensitive areas, projects subject to the State Environmental Policy Act or National Environmental Policy Act were not included in the express review process. Early in the program it was modified to exclude certain types of projects from the Coastal Area Management Act express review. Exclusions included:

- new dredging projects;
- applications for piers/docks where the number of boat slips exceeded four (existing or proposed); and
- maintenance excavations, unless projects have already undertaken excavation work under a previously issued CAMA permits.

The express program has proven beneficial for a number of development projects. However, all permits are not appropriate for the express review process.

Incomplete applications are a major obstacle in the permit review process for both the regular and express permit programs. Improving the quality of permit applications is critical to meet the reduced processing times of express review. A number of steps have been taken through the express process to improve the quality of applications so that all necessary technical documentation is provided in the initial submission:

- pre-application and submittal meetings are required to make sure that requirements and expectations are clearly communicated;
- timelines are set to require prompt attention by the client to any deficiencies in an application;
- additional fees may be charged for subsequent reviews due to the insufficiency of the permit application.

These steps plus one-on-one meetings are resulting in better-documented applications.

Regional permit training programs have also been initiated. The first was held in the Washington Regional Office in February, one is planned in Wilmington in May and others will be scheduled in the future. These sessions focus on the express program and one-stop permit coordination services. About 25 consultants from the Washington region attended the first session. The primary goal of these sessions is to identify frequent permit application mistakes and to work with applicants to improve the permit applications.

Demand for the express program continues to grow. The recent statewide expansion provides additional experience to improve the program. The increased dialogue with permit applicants and property owners should lead to permit process improvement and enhanced environmental compliance.

EXHIBIT M

NORTH CAROLINA MARINE FISHERIES COMMISSION
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

MICHAEL F. EASLEY
Governor

WILLIAM G. ROSS, JR.
Secretary

JIMMY JOHNSON
Chairman

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Atlantic Beach
BRADLEY STYRON
Cedar Island
RUSTY RUSS
Shallotte

March 7, 2005

William G. Ross, Jr., Secretary
Department of Environment & Natural Resources
1601 Mail Service Center
Archdale Building
Raleigh, NC 27699-1601

Dear Secretary Ross:

The North Carolina Marine Fisheries Commission discussed at its last meeting the Department's interest in expanding the "Division of Coastal Management (DCM) Express Permitting" process statewide before adequate review of the pilot trials in the southeast. We recognize the need and benefit of expediting routine permit applications that have little potential for adverse impacts on coastal fisheries habitat. However, before the program is expanded we would like to be assured that reducing the time required for permit review and evaluation does not jeopardize the protection of fisheries habitat.

The North Carolina Marine Fisheries Commission urges you to conduct a thorough review of the Express Permitting process that occurred in the Wilmington district over the past year. Evaluating the 250+ cases should help determine the effectiveness of the process in protecting coastal waters. We are particularly concerned about the time demands for resource agency evaluation and commenting on permits, and how they affect the quality of review and outcome of a specific project.

We look forward to your response.

Sincerely,

James A. Johnson, Jr.
Chairman, North Carolina Marine Fisheries Commission

/lr

Cc: MFC
Preston Pate
Gene Tomlison

P.O. Box 769, Morehead City, NC 28557-0769 or 121 North Reed Drive, Washington NC 27889
www.ncfisheries.net

Shoreline Survey Program

DIVISION OF ENVIRONMENTAL HEALTH

Shellfish Sanitation & Recreational Water Quality Section



EXHIBIT N

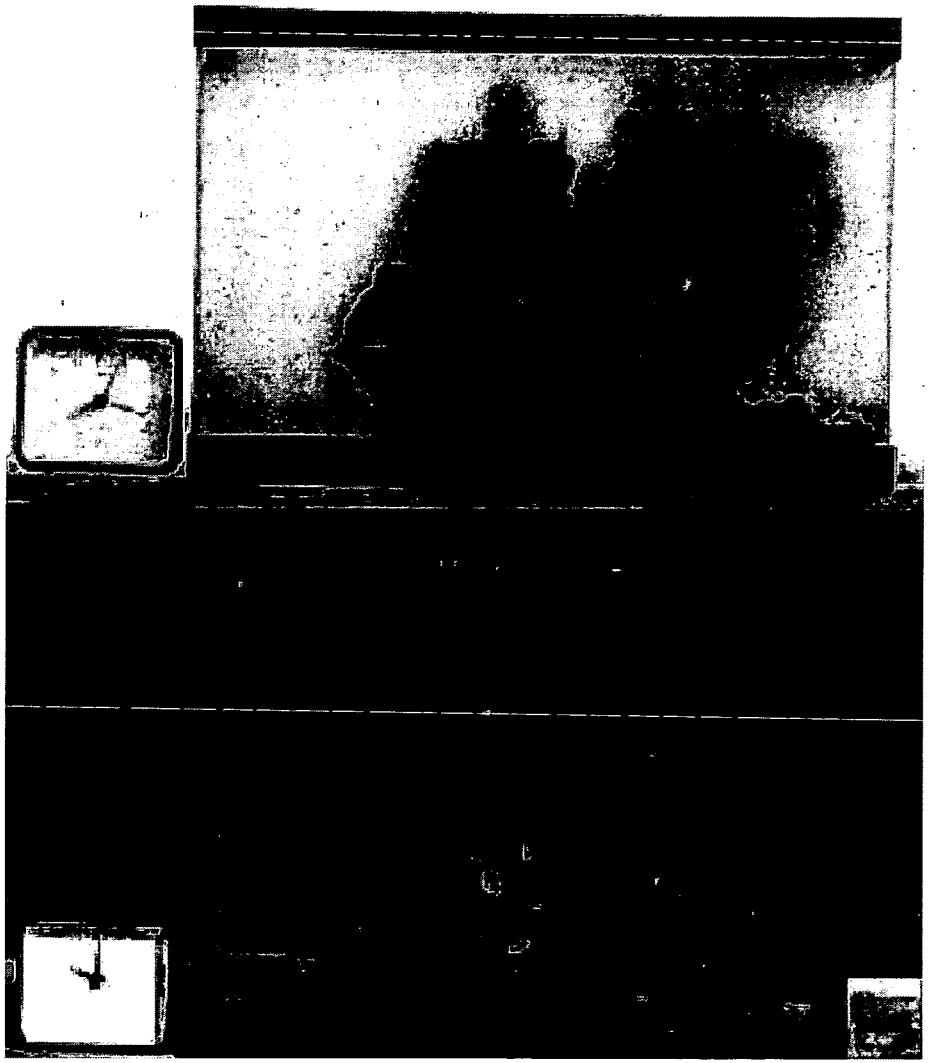
DEH Shellfish Sanitation and Recreational Water Quality Section

- Morehead City, Wrightsville Bch, Nags Head, (Reidsville) , staff of 31.
- 1,300 + water sampling stations coast-wide. Sampled @least 6x/yr. Plus rainfall samples.
- 243 Recreational water quality stations. Post advisories.
- Certify and Inspect 200+ shellfish dealers, processors, 20 crustacea processing facilities statewide.
- Classify shellfish growing areas and make recommendations to DMF for openings and closures

- <u>Shoreline survey for pollution sources</u>
  - 5,000+ septic inspections/yr.

Why all the worry?

- Filter up to 50 gallons per day
- Concentrate pathogenic bacteria, toxins, viruses
- Often consumed raw or undercooked



Pathogens, viruses, and toxins that can be concentrated in molluscan shellfish



Viruses
- Hepatitis A
- Hepatitis E
- Rotavirus
- Norwalk (Noravirus)

Bacterial Pathogens
- Salmonella sp. (Typhoid, paratyphoid)
- C. botulinum (Low O_2)
- Listeria monocytogenes
- Vibrio vulnificus
- Vibrio parahaemolyticus

Natural Toxins
- PSP (Red Tides)
- NSP
- ASP

Other Problems
- Chemicals, Pesticides
- Radioactive

≈85% of seafood related illnesses in the US annually result of consumption of raw shellfish. (*US FDA, 1991)

Shoreline Survey Protocol (Evaluated by US FDA)

- Required under the NSSP Model Ordinance
- Conducted Triennially for each growing area

NSSP
Shoreline Survey Requirements

- "Identification & Evaluation of All Actual and Potential Pollution Sources"



Shoreline Survey Requirements

- Map actual & potential pollution sources
- Written summary



EPA Wetlands Program Grant

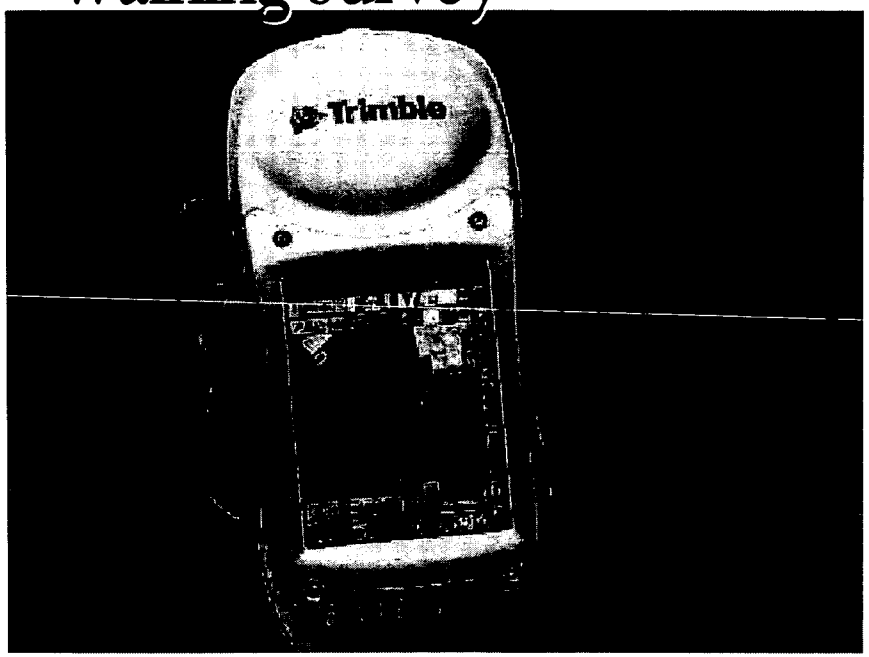
- Refine shoreline survey methodology
- Wetland Restoration & Monitoring at North River Farms
- Partnered with NCCF & Duke University Marine Lab
- Also working with NC DOT (stormwater)

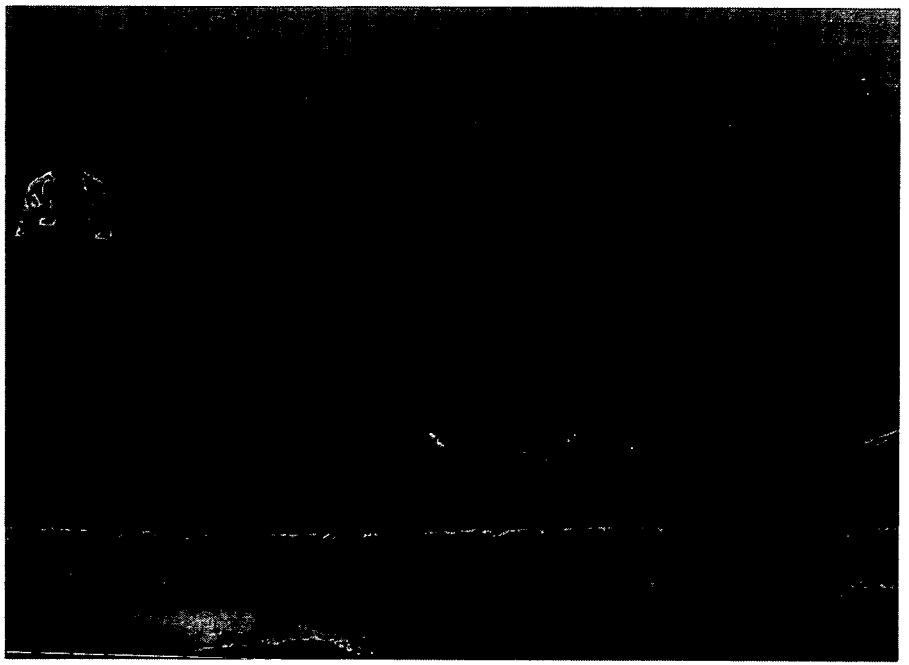
Survey Goals

- More accurately assess pollution threats to protect Public Health
- Develop a comprehensive Geographical Information System (GIS)
- Accessibility of Data (IBEAM, NC One Map)
- Improved cooperation and data sharing with other agencies to help protect and improve shellfish growing waters

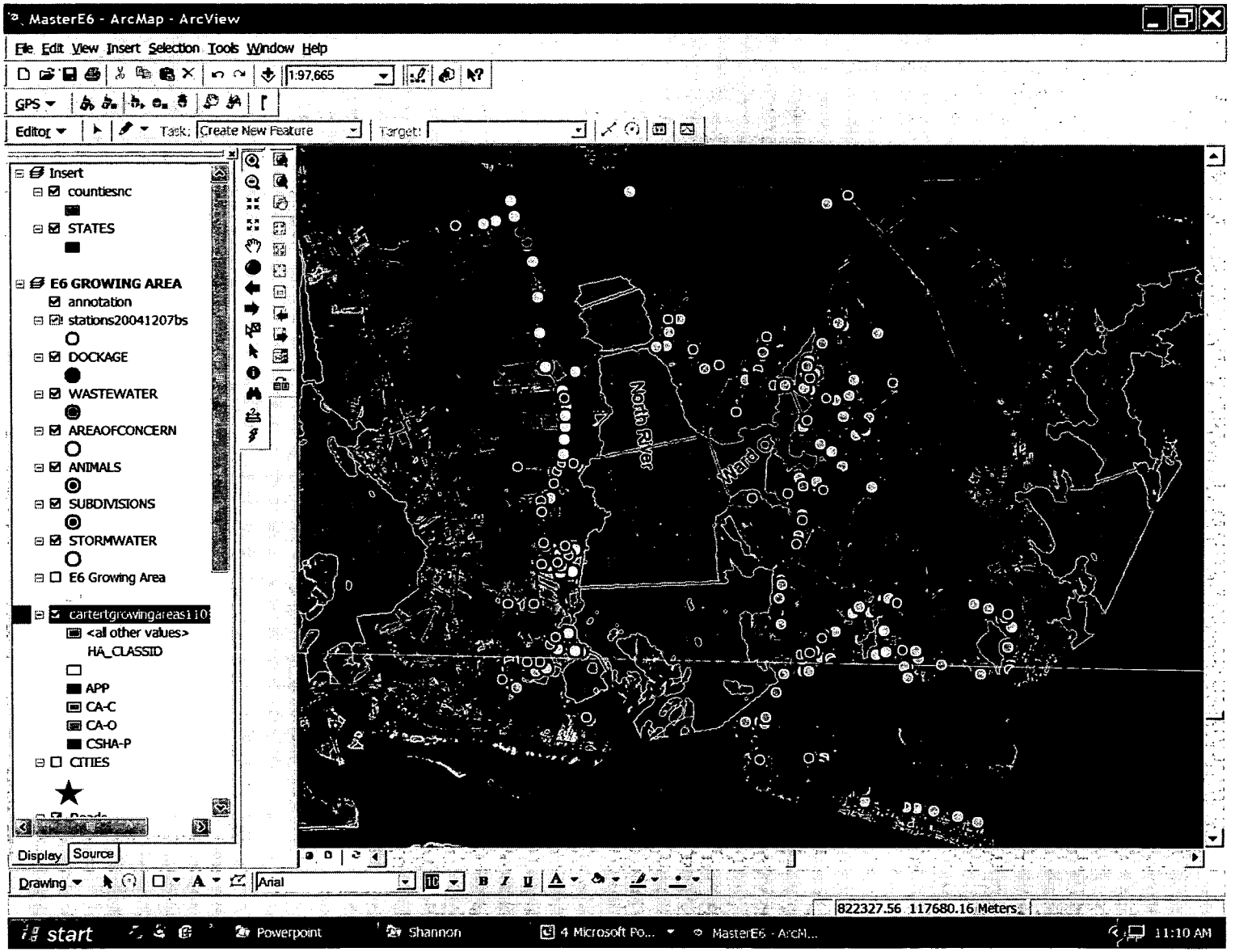
Shoreline Methodology

- GPS Data Logger, photos, attributes
- GIS Analyst data entry & analysis
- Walking survey

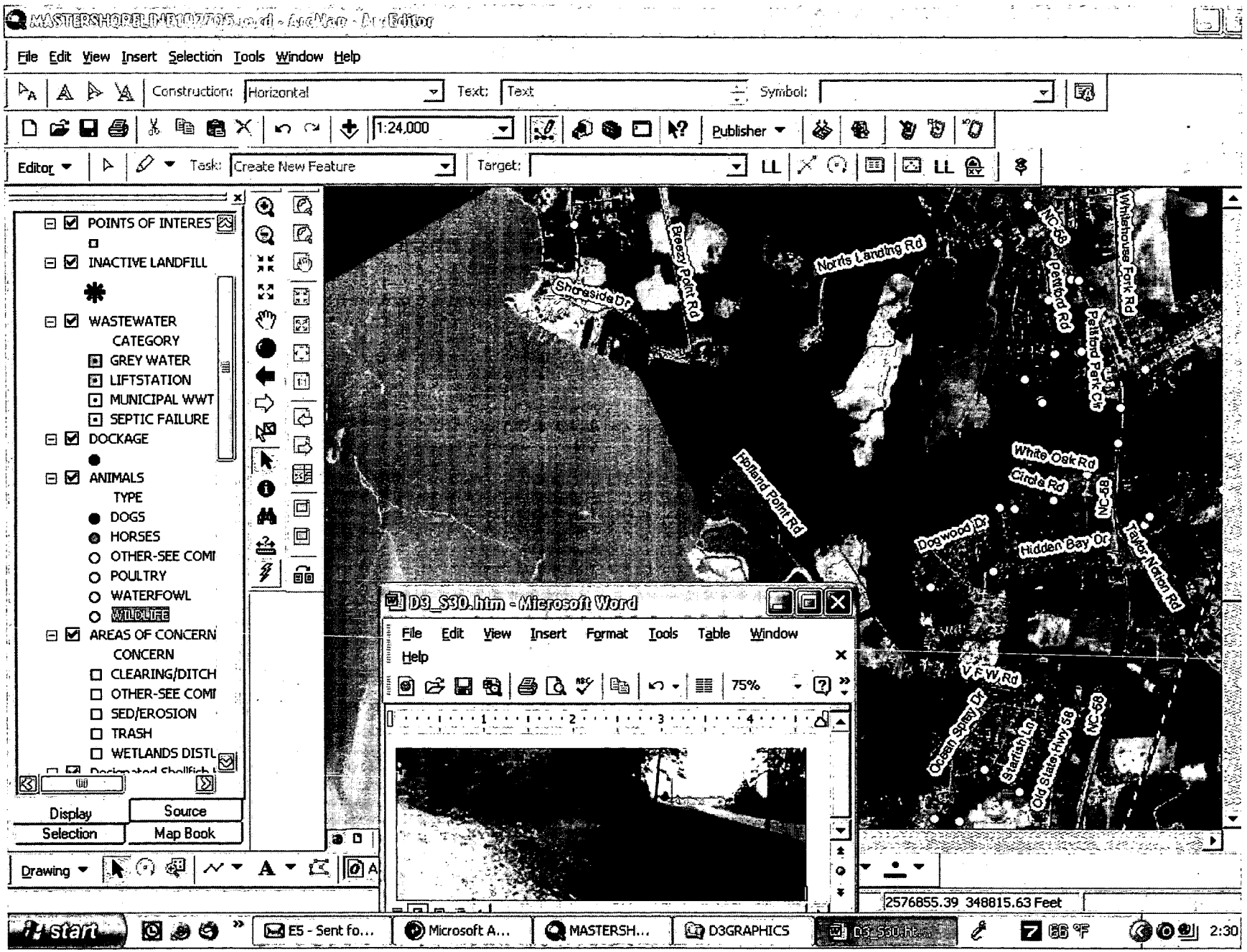




GIS (Geographic Information System)



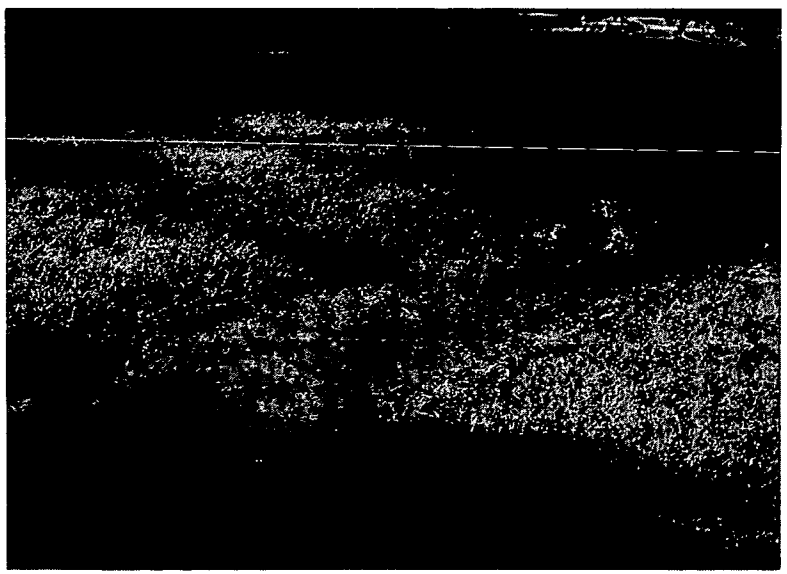
GIS Mapping and Database Attributes



Pollution Sources

- Septic Systems
- Animal Operations
- Chemical/Toxins

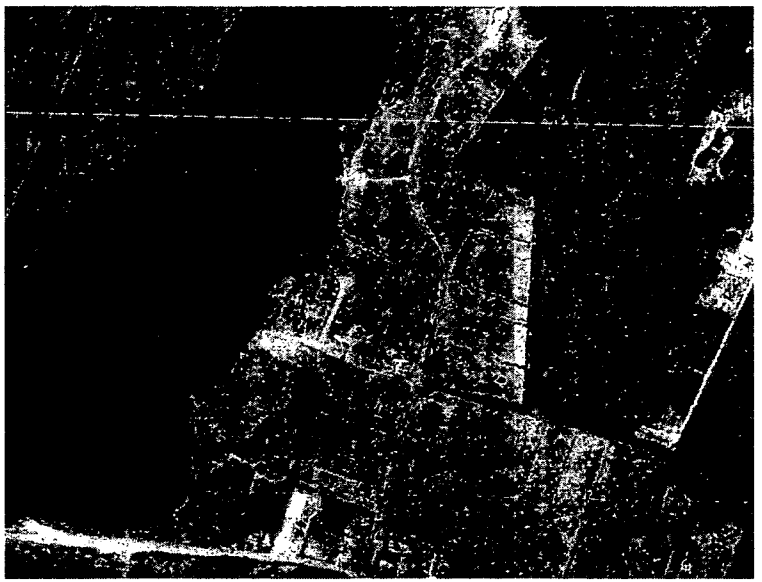




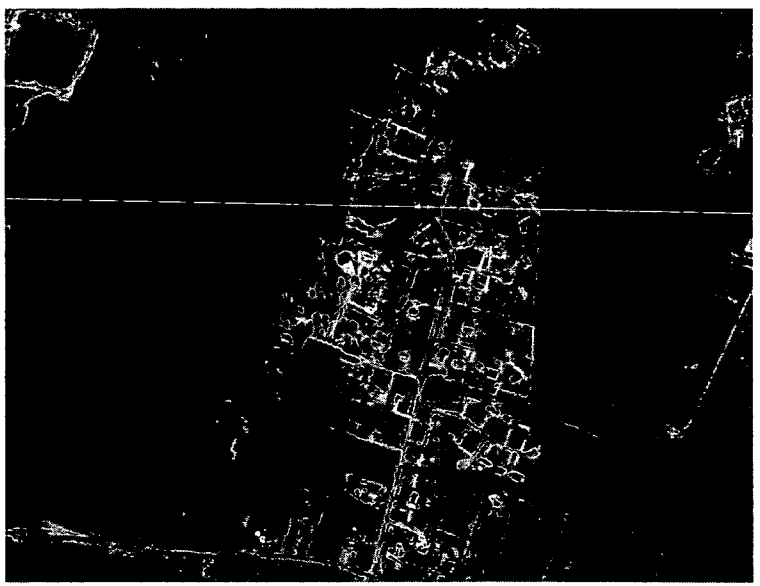


Pollution Sources

- Development Trends
- Marinas and Docking



1995



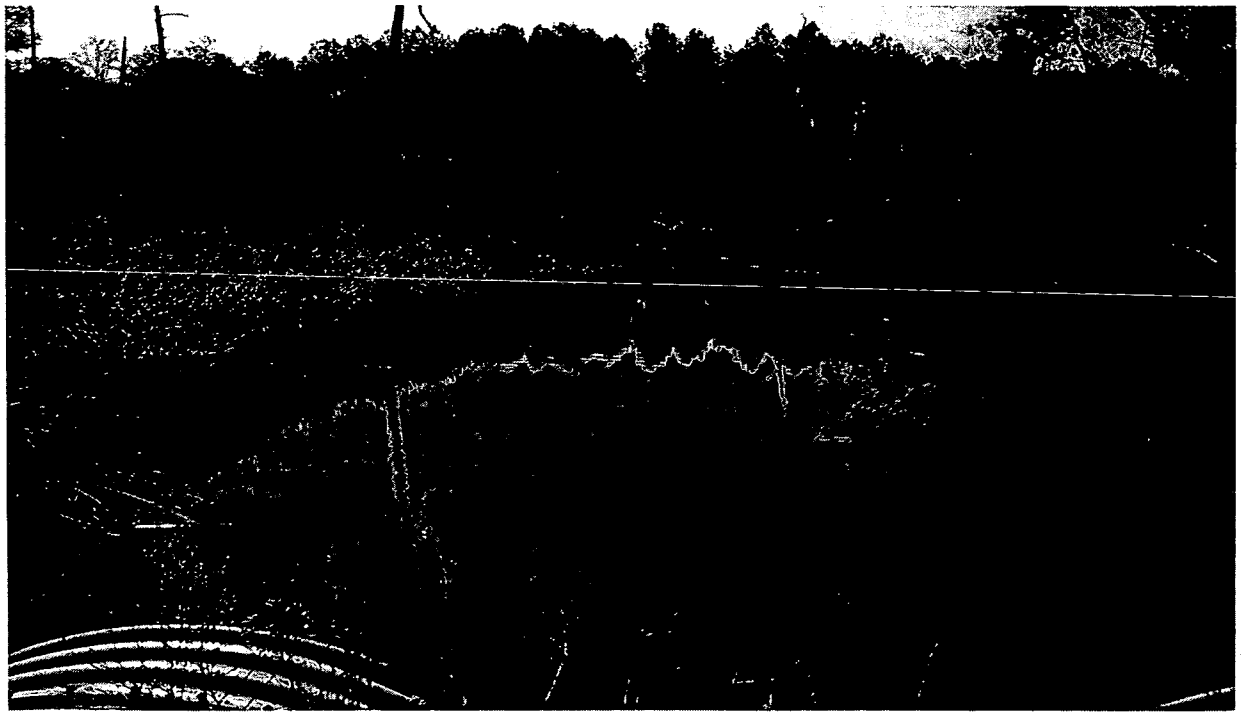
2004

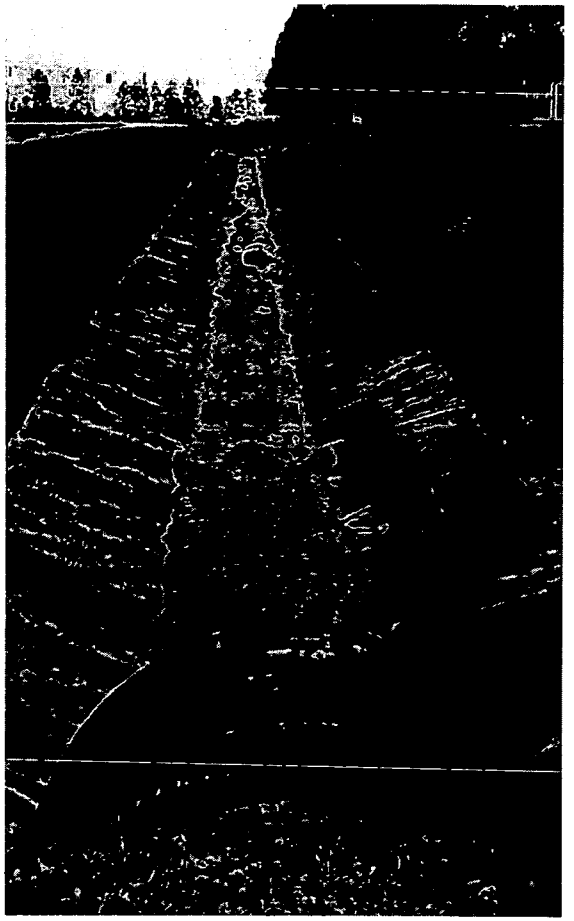


Pollution Sources

- Stormwater Runoff
- Pond discharges

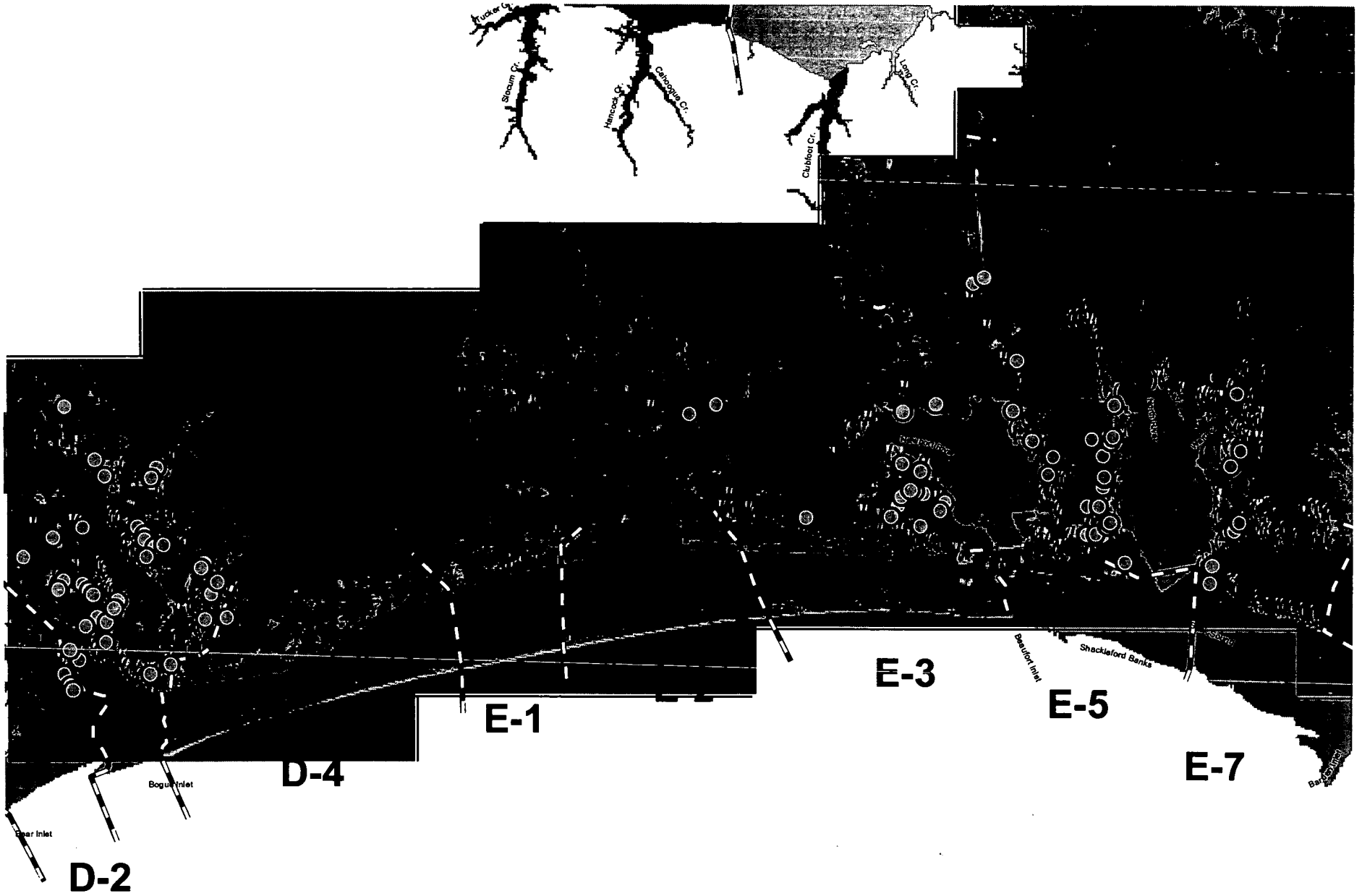
Agriculture/Aquaculture





Urban

Areas Completed using New Shoreline System



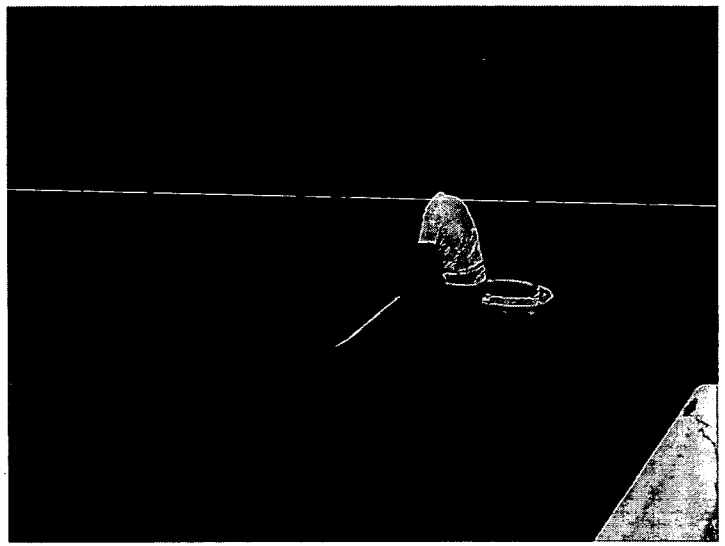
Inter-Agency Cooperation

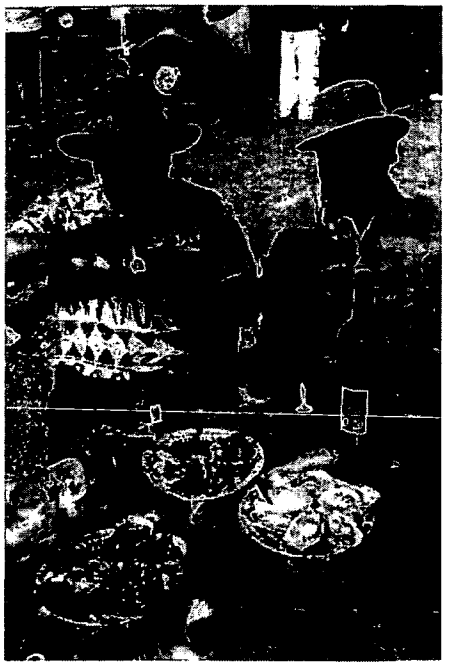
- Interagency Scoping Meetings
- Cross-Training Completed with:
  - NC Division of Water Quality
  - NC Division of Coastal Management
  - NC Department of Transportation
  - NC Division of Land Resources
  - US Army Corps of Engineers
- Potential violations reported to:
  - County EHDs, DENR Agencies, USCG, USACE

Benefits

- Industry
- Recreation
- Environment
- Public Health



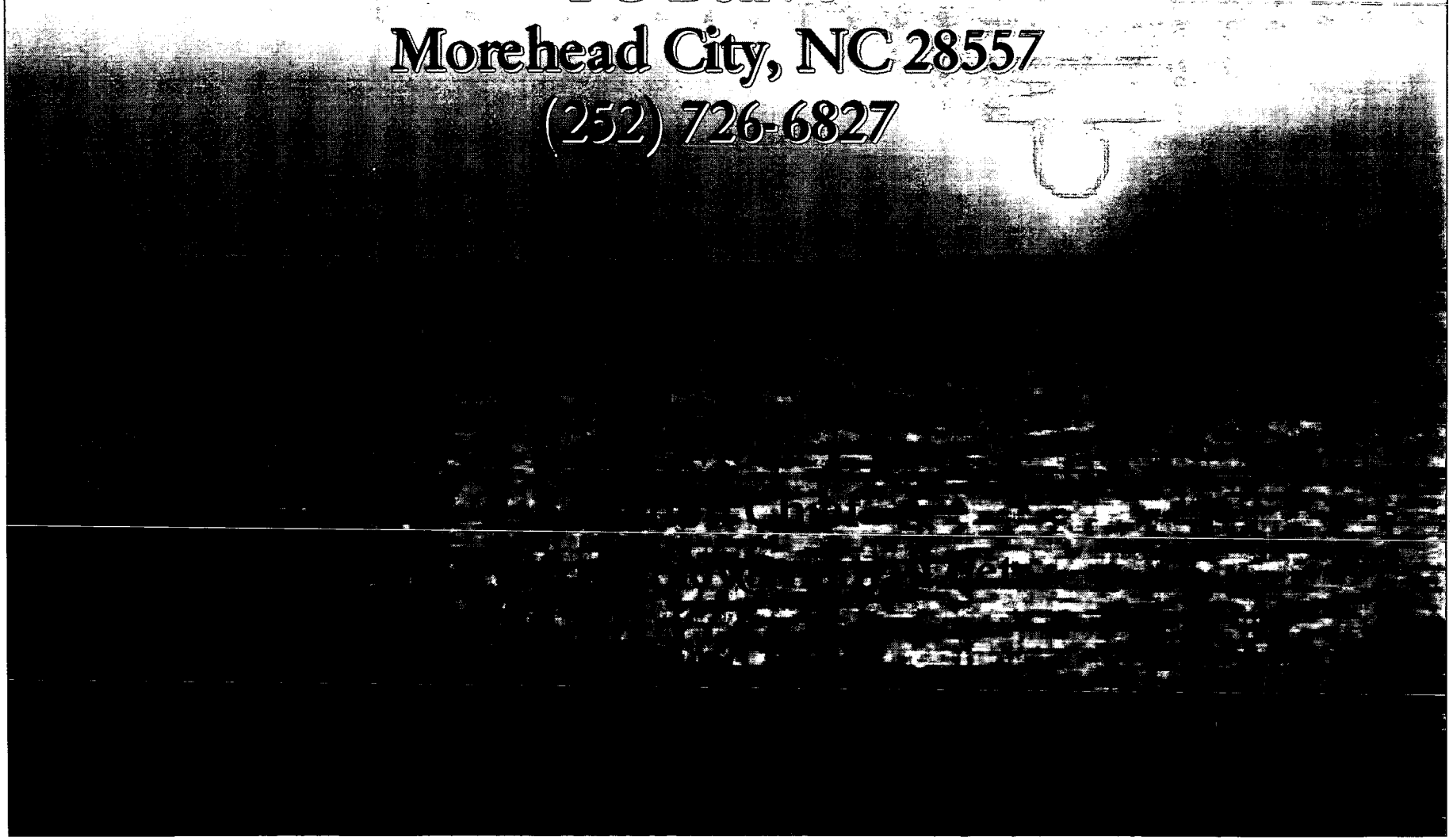




Limitations

- Grant funding ends this year
- GIS Analyst Needed to Continue New Method
- Only Three staff dedicated to shoreline survey

NC Division of Environmental Health
Shellfish Sanitation & Recreational Water Quality
PO Box 769
Morehead City, NC 28557
(252) 726-6827



The Dry-Cleaning Solvent Cleanup Act (DSCA) Program



NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

Superfund Section
Division of Waste Management
www.wastenotnc.org
www.ncdsca.org

EXHIBIT O

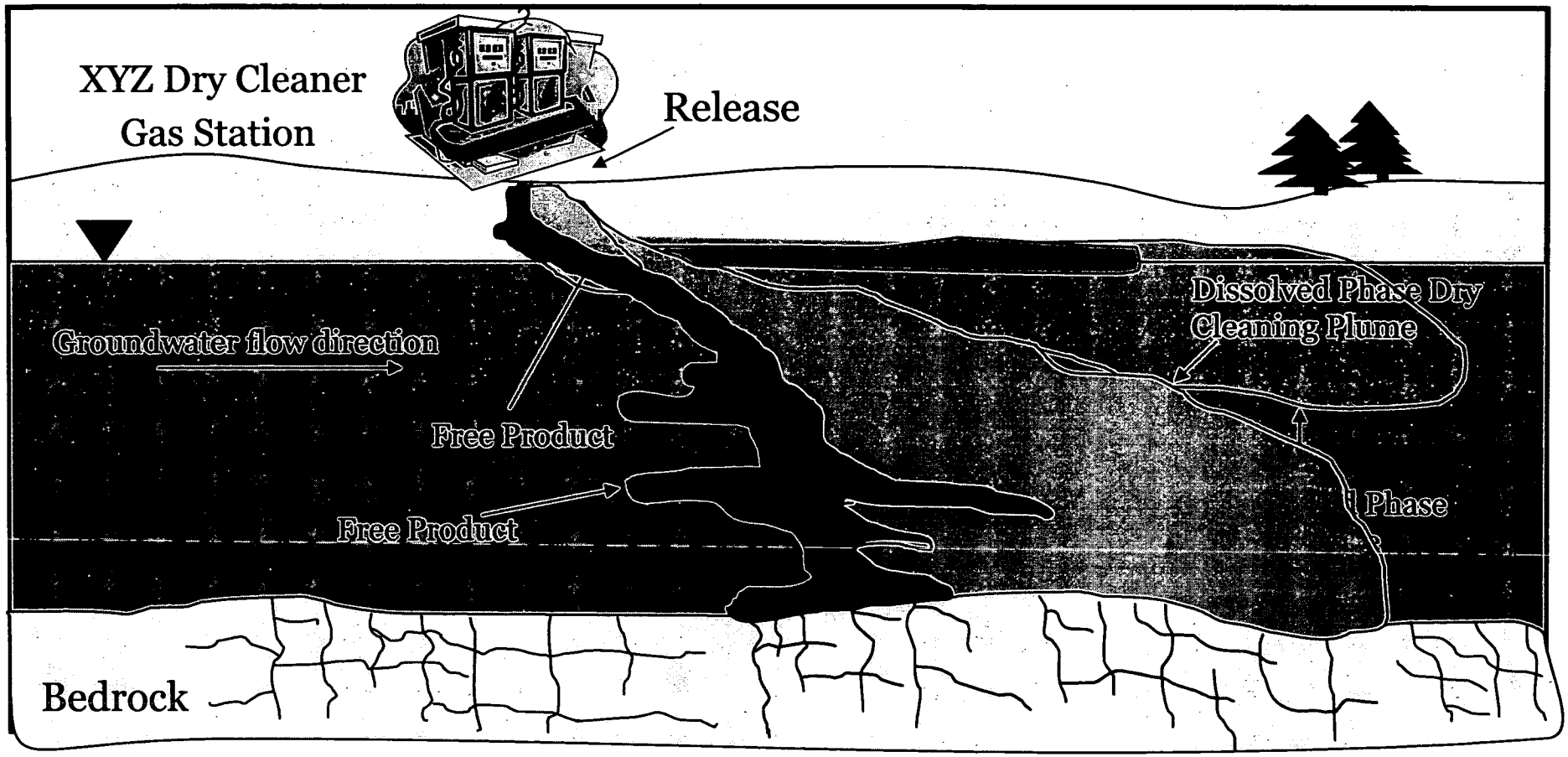
Purpose of DSCA

- State-Funded, Voluntary Cleanup Program for Contaminated Dry-Cleaning and Wholesale Solvent Distribution Sites

- Compliance Program for Operating Facilities to Prevent Future Releases

Why is a cleanup program needed?

Contamination Below the Ground



Cleanup Process

- Dry Cleaner or Property Owner Petitions DSCA Program
- Petitioner Agrees to Abide by Dry-cleaning Minimum Management Practices
- DSCA Executes an Assessment & Remediation Agreement with Eligible Petitioner
- DSCA Assigns Site to Program's Independent Environmental Contractor

Cleanup Funding

- Petitioner Pays Deductible ($5,000-$25,000)
- Petitioner Pays 1%-3% Of Costs between $200,000 and $1 Million
- DSCA Fund Covers the Rest

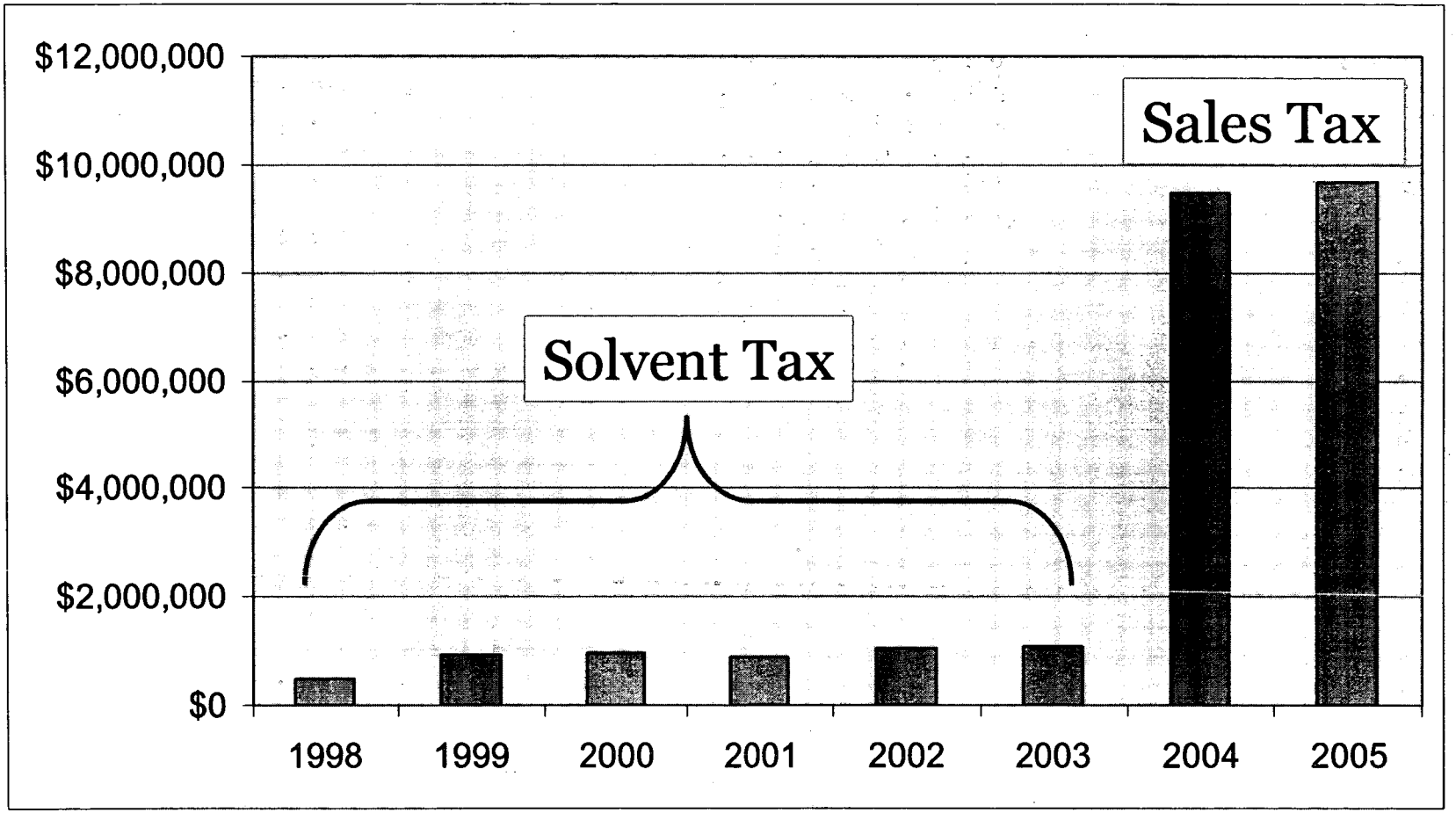
Fund Pays For:

- Assessment and Remediation
- Treatment/Replacement of Contaminated Drinking Water
- Other Activities Reasonably Required to Protect Public Health and Environment

Sites in DSCA

- 214 Identified Contaminated Sites
- 134 Sites in Program
- 103 Sites Cleanup Has Commenced
  - Assessing Size of Contaminated Area
  - Excavating Hazardous Soil
  - Providing Clean Drinking Water to Affected Residences & Businesses

DSCA Fund History



Fund Statistics

■ Revenue + Interest	$31.9 million
■ Cleanup Expenses	$ 2.5 million
■ Administrative Costs	$ 2.1 million
	$27.3 million
■ Funds Encumbered	$10.8 million
■ 5 New Contracts in 2006	$15 million

Projections

- Total Revenue + Interest (Through Jan. 2010) — $68 million
- Est. Contaminated Sites — 1,500
- Sites Coming into DSCA — 750
- Total Cleanup Costs ($250,000 per site) — $188 million

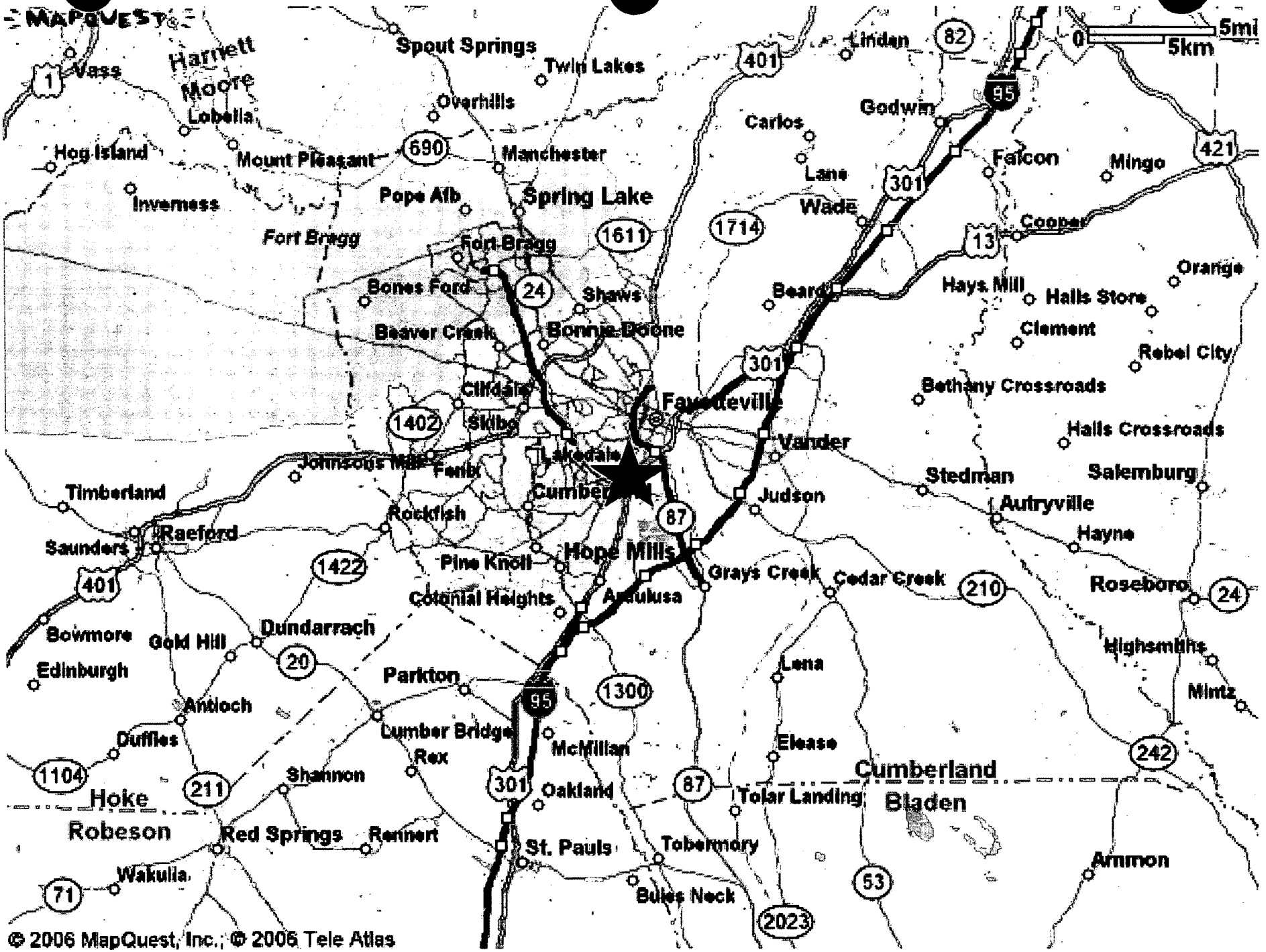
Cleanup Expenditures ↑

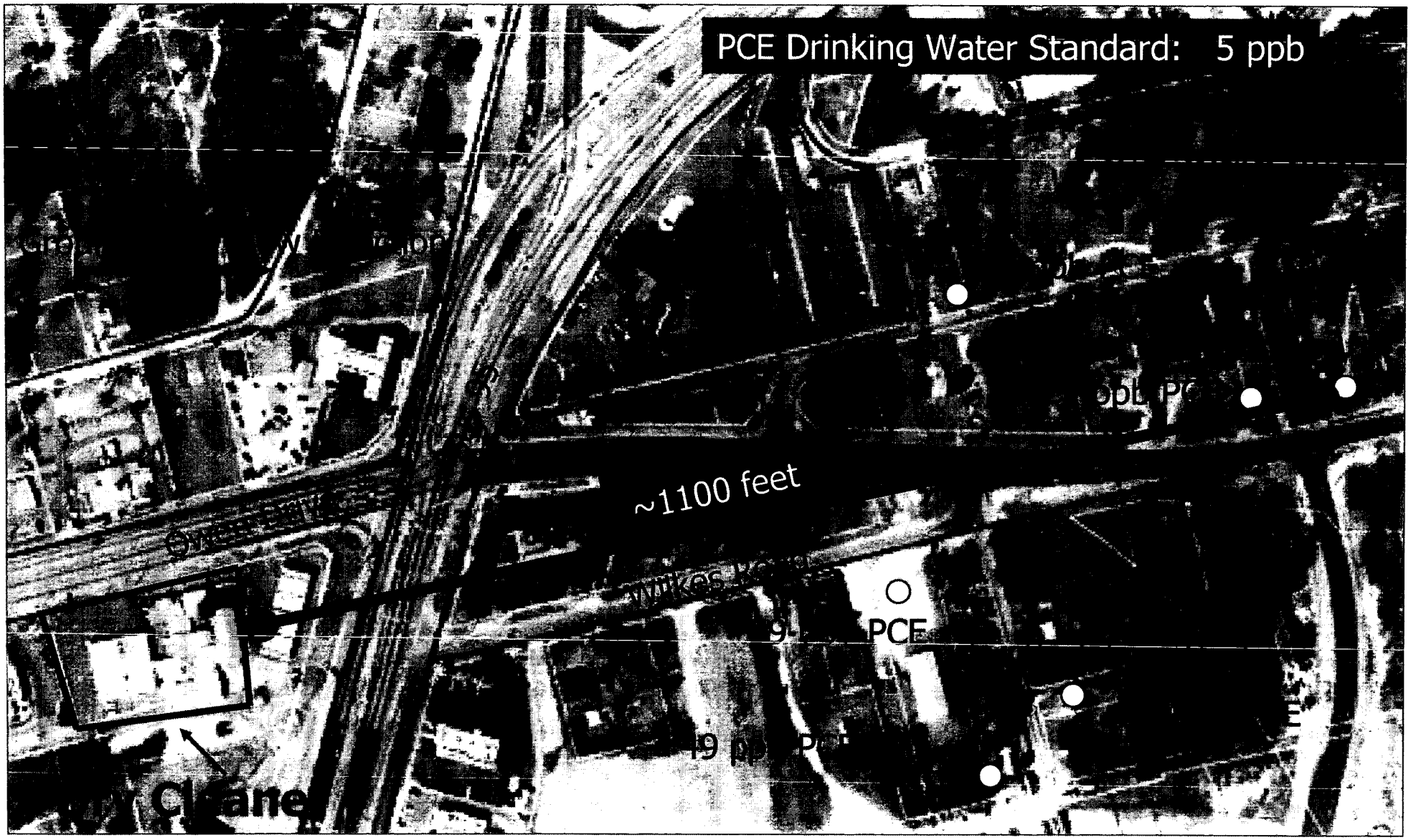
- Increased Soil Excavation & Remediation
- Remediation To Stop Contamination of Surface Water
- Treatment/Replacement of Contaminated Drinking Water
- Removing Vapors in Buildings
- Risk-Based Rules

Risk-Based Rules

- Expert in Risk Rule Development Hired
- Rules To EMC in July 2006
- Establish Site-Specific Cleanup Levels
- Once Cleanup Goals Calculated, Increased Remediation Resulting in Greater Expenditures from the Fund

DSCA Addressing Immediate Threats to Public Health


MAPQUEST
0
5mi
5km
Spout Springs
Twin Lakes
Linden
82
401
Harrett
Moore
Vass
1
Lobelia
Overhills
95
Godwin
Carlos
Hog Island
690
Mount Pleasant
Manchester
Falcon
Mingo
421
Lane
301
Inverness
Pope Afb
Spring Lake
Wade
1714
Cooper
Fort Bragg
1611
13
Fort Bragg
Orange
Hays Mill
Halls Store
Bones Ford
24
Shaws
Beard
Clement
Beaver Creek
Bonnie Doone
Rebel City
301
Cliffdale
Bethany Crossroads
Fayetteville
1402
Skibo
Halls Crossroads
Vander
Lakedale
Johnsons Mill
Fenbi
Stedman
Salemburg
Timberland
Cumber
Judson
Autryville
Rockfish
87
Raeford
Hayne
Saunders
Hope Mills
Pine Knoll
Grays Creek
Cedar Creek
1422
210
Roseboro
24
401
Colonial Heights
Arakulusa
Highsmiths
Bowmore
Gold Hill
Dundarrach
20
Lena
Edinburgh
Parkton
1300
Mintz
95
Antioch
Lumber Bridge
McMillan
Elease
Duffies
Rex
242
1104
Shannon
Cumberland
211
301
Oakland
87
Tolar Landing
Hoke
Bladen
Robeson
Red Springs
Rennert
St. Pauls
Tobermory
Ammon
Wakulla
71
53
Bules Neck
2023
© 2006 MapQuest, Inc., © 2006 Tele Atlas


PCE Drinking Water Standard: 5 ppb
~1100 feet
PCE
Cleaner

DSCA's Other Mission:

Preventing Future Releases

Compliance

- Minimum Management Practices
- Compliance Staff
- Multimedia Inspectors
  - MMPs
  - Hazardous Waste
  - Air Quality
- Compliance Assistance



John Powers
Head, Special Remediation Branch
Superfund Section
919-508-8470
John.Powers@ncmail.net

DSCA PROGRAM HIGHLIGHTS

Chris Edwards
Vice-President
North Carolina Association of Launderers
and Cleaners

EXHIBIT P

Key Success Factors

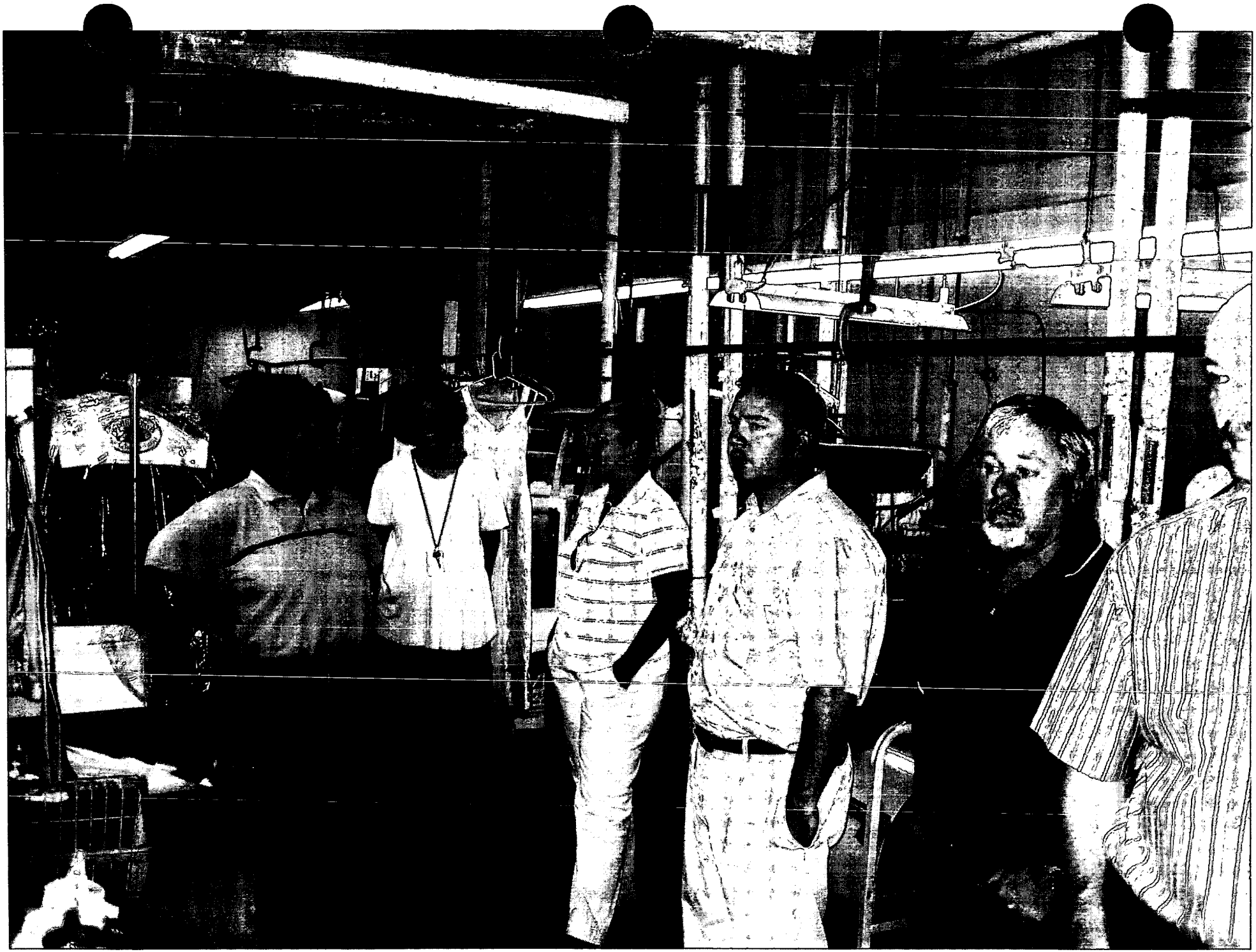
- Protect the environment for future generations.
  - Minimum Management Practices

Minimum Management Practices

- Proper handling of hazardous waste and records must be maintained.
- Spill containment under equipment and waste drums. Floor drains must be sealed off.
- All new equipment must meet minimum guidelines and federal NESHAP rules
- Closed container delivery of solvents required
- UST's cannot be used for solvents or waste

Key Success Factors

- Protect the environment for future generations.
  - Minimum Management Practices
  - Inspections and compliance assistance



Key Success Factors

- Protect the environment for future generations.
  - Minimum Management Practices
  - Inspections and compliance assistance
- Clean up of contaminated sites
  - Exhibit A

Exhibit A

- $2,500,000 has been spent to begin the cleanup process on 103 sites. This has helped 126 property owners and 72 dry cleaners. Also benefiting from this program are neighbors, shopping center owners, banks and other lending institutions.

- $1,700,000 has been spent to reimburse petitioners for past costs incurred after our law was passed but before state lead clean-up rules were in place.

Key Success Factors

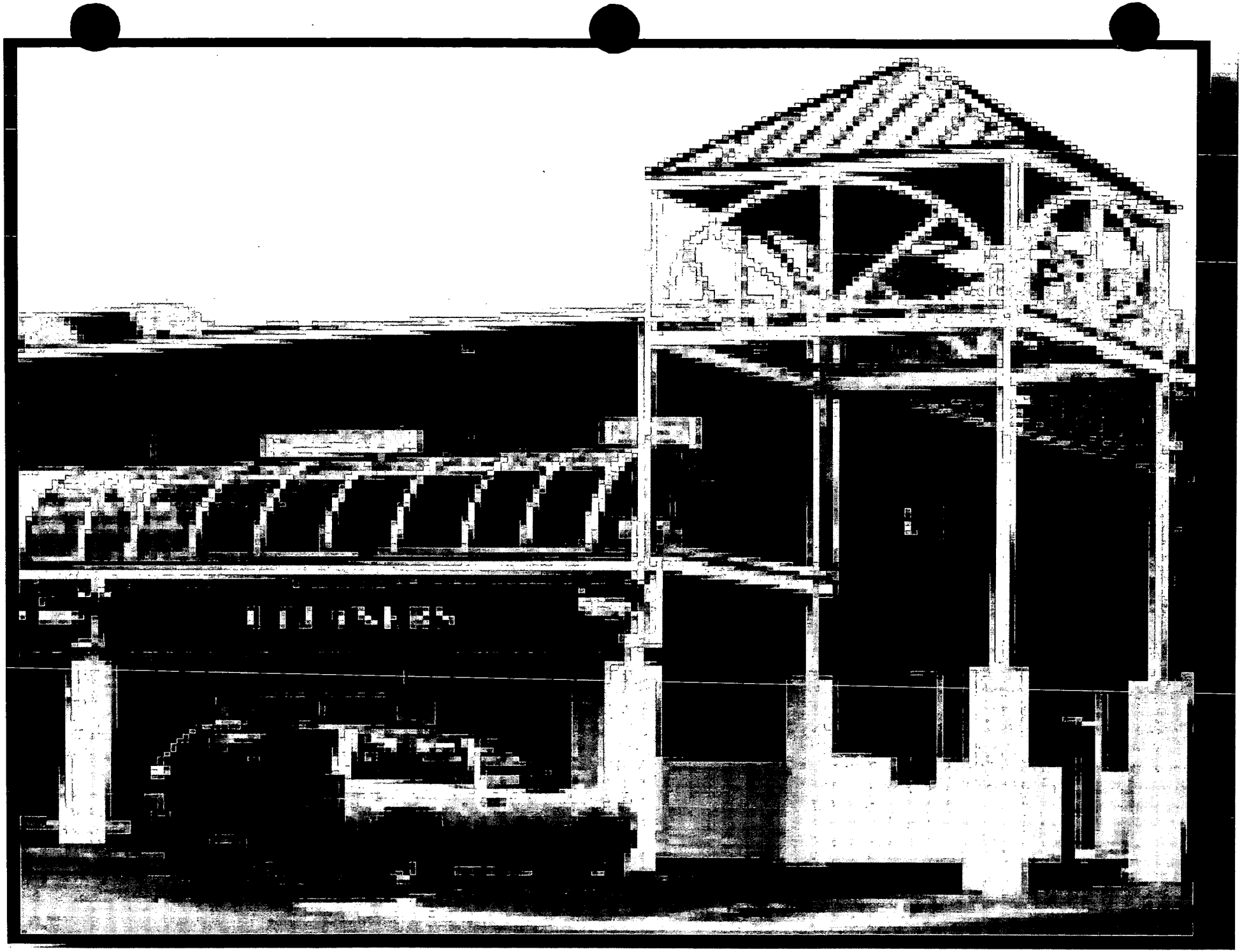
- Protect the environment for future generations.
  - Minimum Management Practices
  - Inspections and compliance assistance
- Clean up of contaminated sites
  - Exhibit A
- Allow property transactions and re-development of contaminated sites
  - Exhibit B

Key Success Factors

- Shopping Centers re-financed, sold, or redeveloped with dry cleaning contamination
  - North Hills Mall – Raleigh
  - Kidds Hill Shopping Center - Raleigh
  - MacGregor Shopping Center - Cary
  - NorthRidge Shopping Center - Raleigh
  - Pleasant Valley Shopping Center – Raleigh
  - Stanton Square Shopping Center - Greenville

Exhibit B

- Cameron Village Shopping Center Sale
  - Medlin-Davis Cleaners 57 years
  - Contamination was found during due diligence
  - Site was entered into program
  - New owners and banks were satisfied
  - Sale went thru



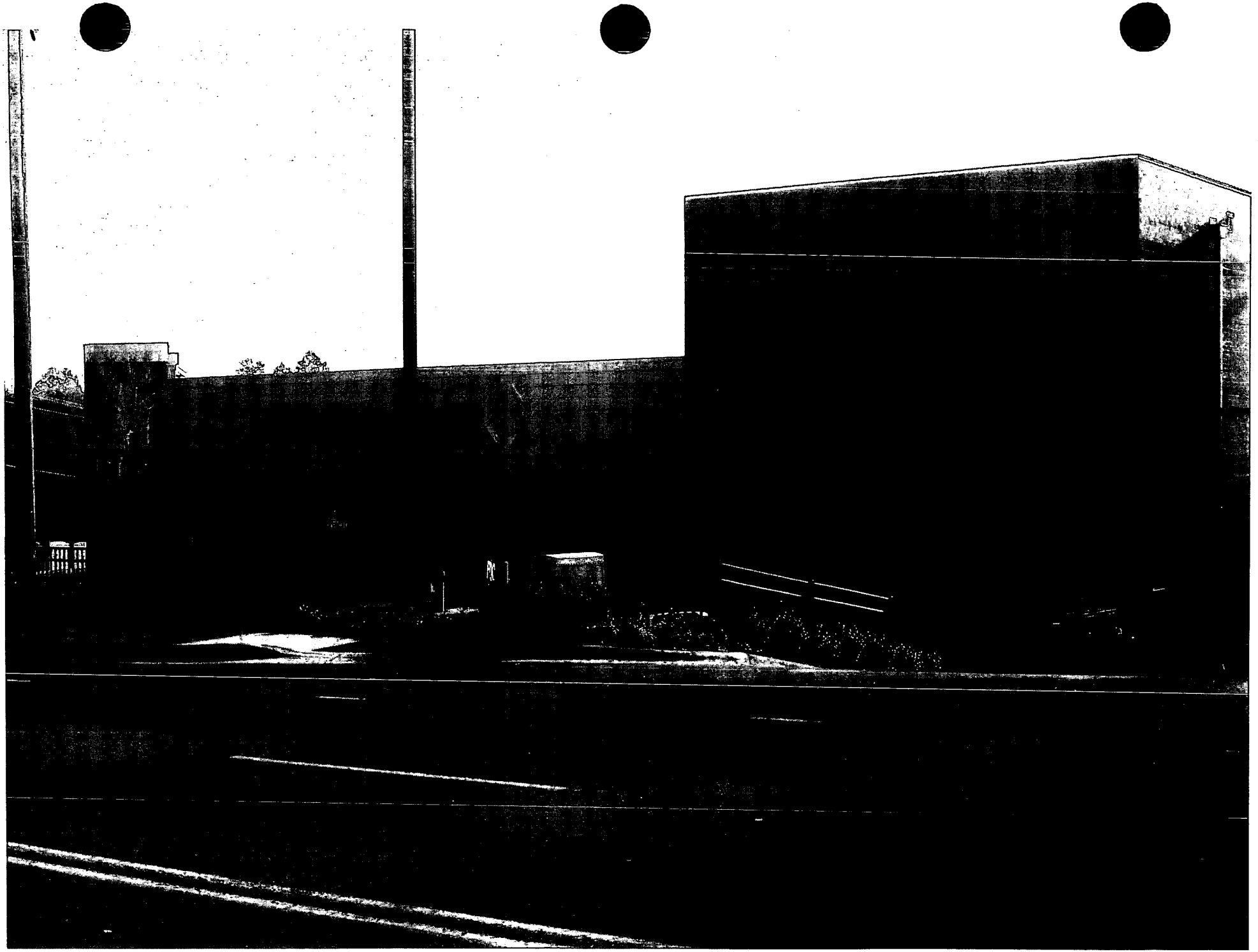
Key Success Factors

- Protect the environment for future generations.
  - Minimum Management Practices
  - Inspections and compliance assistance
- Clean up of contaminated sites
  - Exhibit A
- Allow property transactions and re-development of contaminated sites
  - Exhibit B
  - Exhibit C

Exhibit C

- A Cleaner World Dry Cleaners and Exxon Service Station Sold to Walgreens Developer
  - Originally built in 1983
  - Contamination was found during due diligence
  - Contamination source was removed and both buildings were razed to make way for new retail development


A
Cleaner
World

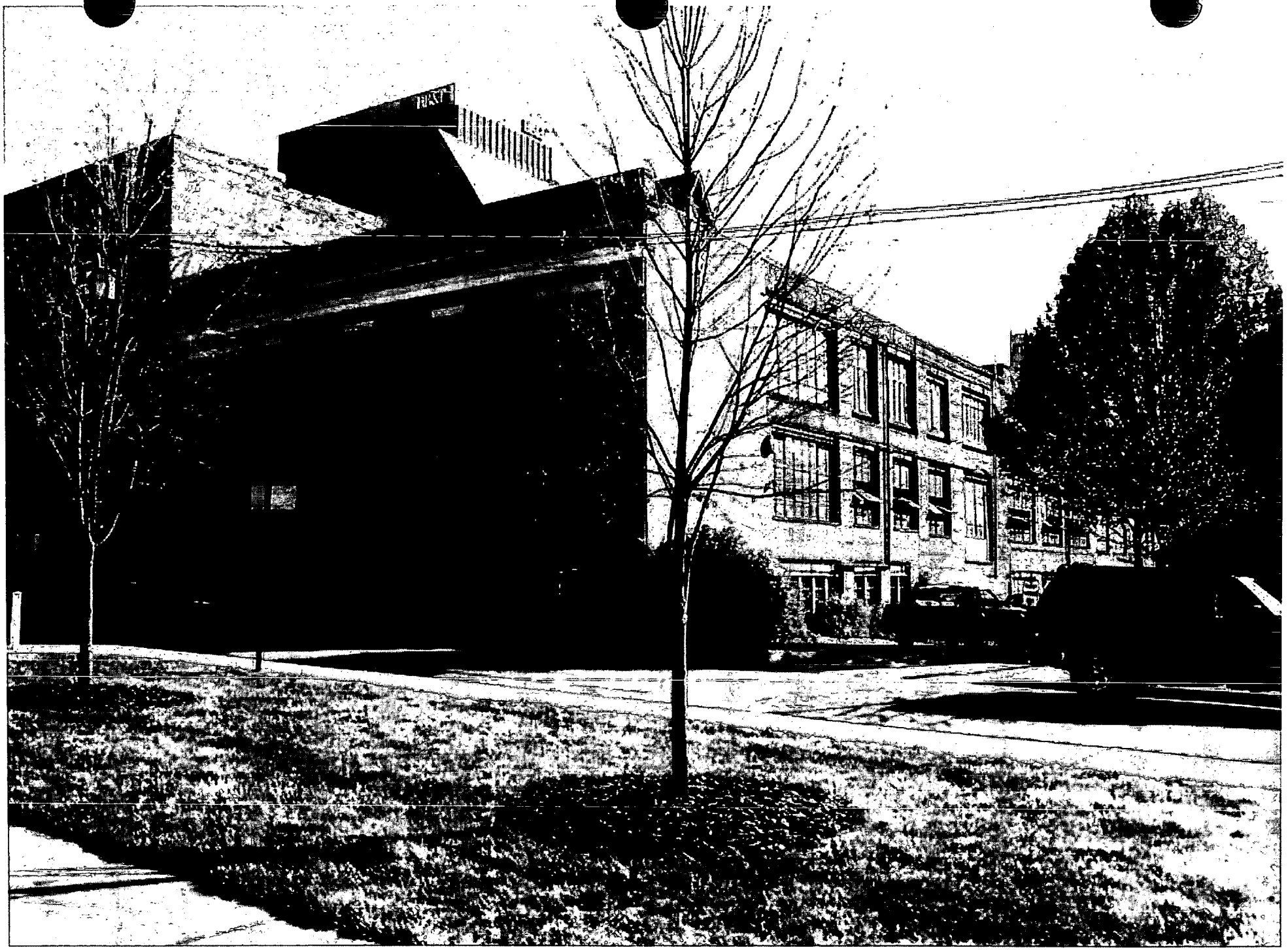


Key Success Factors

- Protect the environment for future generations.
  - Minimum Management Practices
  - Inspections and compliance assistance
- Clean up of contaminated sites
  - Exhibit A
- Allow property transactions and re-development of contaminated sites
  - Exhibit B
  - Exhibit C
  - Exhibit D

Exhibit D

- Swannanoa Cleaners – Asheville, NC
  - Established 1900 at 22 Church St.
  - Central United Methodist Church wanted this land to expand in 1985
  - Church was unwilling to accept environmental liability
  - DSCA program passed in 1997
  - 2000 both parties began to believe it could happen
  - Jan. 2003 site was purchased by church



DSCA Program

- Achieving goals
  - Cleanup of past contamination
  - Protection of human health and the environment
  - Protection of the dry cleaners investment
  - Protection of landowners investment
  - Prevention of future contamination
- Thank you

ATTENDANCE

Committee: **ENVIRONMENTAL REVIEW COMMISSION**

2005-2006

DATES	11/22/05	12/20/05	1/24/06	2/14/06	3/08/06	3/14/06	3/15/06	4/11/06	5/3/06	5/15/06						
MEMBERS																
Sen. Charlie Albertson, Co-Chair	A	√	√	√	√	√	√	√	A	√						
Sen. Stan Bingham (apptd. 3/17/06)	X	X	X	X	X	X	X	√	√	√						
Sen. Dan Clodfelter, Co-Chair	√	√	A	√	A	A	A	√	√	A						
Sen. Katie Dorsett	√	√	A	√	A	√	√	√	√	√						
Sen. Jim Forrester	√	A	√	√	√	√	A	√	A	A						
Sen. Hamilton C. Horton, Jr. (died 1/31/06)	A	A	A	X	X	X	X	X	X	X						
Sen. Eleanor G. Kinnaird	√	√	√	A	√	A	A	√	√	√						
Sen. A. B. Swindell	√	√	√	√	A	A	A	√	A	√						
Sen. David Weinstein	√	√	√	√	√	A	A	√	√	A						
Rep. Pryor Gibson, Co-Chair	√	√	√	√	√	√	√	√	√	√						
Rep. Joe Hackney	√	√	√	√	A	√	√	√	√	√						
Rep. Jim Harrell	√	√	√	√	√	A	A	√	√	A						
Rep. Pricey Harrison	√	√	√	√	√	√	A	√	√	√						
Rep. Howard Hunter	A	A	A	A	√	A	A	√	√	A						
Rep. Carolyn H. Justice	A	A	√	√	√	A	A	√	A	√						
Rep. Daniel McComas	A	√	A	√	√	A	A	√	√	A						
Rep. Edith Warren	√	√	√	√	A	√	√	A	A	√						
STAFF																
George Givens, Counsel	√	√	√	√	√	√	√	√	√	√						
Jeffrey Hudson, Assistant Counsel	√	√	√	√	√	√	√	√	√	√						
Jennifer McGinnis, Asst. Counsel	√	√	√	A	√	A	A	√	√	√						
Susan Iddings, Assistant Counsel	√	√	√	√	√	A	A	√	A	√						
Jim Dodge, Research Assistant	√	√	√	√	√	√	√	√	√	√						
Dot Waugaman, Comm. Assistant	√	√	A	√	√	√	√	√	√	√						

ENVIRONMENTAL REVIEW COMMISSION
2005-2006
MEMBERSHIP LIST

Senator Charlie Albertson, Co-chair
525 Legislative Office Building
Raleigh, NC 27603-5925
(919) 733-7505; Fax (919) 715-8329

Senator Stan Bingham
292 North Main Street
Denton, NC 27239
(336) 859-0999; Fax (336) 3939

Senator Daniel G. Clodfelter, Co-Chair
110 North Tryon Street
Charlotte, NC 28202-4003
(704) 331-1041; Fax (704) 378-2041

Senator Katie Dorsett
1000 N. English Street
Greensboro, NC 27405
(336) 275-0628; Fax (336) 272-6853

Senator James S. Forrester
P. O. Box 459
Stanley, NC 28164
(704) 263-8603; Fax (704) 263-8169

Senator Eleanor Kinnaird
207 West Poplar Avenue
Carrboro, NC 27510
(919) 929-1607; Fax (919) 856-2223

Senator A. B. Swindell
P. O. Box 788
Nashville, NC 27856
(252) 462-0190; Fax (252) 459-4385

Senator David Weinstein
204 Walnut Cove Drive
Lumberton, NC 28358
(910) 739-3048; Fax (910) 608-0034

Representative Pryor Gibson, III, Co-chair
P. O. Box 1010
Wadesboro, NC 28170
(704) 694-5957

Representative Joe Hackney
P. O. Box 1329
Chapel Hill, NC 27514
(919) 929-0323; Fax (919) 929-3960

Representative Jim Harrell
PO Box 626
Elkin, NC 28621
(336) 902-0276; Fax (336) 835-1241

Representative Pricey Harrison
PO Box 9339
Greensboro, NC 27429
(336) 292-1953; Fax (919) 856-0417

Representative Howard Hunter
146 NC 461
Winton, NC 27986
(252) 332-3130; Fax (252) 332-7580

Representative Carolyn H. Justice
P. O. Box 964
Hampstead, NC 28443
(910) 270-4604; Fax (910) 270-3455

Representative Daniel F. McComas
P. O. Box 2274
Wilmington, NC 28402
(910) 343-8372; Fax (910) 343-8003

Representative Edith Warren
P.O. Box 448
Farmville, NC 27828
(252) 753-4198; Fax (252) 753-5603

STAFF

George F. Givens, Commission Counsel
Jeffrey Hudson, Assistant Commission Counsel
Jennifer McGinnis, Assistant Commission Counsel
Tim Dodge, Commission Analyst
Research Division
545 Legislative Office Building
(919) 733-2578

Susan Iddings, Assistant Commission Counsel
Bill Drafting Division
401 Legislative Office Building
(919) 733-6660
Dot Waugaman, Commission Clerk
309 Legislative Office Building
(919) 715-2525; Fax (919) 754-3232

North Carolina General Statutes
ARTICLE 12D.

Environmental Review Commission.

§ 120-70.41. Commission established.

The Environmental Review Commission is hereby established.

§ 120-70.42. Membership; cochairs; vacancies; quorum.

(a) The Environmental Review Commission shall consist of six Senators appointed by the President Pro Tempore of the Senate, six Representatives appointed by the Speaker of the House of Representatives, who shall serve at the pleasure of their appointing officer, the Chair or a Cochair of the Senate Committee on Agriculture, Environment, and Natural Resources or the equivalent committee, the Chair or a Cochair of the House of Representatives Committee on Environment and Natural Resources or the equivalent committee, the Chair or a Cochair of the Senate Committee on Appropriations – Natural and Economic Resources or the equivalent committee, and the Chair or a Cochair of the House of Representatives Committee on Appropriations – Natural and Economic Resources or the equivalent committee.

(b) The President Pro Tempore of the Senate shall designate one Senator to serve as cochair and the Speaker of the House of Representatives shall designate one Representative to serve as cochair.

(c) Except as otherwise provided in this subsection, a member of the Commission shall continue to serve for so long as the member remains a member of the General Assembly and no successor has been appointed. A member of the Commission who does not seek reelection or is not reelected to the General Assembly may complete a term of service on the Commission until the day on which a new General Assembly convenes. A member of the Commission who resigns or is removed from service in the General Assembly shall be deemed to have resigned or been removed from service on the Commission. Any vacancy that occurs on the Environmental Review Commission shall be filled in the same manner as the original appointment.

(d) A quorum of the Environmental Review Commission shall consist of nine members.

§ 120-70.43. Powers and duties.

(a) The Environmental Review Commission shall have the following powers and duties:

(1) To evaluate actions of all boards, commissions, departments, and other agencies of the State and local governments as such actions relate to the environment or protection of the environment, including but not limited to an evaluation of:

a. Benefits of each program relative to costs;

b. Achievement of program goals;

c. Use of measures by which the success or failure of a program can be measured; and
d. Conformity with legislative intent;

(2) To study on a continuing basis the organization of State government as it relates to the environment or to the protection of public health and the environment, including but not limited to:
a. Improvements in administrative structure, practices, and procedures;
b. Increased integration and coordination of programs and functions;
c. Increased efficiency in budgeting and use of resources;
d. Efficient administration of licensing, permitting, and grant programs;
e. Prompt, effective response to environmental emergencies;
f. Opportunities for effective citizen participation; and
g. Broadening of career opportunities for professional staff;

(3) To make any recommendations it deems appropriate regarding the reorganization and consolidation of environmental regulatory agencies and the recodification of statutes relating to the environment, including but not limited to:
a. Ways in which agencies may operate more efficiently and economically;
b. Ways in which agencies can provide better services to the State and to the people; and
c. Instances in which functions of agencies are duplicative, overlapping, incomplete in scope or coverage, fail to accomplish legislative objectives, or for any other reason should be redefined or redistributed;

(4) To review and evaluate changes in federal law and regulations, relevant court decisions, and changes in technology affecting the environment or protection of the environment;

(5) To review existing and proposed State law and rules affecting the environment or protection of the environment and to determine whether any modification of law or rules is in the public interest;

(6) To make reports and recommendations, including draft legislation, to the General Assembly from time to time as to any matter relating to the powers and duties set out in this section; and

(7) To undertake such additional studies as it deems appropriate or as may from time to time be requested by the President Pro Tempore of the Senate, the Speaker of the House of Representatives, either house of the General Assembly, the Legislative Research Commission, the Joint Legislative Commission on Governmental Operations, the Joint Legislative Utility Review Committee, or the Joint Select Committee on

Low-Level Radioactive Waste and to make such reports and recommendations to the General Assembly regarding such studies as it deems appropriate; provided that the Environmental Review Commission shall not undertake any study which the General Assembly has assigned to another legislative commission or committee.

(b) The Environmental Review Commission may continue the study of environmental agency consolidation and reorganization. The study of environmental agency consolidation shall include, but is not limited to:

(1) Monitoring the implementation of Session Laws 1989, c. 727;

(2) Evaluation of the organization, programs, and operation of the Department of Environment and Natural Resources;

(3) Evaluation of the organization, functions, powers, and duties of the components of the Department of Environment and Natural Resources, including boards, commissions, councils, and regional offices; and

(4) Recodification of the General Statutes relating to the environment and environmental agencies.

(c) In addition to its general powers and duties, the Environmental Review Commission shall have the following powers and duties with respect to hazardous waste management:

(1) To study the current and projected need for hazardous waste treatment, storage, and disposal capacity in the State in light of anticipated generation of hazardous waste and alternatives for hazardous waste treatment and disposal;

(2) To evaluate the potential for the development of additional hazardous waste treatment, storage, and disposal capacity by the private sector;

(3) To study the necessity for and scope of hazardous waste treatment, storage, and disposal facilities which are sited, owned, or operated by the State;

(4) To review progress in securing a volunteer county to host a hazardous waste treatment facility;

(5) To study incentives and compensation for the community which hosts, either voluntarily or involuntarily, a hazardous waste treatment facility, including any additional incentives and compensation which may be needed, whether there should be differential compensation for a volunteer county, options for use of funds by local governments, distribution of compensation among local governments, and methods of providing flexibility in the development of an incentives and compensation package for a particular local community;

(6) To review progress in developing interstate agreements for the treatment, storage, and disposal of hazardous waste;

(7) To assist in the development of cooperative, comprehensive regional approach to hazardous waste treatment and disposal;

(8),(9) Repealed by Session Laws 2001-474, s. 12.

(10) To study the capacity assurance requirement under the Comprehensive Environmental Response, Compensation and Liability Act of 1980, Pub. L. No. 96-510, 94 Stat. 2767, 42 U.S.C. 9601 et seq., as amended, and the Superfund Amendments and Reauthorization Act of 1986, Pub. L. No. 99-499, 100 Stat. 1613, as amended as it relates to the continued eligibility of North Carolina for remedial actions under Superfund;

(11) To study alternatives available to the State for dealing with hazardous waste and the ramifications of those alternatives; and

(12) To receive and evaluate reports of every State agency, board, and commission which has any power or duty with respect to hazardous waste management.

§ 120-70.44. Additional powers.

The Environmental Review Commission, while in the discharge of official duties, may exercise all the powers provided for under the provisions of G.S. 120-19, and G.S. 120-19.1 through G.S. 120-19.4. The Environmental Review Commission may meet at any time upon the call of either cochairman, whether or not the General Assembly is in session. The Environmental Review Commission may meet in the Legislative Building or the Legislative Office Building upon the approval of the Legislative Services Commission.

Notwithstanding any rule or resolution to the contrary, proposed legislation to implement any recommendation of the Environmental Review Commission regarding any study the Environmental Review Commission is authorized to undertake or any report authorized or required to be made by or to the Environmental Review Commission may be introduced and considered during any session of the General Assembly.

§ 120-70.45. Compensation and expenses of members.

Members of the Environmental Review Commission shall receive subsistence and travel expenses at the rates set forth in G.S. 120-3.1.

§ 120-70.46. Staffing.

The Legislative Services Officer shall assign as staff to the Environmental Review Commission professional employees of the General Assembly, as approved by the Legislative Services Commission. Clerical staff shall be assigned to the Environmental Review Commission through the offices of the Supervisor of Clerks of the Senate and Supervisor of Clerks of the House of Representatives. The expenses of employment of clerical staff shall be borne by the Environmental Review Commission.

§ 120-70.47. Funding.

From funds available to the General Assembly, the Legislative Services Commission shall allocate monies to fund the work of the Environmental Review Commission.

MINUTES
ENVIRONMENTAL REVIEW COMMISSION
3 May 2006

The Environmental Review Commission (ERC) met on Wednesday 3 May 2006 at 9:30 a.m. in Room 544 of the Legislative Office Building. Senator Clodfelter presided.

The following members were present: Senators Bingham, Clodfelter, Dorsett, Kinnaird, and Weinstein; and Representatives Gibson, Hackney, Harrell, Harrison, Hunter, and McComas. Mr. George Givens, Commission Counsel; Mr. Jeffrey Hudson, Assistant Commission Counsel; Ms. Jennifer McGinnis, Assistant Commission Counsel; Mr. Tim Dodge, Commission Analyst; and Ms. Dot Waugaman, Commission Clerk, were also present.

On 25 April 2006, notice was sent to members and interested parties via e-mail and regular mail. A copy of the notice of the meeting is included in the attachments to these minutes as **Exhibit A**. Copies of the agenda for the meeting and visitor registration sheets are included in the attachments as **Exhibits B** and **C**.

Senator Clodfelter welcomed the members and audience and recognized Mr. Givens for his comments. Mr. Givens reported that the planning meeting for this meeting was held on Thursday 27 April. He referred to the scheduled working group meetings on the agenda and announced the next scheduled meeting of the ERC, Monday 8 May, has been postponed until some time in the afternoon of Monday 15 May. A notice will be sent when a time has been set.

Senator Clodfelter recognized Dr. David Moreau, Chair of the Environmental Management Commission (EMC), to present quarterly reports from the EMC as to its operations, activities, programs, and progress for the period October 2005 through April 2006 (see **Exhibit D** for an outline of the report). Dr. Moreau said most of the work of the EMC for the past six months has dealt with issues of air quality, particularly the Clean Air Interstate Rule (in regard to mercury) (see **Exhibit E** for a chart showing emission caps with the Clean Smokestack Act and the Clean Air Interstate Rule), and the best available retrofit technology for the Class I areas (national parks). The EMC reviewed a couple of basin-wide reports and sent them to public hearing for final approval. They also sent a universal stormwater regulation out for public hearing. The Clean Air Institute Rule supplements the Clean Smokestacks Act. The primary effect of the Interstate Rule is to reduce the SO2 emissions from about 137,000 to 50,000 tons per year. There is a two-year time delay in the two sets of requirements. There is very little effect on nitrogen oxides from the Clean Air Interstate Rule.

The mercury rule has caused the EMC some difficulty. They have tried for months to put together a rule that would not draw polarized comments. Since that process was not successful they decided to send it to public hearing, listen to the comments and then make a decision. It was sent to public hearing with a range of possibilities from the floor (established in the federal rule that would require a 70 percent reduction to 90 percent reduction). Another alternative is to apply best available control technology on a case-by-case basis which would allow considerable flexibility in the way the regulations would be applied to individual sources. The regulations have been approved to go to public hearing in May. It will probably be Fall before the EMC gets back to discussing the report of the hearing officers.

Senator Bingham asked for a brief explanation of SO2, including its negative impact on the environment and how the reduction has been accomplished. Dr. Moreau answered the reduction would occur with the addition of scrubbers to the major coal-fired power plants. The adverse effects of SO2 include the environmental effect on vegetation, and acid rain that contributes to the death of trees in North Carolina's mountains.

Senator Clodfelter asked when companies will have to switch from having to target one rule to the other. Dr. Moreau replied it would be up to the power companies to decide. Their construction schedule will have to be tailored to suit the needs to meet both rules. The Clean Air Interstate Rule does not

replace the Clean Smokestacks legislation, but it does lower the cap on sulfur dioxide. Nitrogen oxide is a little more complicated because there is a also a seasonal limit that applies.

Mr. Givens asked if in addition to the stormwater rules there are only two other rules, both related to air quality, that are subject to legislative review in the 2006 session. Ms. Robin Smith, Deputy Secretary of the Department of Environment and Natural Resources (DENR), replied that that is correct. Two of the rules received ten objection letters. Mr. Givens added that he understands that all ten objection letters on each rule came from one source. He said that he anticipates that whether or not a bill is introduced, the rules will ultimately go through.

Senator Clodfelter asked if the EMC has decided on a schedule for consideration of the inter-basin transfer applications from the Catawba River for Concord and Kannapolis. Dr. Moreau replied the hearings have already been held, but very few people participated. After it was reported in the newspaper that not much objection had been raised, the EMC has heard a lot of objections. The EMC is publishing an environmental impact statement, which will probably be released next week. Upon its release, there will be an opportunity for public comment on the statement. The review period has been extended and a number of people contacted to assure that everyone who has an interest will have an opportunity to voice their opinions.

Senator Clodfelter recognized Mr. George Kapetanakis, Litter Program Coordinator, Office of Beautification Programs, Department of Transportation (DOT), to give a semiannual report on agency litter enforcement, litter prevention, and litter removal efforts (see **Exhibit F** for the report). Mr. Kapetanakis had anti-litter bags with educational materials handed out to each member of the Commission (see **Exhibit G**). He ended his presentation with a plea for each member to educate their families and others on the fact that it is not all right to litter. He also said that it was important for people carrying loads of trash in trucks cover them so articles do not fall out of the trucks.

Senator Clodfelter recognized Ms. Elizabeth Cannon, Chief, Hazardous Waste Section, Division of Waste Management, DENR, to give the annual report on the mercury minimization plan prepared by DENR in response to legislation passed in 2005, which requires the removal and recycling of mercury containing light switches in automobiles; and to propose changes to the program. The switches are located in the trunk and under the hood of cars. The mercury switches have not been installed in new cars since 2003. Estimates are that approximately one in every two scrapped cars has a mercury-containing light switch in it. The purpose of the program is to pull the mercury switches out of the cars before they are scrapped, shredded, and recycled into new steel. If the mercury from the scrapped cars is not removed, it goes into the steel mills and up the smokestacks as mercury emissions.

Ms. Cannon said it is estimated that in the first four years of the program, approximately 1,350 pounds of mercury will be removed from the environment. The automobile recyclers and scrap metal dealers will receive $5 for each switch that they remove. The status of implementation at the moment is that staff has been assigned and staff members are visiting sites across the state that either dismantle or shred cars. DENR is preparing outreach and educational programs to inform those who dismantle or shred cars about the program. They met with a group of stakeholders on 10 April to talk about some of the provisions in the current law that they would like to see changed during the upcoming session.

Ms. Cannon said that some technical changes to the bill would make it easier to implement and to track progress on pulling the switches out of the automobiles. The first technical change asked for concerns clearly designating who is responsible for packaging, shipping and recycling the switches once they are removed from the car. The change would clarify that the vehicle and scrap metal recyclers are responsible for packaging, labeling and shipping the switches off-site for recycling. Progress is being made at the federal level between the automobile makers, recyclers, the steel industry, the United States Environmental Protection Agency, and the state environmental commissioners who will adopt a voluntary program assigning to the automobile makers the responsibility for paying for that part of the program. The North Carolina recyclers will receive the $5 per switch and the automobile makers will pay the shipping costs. DENR is requesting language to allow that process to occur without having to make amendments to the law in the future.

The second change would clarify and expand slightly the reporting and record keeping requirements on the actual switches so there will be good checks and balances on who gets reimbursed how much money. Current law calls for tracking the number of vehicles recycled. DENR would like to add to the tracking requirements the actual number of switches removed from the scrapped vehicles. They would like to reduce the cycle of reporting to annually instead of quarterly to reduce the burden on the recyclers and on the Department and still achieve the goals of the program. In addition, for the national program being negotiated on the federal level, the number of switches EPA receives will be reported from North Carolina scrap metal and automobile recyclers to DENR, another check and balance on the number of switches being pulled from scrapped cars.

The third change has to do with clarifying DENR's enforcement authority, to make it clear they have civil enforcement authority. The bill currently gives them criminal enforcement authority, which they would like to retain, but they would also like to have the authority to conduct inspections and issue civil fines for violations that do not rise to the level of a criminal violation. They would also like some rule-making authority to govern the flow of funds between the Department and the recyclers.

The final request has to do with the effective date and the sunset date. The current law goes into effect on 1 July 2006. They would like to recommend a start date of 1 January 2007 to allow the General Assembly to pass the amendments to the bill before the program goes into effect, and also to allow the developments at the federal level to be finalized. The law calls for a sunset date of the year 2026. DENR would like to correspond the sunset date to the national program, which will probably be 2017. That date could be extended if it was found to be necessary.

Senator Clodfelter recognized Mr. Brock Nicholson, Deputy Director, Division of Air Quality (DAQ), DENR, to discuss results of air quality modeling related to the potential implementation of a low emission vehicle program in North Carolina that would require motor vehicles sold in this state to meet the same motor vehicle emissions standards as required for motor vehicles sold in California (see **Exhibit H** for a copy of his PowerPoint presentation). Mr. Nicholson began by explaining that NOx + Volatile Organic Compounds (sometimes called hydrocarbons) + sunshine = ozone. The major emission of concern is NOx (nitrous oxide). With the existing Federal Tier 2 tailpipe program, NOx emissions are projected to decrease from 800 tons per day statewide in 2006 to a little over 200 tons per day in 2018. The question to be answered by the model is how much better the environment would be if the California LEV II Program were adopted. The Clean Smokestacks Act also contributes to the decrease in NOx emissions.

The air quality model shows an improvement between 2002 and 2009 of 6-12 or 9-12 ppb (parts per billion) due to fleet turnover and other measures going into effect. The difference between 2002 and 2018 is expected to be 15 ppb better. DAQ used the year 2002 as a baseline year because there was a lot of detailed emissions inventory work done that year due to EPA requirements. Mr. Nicholson said if the state could realize a 15 ppb benefit over the broad region shown on page 4 of his PowerPoint presentation Exhibit H), and take today's highest measured value in the state of about 92 ppb, there would be an improvement of 77 ppb. That would be even better than the ambient air quality standard for protection of public health of 85 ppb.

Looking at NOx emissions, the model showed there was an excess of 600 tons on a typical summer day in 2004. In 2010, the model shows the level decreasing to 400 tons per day, and in 2020, to approximately 150 tons per day, due primarily to fleet turnover to cleaner cars. If North Carolina were to begin the CA LEV II program in 2010, the results would be the same as if the state stayed with the Federal Tier 2 Program. There would be a slight benefit in emissions reductions with the CA LEV II program in 2020, and a 10 percent difference in 2030. The model probably shows the maximum benefit expected because it assumes no California-certified vehicles in North Carolina; however, at least some cars sold in North Carolina are California-certified. Because of that, the difference in the outer years will probably be even smaller.

Senator Bingham asked about the future of biofuels. Mr. Nicholson said there is a lot of interest in biofuels. He went on to say that biodiesel has lower particle emissions from a diesel engine than from standard petroleum diesel fuel. There are advantages to North Carolina's agricultural economy to produce biofuels. He added that it is his understanding that NOx emissions presently are the same or a little lower in biofuels. Biofuels do make sense, particularly from the point of view of the greenhouse gas emissions. Senator Bingham asked about sulfur. Mr. Nicholson said sulfur is an issue in diesel fuel for a number of reasons. Taking the sulfur out of diesel fuel significantly reduces emissions of fine particles from the fuel. It also produces corrosion in engines. In gasoline, sulfur prohibits the converter from acting efficiently to reduce NOx emissions. The year 2006 is the phase-in year for getting sulfur out of both gasoline and diesel fuel. The federal program has done a good job of addressing the issue.

The model chart on VOC emissions is similar to the one on NOx emissions. Mr. Nicholson commented that 10 percent is a healthy number in terms of difference. It is 10 percent of the emissions expected to be in 2030, so it is about 10 tons out of 100 tons rather than 10 tons out of 650 tons. The model is based on an assumption that the fleet will be similar in 2030 to what we have now, and it does not assume we will be using alternative fuels. If non-carbon fuels will be used in the future, there will be a quite different result.

Senator Clodfelter complimented Mr. Nicholson and his staff on the quick turn around and the thoroughness of the work done to prepare the report.

Representative Harrison asked if Mr. Nicholson knew what states with the clean car standard are doing about enforcement. Mr. Nicholson said he had spoken with his counterparts in Washington and Oregon about the issue. They are just getting started and did not know how they would follow-up on the fleet average information they collected. Representative Harrison asked if there is a problem with availability of cleaner cars in states with clean car standards. Mr. Nicholson replied having stricter standards might be an impetus for auto manufacturers to provide more of the cleaner cars to the state.

Senator Clodfelter recognized Mr. Greg Dana, Vice President of Environmental Affairs for the Alliance of Automobile Manufacturers, who said hybrids are available any where in the country where the demand exists. He said he has not seen any difference in availability in states that have the California standards. He added that he had looked into a question from an earlier meeting and found that almost every 2006 car sold in North Carolina is California-certified. Most cars now are 50-state certified. Senator Clodfelter asked him to put that in writing for distribution to the Commission. Mr. Dana added that that situation may change in later years if the lawsuit in California fails and the greenhouse gas regulations go into effect, because California-certified cars would be very different from current California-certified cars.

Mr. Givens asked if there is any evidence that it has been necessary to withhold certain types of vehicles from the market in order for states to meet the fleet average. Mr. Dana replied they cannot currently sell diesel-powered vehicles in California states, because of different emissions standards between the federal and California programs.

Senator Clodfelter asked Mr. Nicholson if his modeling assumed the application of a North Carolina fleet average, or was the assumption that every car sold in North Carolina would be California-certified. Mr. Nicholson said they did assume that every car sold would be California-certified, starting in 2010, and that the fleet average was enforced.

Senator Clodfelter recognized Mr. Michael Douglas, Regional Engineer, Public Water Supply Section, Raleigh Regional Office, DENR, to speak about the water quality testing requirements for public water supply systems (see **Exhibit I** for a copy of his remarks, and **Exhibit J** for a copy of a report from August 2005 showing the test results for various tests run at the R. M. Johnson Water Plant in Raleigh).

Representative Hackney asked if the testing is different depending on the knowledge that the water once was effluent. Mr. Douglas replied that the testing is set up based on the need and the final results to meet the safe drinking water standard on a daily basis. The tests are run to see if the water

quality has changed from day to day. He added that there is a book entitled *Rules Governing Public Water Supply*, which lists over 100 parameters that are tested for on a routine basis. Mr. Douglas asked Mr. Michael Hicks of the Raleigh Regional Office to answer some more specific questions. Mr. Hicks said systems are required to run "total organics" on a monthly basis from samples of the raw and treated water and compare them. He added that they look for various organisms based on need. The treatment plants are designed to provide multi-barriers: some for coagulation and sedimentation, and others to take out the organics such as pesticides that come from upstream. Tests are run annually on the finished water and if a problem is found, they go back to the source water to identify the pollutant. The facility is set up to take care of all the contaminants in a conventional system. There are 56 legally enforceable limits with organics. New rules look more at the raw water sources. Mr. Hicks said the normal treatment of the water through the barriers of disinfection take care of the known problems in the water supply. Water treatment plants are designed to handle anything that would make the water not safe for drinking.

Senator Clodfelter recognized Ms. Robin Smith, Assistant Secretary, DENR, to speak about issues related to the safety and quality of potable water delivered from private drinking wells in the State. The item was a follow-up to a presentation made in December of 2005 from the Division of Environmental Health on private drinking water wells. Public health professionals have identified a gap in drinking water protection in that there is no state-wide enforcement of well construction standards and water quality standards for private drinking water wells. The state does have well construction standards that have been adopted by the EMC, and DENR does enforce the standards for very large wells (ones that produce over 100,000 gallons a day), or those that are associated with public water systems, but there is no state enforcement of those standards for private well construction. Thirty-three counties have their own private well permitting programs. They do varying degrees of inspection. Of the 33 counties, 27 inspect the grouting on new wells, and 13 inspect the casings of new wells. Only one county requires any water quality testing before new wells are put into use. Most counties may offer, but do not require, water quality testing for new wells. Since the December 2005 meeting, the Department has worked on potential legislation to address the gap in the protection of public health and drinking water supplies. The legislation would create a state-wide permitting requirement for new construction of private water supply wells. It would be a means of enforcing existing well construction standards. DENR has been looking at how the program would be implemented, looking at a permitting system that is comparable to what is used for septic tanks systems for private residences. Local health departments issue permits for septic systems. Often the same residential development that requires a septic system will use a private water supply well.

Ms. Smith reported that stakeholders had met twice and have shared information by e-mail since December on the issue. The meetings included representatives from the Well Contractor's Association, the County Commissioners, the Homebuilders Association, various health and environment organizations in DENR, and the Department of Health and Human Services. They have discussed possible legislative proposals, but have not reached agreement. However, there was consensus that a need exists for consistent enforcement of the well construction standards. The area of disagreement was over the need for testing of new private wells and what type of testing would be beneficial. DENR is continuing to look at the best approach to address the issue. Local governments and county commissioners have concerns about their ability to deliver the program at the local level with the resources they have. They do have the ability to create fees to support the program, but there is concern that the fees might not be sufficient to cover their costs. The Department is looking at how resource concerns can be addressed. They are also discussing whether or not they need to test new wells for bacteria, and if so, how to do it in a way that does not create delays in the process of selling homes to new owners.

Senator Bingham asked about bacteria contamination in private wells. Ms. Smith replied that it usually happens in flooding conditions. DENR provides instructions to affected homeowners on how to disinfect their wells. She added that if there is a continuing source of bacterial contamination it might take more time and consideration to figure out how to solve the problem.

Representative Gibson asked if the Department has considered rule making if legislation passes. Ms. Smith said they have some good models for rule making because they have similar programs. Representative Gibson asked if there is a dollar figure for what implementation would cost. Ms. Smith

replied they are looking at working through existing local government programs to deliver the permitting and inspection services instead of delivering them from the state level. On the public health side, there are local public health departments. In the environmental programs, they typically deal with inspections departments. They do know local governments will need resources to add this program. Representative Gibson asked that whoever runs the program confer with local governments to determine how to provide the resources needed. He commented the legislature would need to have a lot of information about the incidence of problems. He expressed concern that the legislation might do more harm than good.

Mr. Givens observed that the proposed program falls between environment and health and brings up the problem once again of where environmental health belongs in the state organization. He raised the question about whether private drinking well enforcement should be a Commission for Health Services program or an Environmental Management Commission program.

Representative Harrison asked if information about wells would be disclosed to purchasers. Ms. Smith replied that results would have to be provided to the homeowner and the local health department. The basic approach would require some level of testing of all new wells, and testing of existing wells as ownership of the property is transferred.

Senator Clodfelter recognized Mr. Thomas Reeder, Chief, Wetlands and Stormwater Branch, Surface Water Quality Section, Division of Water Quality, DENR, to discuss recent amendments to the nutrient offset payment rule (see **Exhibit K** for a copy of his PowerPoint presentation). The members of the Joint Legislative Administrative Procedures Oversight Committee have determined there are no procedural issues involved under the Administrative Procedures Act, so it was decided to bring the substantive issues to the ERC.

After massive fish kills in the Neuse estuary in 1995, the Science Advisory Board determined that nitrogen was the cause. The General Assembly subsequently mandated a 30 percent reduction in the nitrogen load in the Neuse River. The mandate affected point source dischargers (wastewater treatment plants) and new development activities. The EMC set a stringent nitrogen limit on new development activities for a developer to receive a permit. If a developer had a problem meeting the limit, he could "buy down" to the limit. The money went into a pool managed by the Ecosystem Enhancement Program (EEP), and through a variety of contracting mechanisms, the money is pooled and a different site is mitigated to reach the mandated 30 percent reduction.

Representative Gibson asked if there were any complaints about the steep increase in price. Mr. Reeder replied that the only complaint they received during the public hearing process was from the Neuse River Compliance Association. However, after the rule went into effect, they heard many complaints.

Senator Dorsett asked if when the Tar-Pamlico river basin system wanted into the program, the fee was $57 a pound or $11 a pound. Mr. Reeder said the two issues (increase of fees and increase into the Tar-Pamlico river basin) were taken to public hearing at the same time. He reported that several members of the Tar-Pam community said they would be happy to pay $57 a pound to gain access to the program. Senator Dorsett said she would be interested to know if there are increases in the number of people who are volunteering for the program. Mr. Reeder said the EEP would have that information. He added that he believed with the increase in cost of buy downs, more people would find ways to mitigate the properties as they developed them.

Senator Clodfelter recognized Ms. Lisa Martin, Director of Regulatory Affairs, North Carolina Home Builders Association, to speak on the recent amendments to the nutrient offset payment rule. She introduced Mr. Tim Minton and Ms. Suzanne Harris with the Raleigh-Wake Home Builders Association who were in attendance with her.

Ms. Martin stated the Association's concerns about the fee. She said that SL 1995-572 gave broad latitude to EMC to reduce nitrogen, but did not specifically allow them to charge a fee. None of the enabling legislation authorizes the automatic multiplier that is now included in the fee. The fee will never

go thru rulemaking, but will increase automatically each year. Ms. Martin said she knows of no other state program in which the multiplier is in effect. The enabling legislation does not include administrative coasts, and those costs are in addition to the $57 fee.

The biggest issue the Home Builders have is the land cost per acre. The land cost includes the current property value in per acre of the property being developed based on the most recent county assessment. The Home Builders understand that DENR is using the land value plus the value of improvements, which would include infrastructure, buildings and other items already on the site. This way of determining the property value punishes redevelopment projects and increases the fee to the deal breaking point.

Senator Clodfelter commented that the program was set up to be a self-supporting voluntary program. If the fee cannot be set at a level to keep it self-supporting, there would have to be a request for an appropriation. Representative Gibson warned that if DENR set the cost too high, the benefits to the environment would be lost.

Senator Clodfelter suggested that redevelopment projects that do not increase the impervious area be treated differently. Mr. Reeder said that redevelopment is not held to the same standards as new development. The developers of redevelopment projects need to treat only the additional stormwater that was not treated under the original development. He also stated that the Department has sent out a notice to local governments that the land cost was to be based on unimproved land, and was not to include the cost of the improved infrastructure on the land.

Representative Gibson commented that the new fee is a 500 percent increase over the previous fee. He said many developers will decide to not do a project because it would be unprofitable. The state and local governments would lose out on property tax enhancements and on mitigation in an area where property could be encumbered for over 30 years. Ms. Martin said the EMC rule could impose the fee any where in the state that has a nutrient sensitive designation.

Senator Clodfelter recognized Ms. Mary Penny Thompson, General Counsel, Office of the Secretary, DENR, to speak about a potential legislative proposal on trout buffers for recommendation to the 2006 session. Ms. Thompson said a contested case before the Office of Administrative Hearings (OAH) in which the trout buffer provision of the Sedimentation Pollution Control Act was interpreted very narrowly. The provision that allows development to go forward in trout buffers was based on the standard of temporary and minimal. The interpretation made by the Administrative Law Judge has basically prohibited development or land disturbing activities in those trout buffers.

In response, DENR has held on to projects that have requested waivers of the trout buffer provision. It has highlighted the need to look back at the standard of temporary and minimal to see if it is working for the program by achieving the things they wanted it to do. Because trout streams are important to the environment, and provide several benefits, the Department recommends changing the standard to allow impacts in three categories: (1) when they are truly minimal, (2) when allowing for public infrastructure to go into place, and (3) when they are allowing for stream restoration. Under the truly minimal, it would be less than 10 percent of the entire disturbance of the buffer, so it would be less than 100 feet in 1000 linear feet. Public infrastructure would include development of roads, utilities, water and sewer. Additional restrictions would be placed to avoid, minimize, and restore impacts that would occur for the public infrastructure placement. In the third category, stream restorations would include those activities that enhance streams approved or funded by a public agency. The Department of Transportation and the Sedimentation Control Commission have approved the changes as outlined above.

Representative Hackney asked if there would be any trout left if they put the above legislation into place. Ms. Thompson replied that the temporary minimum has not stopped roads from going into place. The legislation would formalize the procedure whereby impacts would be avoided or minimized, and then restored. Senator Clodfelter commented that the proposal would not be temporary or minimal and it would take the protection out of the rule. Ms. Thompson said the legislation would allow only those

projects that provide public benefits. Strict prohibition of development in trout buffers would be a change in the standards but not a change in the status quo. Ms. Thompson said DENR has not talked with the Wildlife Resources Commission yet. Senator Clodfelter suggested the Wildlife Resources Commission discuss the proposal before the ERC does.

Senator Clodfelter recognized Mr. Givens for closing remarks. Mr. Givens said he has a list of 25 bills that will be subject to further adjustment before May 10 in consultation with the co-chairs. The list will be submitted to the Bill Drafting Division for bills to be drafted (in compliance with the request deadline), and the Research staff will prepare the bills for consideration at the next meeting on the afternoon of 15 May. ERC approval will be required for the bills to be considered during the short session.

Senator Clodfelter suggested any members who wanted legislation to be discussed and acted upon during the 15 May meeting speak to Mr. Givens.

The meeting adjourned at 12:35 p.m.

Senator Charlie Albertson, Co-Chair

Senator Daniel Clodfelter, Co-Chair
Presiding

Representative Pryor Gibson, Co-Chair

Dot Waugaman, Commission Assistant

LIST OF EXHIBITS

Exhibit A	Notice of Meeting dated 25 April 2006
Exhibit B	Agenda of Meeting
Exhibit C	List of Attendees
Exhibit D	Report to the Environmental Review Commission on Environmental Management Commission Activities, 2nd and 3rd Quafters, 2005-2006
Exhibit E	Chart showing Emission Caps with Clean Smokestack Act and Clean Air Interstate Rule for 1998-2015
Exhibit F	NC Interagency Report on Litter Cleanup, Education/Prevention and Enforcement dated 4 March 2006
Exhibit G	Bag of Information about Stopping Littering
Exhibit H	PowerPoint presentation of Mr. Brock Nicholson on NCDAQ Analysis of CA LEV-II Vehicle Emissions Standards
Exhibit I	Remarks by Michael Douglas before the ERC, 3 May 2006
Exhibit J	Report of Plant Operations to Division of Environmental Health for August 2005
Exhibit K	PowerPoint Presentation by Thomas Reeder in re: Amendments to the Nutrient Offset Payment Rule

EXHIBIT A

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 733-2578
FAX: (919) 715-5460

SUSAN S. IDDINGS
ASSISTANT COMMISSION COUNSEL
401 LEGISLATIVE OFFICE BUILDING
(919) 733-6660

JENNIFER L. McGINNIS
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

DOT WAUGAMAN
COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 715-2525
FAX (919) 754-3232

JEFF W. HUDSON
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

TIMOTHY R. DODGE
COMMISSION ANALYST
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

25 April 2006

TO: Members of the Environmental Review Commission
Interested Parties

FROM: George F. Givens, Commission Counsel
Dot Waugaman, Commission Clerk

RE: **Notice of Commission Meeting**
Notice of Planning Meeting
Schedule of Future Meetings
Meetings of Interested Parties (605 Working Groups)
Additional Information

COMMISSION MEETINGS – 3 May and 8 May 2006:

The Environmental Review Commission (ERC) will meet at 9:30 a.m. Wednesday 3 May 2006 and at 9:30 a.m. Monday 8 May 2006 in Room 544 of the Legislative Office Building in Raleigh.

At the 3 May and 8 May meetings, the Commission will continue studies for which the Commission is responsible, hear reports from State agencies, discuss topics to be considered at future meetings, and attend to other matters. Listed below are potential agenda topics for the meetings. More specific information regarding the agendas for the 3 May and 8 May meetings of the Commission will be developed at the staff planning meeting discussed below.

POSSIBLE AGENDA TOPICS FOR 3 MAY AND 8 MAY 2006:

Air Quality:

1) Issues related to the implementation of a low emission vehicle program that would require motor vehicles sold in this State to meet the same motor vehicle emissions standards required for vehicles sold in California

Solid and Hazardous Waste Management:

2) Annual report on the mercury minimization plan prepared by DENR (G.S. 130A-310.57)

3) Semiannual report on agency litter enforcement, litter prevention, and litter removal efforts (G.S. 147-12(b))

Water Quality:

4) Annual report on the status of leaking petroleum underground storage tanks and the State cleanup funds (G.S. 143-215.94M)

5) Issues related to the safety and quality of potable water delivered from private drinking water wells in the State

6) Issues related to water, sewer, and stormwater infrastructure in the State and resources needed to maintain and upgrade the infrastructure systems

General/Miscellaneous:

7) Report on the operations, activities, programs, and progress of the Environmental Management Commission (G.S. 143B-282(b))

8) Issues related to actions available to governmental agencies to respond to violations and noncompliance by licensed environmental professionals and consultants

9) Consideration of legislative proposals for recommendation to the 2006 Regular Session of the General Assembly

10) Other matters related to the Commission's powers and duties under G.S. 120-10.43

PLANNING MEETING:

To facilitate development of the agenda for the 3 May and 8 May meetings of the Commission and to receive input from interested persons regarding the work of the Commission, the Commission Counsel will hold an informal planning meeting at **10:00 a.m. on Thursday 27 April 2006 in Room 605 of the Legislative Office Building**. Persons who wish to participate in the development of the agenda for meetings of the Commission, or who are interested in any matter before the Commission, are invited to attend.

SCHEDULE OF FUTURE MEETINGS:

The 2006 Regular Session is scheduled to begin at 12:00 noon on Tuesday 9 May 2006. The Commission may meet shortly after the beginning of the session to complete work and to consider any legislative proposals and recommendations.

The Commission may also meet at other times while the General Assembly is in session (G.S. 120-70.44). When the Commission meets while the General Assembly is in session, written notice will not be mailed to persons on the mailing list. Rather, notice will be given at a session of the Senate and House of Representatives as provided by G.S. 143-318.12(b) and will be distributed by email, if possible. The Commission will resume a schedule of regular monthly meetings following adjournment of the 2006 Session of the General Assembly.

MEETINGS OF INTERESTED PARTIES (605 WORKING GROUPS):

The Commission Counsel will hold meetings of interested parties on specific topics as indicated below:

Phase II Stormwater Management Working Group
10:00 a.m. Tuesday 2 May 2006 – 605 Legislative Office Building

Risk-Based/Limit Liability for Environmental Cleanups Working Group
2:00 p.m. Thursday 4 May 2006 – 605 Legislative Office Building

ADDITIONAL INFORMATION:

If you have questions related to the Commission, please feel free to contact the Commission Counsel or other Commission staff at (919) 733-2578.

EXHIBIT B

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 733-2578
FAX: (919) 715-5460

SUSAN S. IDDINGS
ASSISTANT COMMISSION COUNSEL
401 LEGISLATIVE OFFICE BUILDING
(919) 733-6660

JENNIFER L. McGINNIS
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

DOROTHY M. WAUGAMAN
COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 715-2525
FAX: (919) 754-3232

JEFF W. HUDSON
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

TIMOTHY R. DODGE
COMMISSION ANALYST
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

AGENDA
9:30 a.m. Tuesday 3 May 2006
Room 544 Legislative Office Building
Raleigh, North Carolina

1. Call to order
   Senator Daniel G. Clodfelter, Presiding

2. Introductory remarks by Cochairs
   Senator Daniel G. Clodfelter
   Senator Charles W. Albertson
   Representative Pryor A. Gibson

3. Report to the Commission and explanation of agenda items
   George F. Givens, Commission Counsel

4. Quarterly reports by the Environmental Management Commission (EMC) as to its operations, activities, programs, and progress for the period of October 2005 through April 2006 (G.S. 143B-282(b))
   Dr. David H. Moreau, Chairman
   Environmental Management Commission

5. Semiannual report on agency litter enforcement, litter prevention, and litter removal efforts (G.S. 147-12(b))
   George J. Kapetanakis, Litter Programs Coordinator
   Office of Beautification Programs, Department of Transportation

6. Annual report on the mercury minimization plan prepared by the Department of Environment and Natural Resources (G.S. 130A-310.57); proposed changes to program
   Elizabeth W. Cannon, Chief
   Hazardous Waste Section, Division of Waste Management, Department of Environment and Natural Resources (DENR)

7. Discussion of the results of air quality modeling related to the potential implementation of a low emission vehicle program in North Carolina that would require motor vehicles sold in this State to meet the same motor vehicle emissions standards required for motor vehicles sold in California

   Brock M. Nicholson, Deputy Director
   Division of Air Quality, DENR

8. Discussion of the water quality testing requirements for public water supply systems

   Michael L. Douglas, Regional Engineer
   Public Water Supply Section, Raleigh Regional Office, DENR

9. Discussion of the issues related to the safety and quality of potable water delivered from private drinking water wells in the State

   Terry L. Pierce, Director
   Division of Environmental Health, DENR

10. Discussion of recent amendments to the nutrient offset payment rule (15A NCAC 02B .0240)

    Thomas A. Reeder, Chief
    Wetlands and Stormwater Branch, Surface Water Quality Section, Division of Water Quality, DENR

    Lisa D. Martin, Director of Regulatory Affairs
    North Carolina Home Builders Association

11. Discussion of the approval of plans for land-disturbing activity along waters that have been classified as trout waters by the EMC (G.S. 113A-57(1))

    Mary Penny Thompson, General Counsel
    Office of the Secretary, DENR

12. Overview of potential legislative proposals for consideration by the Environmental Review Commission for recommendation to the 2006 Regular Session of the 2005 General Assembly

    George F. Givens, Commission Counsel

13. Commission discussion and announcements

14. Adjourn

SCHEDULE OF FUTURE MEETINGS:

Please Note: The ERC will not meet on Monday 8 May 2006 as previously scheduled.

The ERC will tentatively meet in the late afternoon on Monday 15 May 2006 to consider legislative proposals for recommendation to the 2006 Regular Session of the General Assembly. Notice of the specific time and location of the meeting, or of an alternate meeting date if necessary, will distributed by email and as provided below.

The Commission may also meet at other times while the General Assembly is in session (G.S. 120-70.44). When the Commission meets while the General Assembly is in session, written notice will not be mailed to persons on the mailing list. Rather, notice will be given at a session of the Senate and House of Representatives as provided by G.S. 143-318.12(b) and will be distributed by email, if possible. The Commission will resume a schedule of regular monthly meetings following adjournment of the 2006 Session of the General Assembly.

OTHER MEETINGS:

The Commission Counsel will hold meetings of interested parties on specific topics as indicated below:

Phase II Stormwater Management Working Group
10:00 a.m. Monday 8 May 2006 – 605 Legislative Office Building

Risk-Based/Limit Liability for Environmental Cleanups Working Group
2:00 p.m. Monday 15 May 2006 – 605 Legislative Office Building

ADDITIONAL INFORMATION:

Persons having questions about the Commission meeting or other matters related to the Commission may contact Commission Counsel or other Commission staff at (919) 733-2578.

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — May 3, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Evan Kane	DENR - DWQ Aquifer Protection Section 1636 Mail Service Center 27699-1636
Sheila Holman	NC DENR / Division of Air Quality
Patricia Butler	NCDENR - Div of Air Quality
Tom Bean	NLED, NCLF
Preston Howard	NCIC
Mike Abraczinskas	NCDENR - Division of Air Quality
Connie Brower	NCDENR - Div of Water Quality
Christine Wunsche	Environment North Carolina
George Kapetanakis	NCDOT Office of Beautification
Helen Lanai	" " "
Laura Boothe	NCDENR - Div. of Air Quality

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — May 3, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Victoria Chandler	NC Division of Air Quality
John L. Neal	NCSLPH - Public Health
Phyllis D. Jones	NC Division of Air Quality
Pat Bello	NCDENR
Liz Cannon	NC Division of Waste Management
Lisa Martin	NC Home Builders Assoc.
Warren Atchison	Clayton
Ruby Atchison	Clayton
Dexter Matthews	NC Division of Waste Mangement
Michael L. Douglas	NCDENR/PWSS/RRO
Michael A. Hicks	NCDENR/PWSS/RRO

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — May 3, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Jessica Miles	DENR Public Water Supply
DAREN BAKST	John Locke Foundation
David Williams	DENR- DSWC
Tommy Stevens	NCPC
Erin Kemrey	NCEN
K. Hawkins	Progress Energy
Colleen Kachmarek	Smith Moore
Denise Chong	Environmental Defense
Kathryn Eggers	Environmental Defense
ERIN PRESTON	NCPPA
Elizabeth Dalton	NCRMA

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — May 3, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Bill Pate	NC DHHS
Henry Jones	Attorney Raleigh
Jennifer Bumgarner	Governor's office
Gardner Payne	Edmisten & Webb
Mary Wilder	Director, DSWC - DENR
Jim Holman	CWMTF
Greg Dana	Auto Alliance
Judy Bolin	NC Biz Sweep
Anita Watkins	NCLM
Lin Hilland	NCLM

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — May 3, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Mary Penny Thompson	NC DENR, Raleigh
Steve Wall	DENR
Beverly Hall	Radiation Protection Sec.
J Robinsladen	DENR/DEH/Rad. Protection
George Everett	Duke Energy Carolinas
Beth Warren	AG's Office
PATRICK BUFFKIN	ALLEY ASSOC, INC
Hope Taylor-Guevara	Clean Water for NC, Inc.

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — May 3, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Doug Lassiter	NCSTA
[signature]	Bowe & Assoc
Don Lee	NCDOT
Lisa Glaser	NCAGO/DOT
Jeff Mixon	Civitas
Don Reuter	DENR DAQ
Tim Maloney	HBA of Raleigh-Wake County

EXHIBIT D

REPORT TO THE ENVIRONMENTAL REVIEW
COMMISSION ON ENVIRONMENTAL MANAGEMENT
COMMISSION ACTIVITIES

Second and Third Quarters 2005-2006

Agenda Item: Hearing Officer's Report on Banking and Trading of Emission Reduction Credits Rules and Air Toxic Rules

Agenda Item: Hearing Officer's Report on Various Air Quality Rules

Agenda Item: Request to Proceed to Public Hearing on Clean Air Interstate Rules

Nitrogen oxides

1. annual : 62,183 tons for 2009-2014 and 51,819 tons for 2015 and each year thereafter;
2. ozone season : 28,392 tons for 2009-2014 and 23,660 tons for 2015 and each year thereafter;
3. annual SO_2: 137,341 tons for 2010-2014 and 96,319 tons for 2015 and each year thereafter.

Agenda Item: 05-33 Request for Permission to take Draft Water Conservation Rules to Public Hearing

Agenda Item: Request for Approval of the Final Cape Fear River Basinwide Water Quality Plan

Agenda Item: Request for Approval of the Final New River Basinwide Water Quality Plan

Agenda Item: 05-38 Hearing Officer's Report on Amending Rule 15A NCAC 2L .0115(c), (n) and (o) (Risk-Based Assessment and Corrective Action for Petroleum Underground Storage Tanks).

Agenda Item: Request to Proceed to Public Hearing with the Proposed Reclassification of the Entire Watersheds of All Creeks that Drain to the North Shore of Fontana Lake Between Eagle and Forney Creeks (including Eagle and Forney Creeks) in Swain County (Little Tennessee River Basin) and Request for Waiver of the EMC's 30-day By-laws Rule

Agenda Item: Annual Progress Reports on the Tar-Pamlico and Neuse Agriculture Rules

Agenda Item : 05-45 Request to Proceed to Public Notice and Hearing with Proposed Rules for the Universal Stormwater Management Program (USMP)

Agenda Item: Request to Proceed to Public Hearing on Best Available Retrofit Technology Rule

Agenda item: Request to Proceed to Public Hearing on Amendments to Various Air Quality Rules

Agenda Item: Request to Proceed to Public Hearing on Clean Air Mercury Rules

Agenda Item: Request to Proceed to Public Hearing with the Proposed Reclassifications for the North Fork First Broad River in Rutherford County (Broad River Basin) to Class Outstanding Resource Waters (ORW), and Two Segments of the Broad River in Cleveland, Polk, and Rutherford Counties (Broad River Basin) to Class Water Supply IV (WS-IV) and WS-IV CA (Critical Area)

Agenda Item: City of High Point Special Order by Consent Hearing Officers Report and Recommendation

Agenda Item: Request for Approval of Reports to the Environmental Review Commission in Accordance with Senate Bill 981

Agenda Item : Request to Proceed to Public Hearing with Proposed Amendments to Surface Water Quality Standards in Accordance with the Clean Water Act 2004-2006 Triennial Review

Agenda Item:

Request to Proceed to Public Hearing with a Proposed Trout Reclassification of a Portion of the Catawba River in Burke County

Agenda Item: Request for an Interpretive Ruling to Clarify a Component of the Stormwater Rules and Session Law 2004-163

EXHIBIT E

Emission Caps with Clean Smokestack Act and Clean Air Interstate Rule

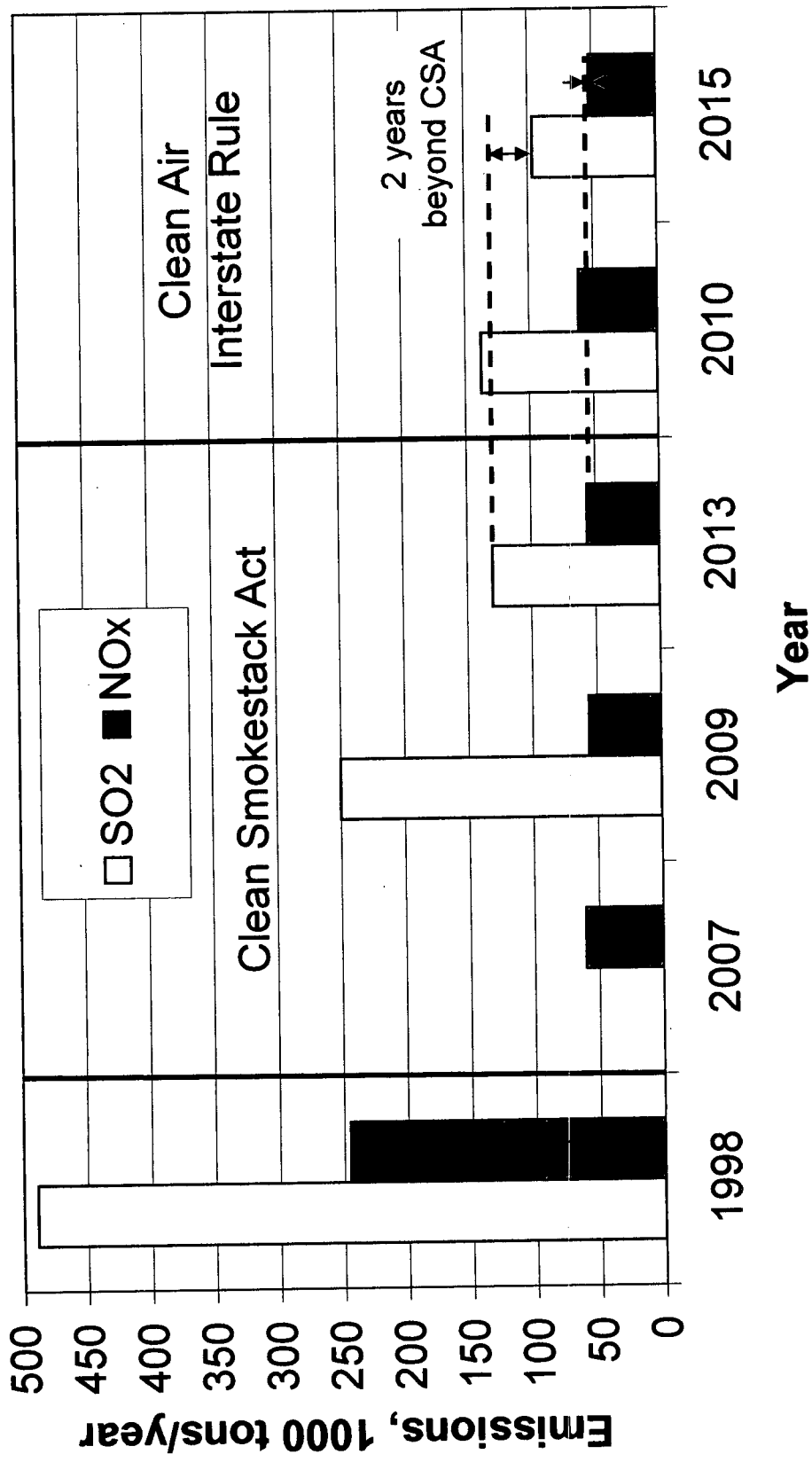


Table 4. Selected Special Purpose Districts in Metropolitan Areas

Organization	Service Area	Services	Year Created	Governance
East Bay Municipal Utility District	parts of Alemeda and Contra Costa Counties	WS,S, CSO	1921	7-member elected board
Louisville and Jefferson County Sewer District		S, CSO		
Metro. St. Louis Sewer District	St. Louis and St. Louis County		1954	appointed board; 3 by city; 3 by county
Mass. Water Resource Authority		WS,S CSO	1985	
Milwaukee Metro. Sewer District	Milwaukee and 28 other cities, most of Milwaukee Co. and 10 cities in other counties			11 member appointed commission
Water Reclamation District of Greater Chicago	Chicago and 124 suburban communities, mostly in Cook County	S, CSO	1889	9-member elected board
Allegheny County Sanitary Authority	Pittsburgh and 82 cities in Allegheny County	S,CSO	1946	7-member appointed board

References

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Hemmens, George C. and Janet McBride, 1993. *"Planning and Development in the Chicago Region",* in Donald W. Rothblatt and Andrew Sancton (eds), *American/Canadian Metropolitan Intergovernmental Governance Perspectives,* Institute of Government Studies Press, University of California, Berkeley, CA.

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Rusk, David. 1995. *Cities Without Suburbs,* Woodrow Wilson Center Press (distributed by Johns Hopkins Press), Washington, D.C.

Rusk, David. 2000. "Growth Management: The Core Regional Issue", in Bruce Katz (ed), *Reflections on Regionalism,* Brookings Institution Press, pp 78-106.

EXHIBIT F

2005

North Carolina Interagency Report

On

Litter Cleanup, Education/Prevention and Enforcement

This report provides statistics for the year 2005.

March 4, 2006

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Litter Report 2005

This report is prepared pursuant to Session Law 2001-512, Sections 9 and 10[1] and provides information describing the outcome of North Carolina's 2005 anti-litter campaign.

The state's 2005-litter prevention campaign brings together three components:

- Litter cleanup
- Education/prevention
- Enforcement

Executive Summary

At the beginning of 2005, North Carolina had 78,844 road miles of which the North Carolina Department of Transportation maintained. That's an increase of 229 state maintained miles versus that of 78,615 miles in 2004. In 2005 as in previous years, the state experienced severe weather from Hurricane Ophelia, which negatively impacted litter cleanups in eastern counties of North Carolina, and Hurricane Katrina, which brought fuel shortages that limited government vehicle usage.

In 2005, more than 10.2 million pounds of roadway litter were removed from 171,345 shoulder miles. This amount does not include items such as automobile components, construction and other miscellaneous debris that are too large or too heavy to fit into the trash bags. The expenditures associated with roadside litter cleanup were more than $16.3 million.

The NCDOT, its Office of Beautification Programs and other state agencies collectively supported statewide anti-litter initiatives. The other agencies include the Departments of Correction, Crime Control and Public Safety, and Environmental and Natural Resources.

Anti-litter education/prevention activities continued. The Office of Beautification Programs promoted and supported litter prevention projects through various channels. These channels are enhancements to its Internet homepage, participation on various statewide organizational boards, promoting anti-litter information at conferences and the N.C. State Fair, and providing anti-litter promotional items to a multitude of local organizations. It also aired an anti-litter radio campaign through the North Carolina News Network during February and March of 2005.

The number of charges for littering violations increased from the previous year. A 2005 recap from the Administrative Office the Courts shows the number of charges and convictions by offense code, by county and by law enforcement agency. In addition, the Conference of the District Court Judges continued to provide an alternative to first time offenders charged with littering of less than 15 pounds. This alternative allows first time offenders a means of waiving a court appearance by paying a fine. This was adopted by the Conference of Chief District Court Judges on Sep. 29, 2004 and applied to any new offenses as of Dec. 1, 2004.

[1] See Attachment A - page 36

Statewide Roadside Litter Cleanup 2005

North Carolina Department of Transportation

The North Carolina Department of Transportation maintains 78,844 state roadway miles. It has built relationships with other agencies, local governments, citizen volunteers and other organizations/industries in order to provide safe, environmentally sound and aesthetically clean roadsides. Examples include the Adopt-A-Highway program volunteers, an alliance with the Department of Correction, participating on organizational boards such as N.C. Keep America Beautiful, Inc., N.C. Big Sweep and working with the N.C. Soft Drink Association.

NCDOT Adopt-A-Highway Program

The NCDOT through its Office of Beautification Programs continues to administer the AAH program. Citizens of North Carolina continued to support local roadside litter cleanup by adopting a two-mile stretch of roadside and volunteering their time to pick up litter. It's a partnership endeavor between community volunteers and the NCDOT. The volunteers are primarily made up of individuals and school, civic, business, professional, religious and social groups.

The AAH program is a fine example of state government working with citizens to improve the cleanliness of roadsides across North Carolina. To assist with the local AAH roadside adoption, the NCDOT has 58 AAH Coordinators who oversee the adoption process within their assigned counties. The program cost $280,045 in 2005 versus $351,875 in 2004. This cost includes items for administration, sign installation/removal, bag retrieval and other miscellaneous cleanup supplies, i.e. bags, gloves and safety vests. There were 6,921 man-hours charged to this program.

In 2005, the AAH program continued to have some 6,000 groups who had adopted approximately 12,000 roadside miles. The volunteer cleanup efforts of the AAH program saved the state's taxpayers more than $3.8 million dollars in cleanup costs in 2005, and over the last three years, the AAH program has provided cumulative savings of more than $11 million dollars in roadside litter removal costs.

Annual Comparison of AAH program Taxpayer Savings:

	Hours Worked	Cleanup Cost Savings
2005	362,080	$3.8 million
2004	388,064	$4.2 million
2003	326,776	$3.2 million

When it comes to the amount of litter collected, the actual pounds are higher than what was reported by AAH groups. As mentioned previously, some litter is not accounted for because it is too large or too heavy to fit into the bags.

Annual Comparison of the amount of litter collected through the AAH program:

Year	Total Pounds Collected Statewide by Adopt-A-Highway Groups
2005	3,677,440
2004	3,795,040
2003	3,649,360

Of the 3.7 million pounds collected, the AAH groups recycled 248,320 pounds as follows: 81,960 lbs. of metal, 81,760 lbs. of glass and 84,400 lbs. of plastic.

The NCDOT also sponsored Litter Sweep, its biannual roadside litter cleanup. Litter Sweep is typically held the last two weeks of April and September. Volunteers on a statewide basis are asked to contribute their time for roadside litter removal. During Litter Sweep, the NCDOT provides volunteers safety vests, gloves and bags for roadside litter cleanups. It also provides additional manpower for litter cleanup as well as picking up filled bags for immediate disposal.

NCDOT and Department of Correction

As in previous years, the NCDOT alliance with the DOC is critical in keeping roadside litter to a minimum on many heavily traveled routes throughout the state. This alliance makes it possible to have 1,360 inmates performing litter pick up on a daily basis (weather permitting). Here is the breakdown and description of the inmate crews:

104 Medium Custody Eight-man Road Squads

- Armed DOC staff is required to supervise these inmates (two officers to eight inmates).
- NCDOT total cost of DOC for medium custody inmate labor was $10,000,000. Approximately 82% of all medium custody inmate labor were spent on litter pick-up.
- An additional $77,347 was expended for support cost related to working with DOC officers on work assignments.

66 Minimum Custody Highway Work Crews.

- Correctional officers supervised minimum custody inmates (one officer per eight inmates).
- Assigned primary responsibility for removing litter from major highways statewide.
- The labor cost for these crews is $1,300,000 that the NCDOT transfers to the DOC.

Minimum Custody Road Squads

- NCDOT staff, trained by the DOC, supervised minimum custody inmates.
- Inmate labor was billed at $1 per day per inmate for litter cleanup. In 2005 there were 17,082 man-days at a charge of $17,082.
- NCDOT spent and additional $220,140 for support - supervision and transportation costs.

117 Governor's Community Work Program (CWP) crews.

- Through this program, a correction officer supervises a crew of up to 10 minimum-custody inmates on short-term, manual labor projects for local governments and state agencies.
- These crews are dedicated to litter pick up during Litter Sweep.
- There is no charge for this labor.

During the 2005 spring and fall Litter Sweeps, the NCDOT picked up 691,065 pounds of litter versus 491,805 pounds in 2004, and expended approximately 26,105 man-days of its employees and inmates

for picking up litter on 19,065 highway miles. The amount of litter picked up during the 2005 spring and fall Litter Sweeps by the DOC inmates was 2,262,585 pounds versus 2,421,915 pounds in 2004. Fuel shortage prevented litter pickup after Hurricane Katrina for six weeks.

NCDOT and DOC Inmate Litter Sweep Roadside Cleanup Comparison:

Year	Pounds Collected
2005	2,953,650
2004	2,913,720
2003	2,579,091

Community Service Work Programs Litter Control Efforts, Calendar Year 2005

The Community Service Work Program was established as a grant funded initiative in the early 1980's. During 1983 it was established as a program through the Safe Roads Act. Effective January 2002, CSWP was transferred from the Department of Crime Control and Public Safety to the Division of Community Corrections through legislative action. CSWP is a separate program from the Division of Prisons inmate work crews. Offenders in CSWP are not incarcerated but are ordered to perform community service work hours as a condition of either supervised or unsupervised probation, depending on the criminal offense committed and history of the offender.

DCC community service coordinators place offenders at government or non-profit agencies within the local community to perform work needed by the agency. During 2005, there were 3,700 agencies statewide that maintained agreements with the community service staff to place offenders, and have their information entered into the new CSWP automated system for information and records. Many of the agencies focus on litter control or participate in the NCDOT Litter Sweep. Offenders perform a variety of work, including general labor, skilled labor, clerical, and professional level assignments.

For calendar year 2005, there were approximately 179,309 hours worked. There was 3,227,565 pounds of litter removed. Approximately 11% of the general labor work hours were focused on litter control efforts.

CSWP Annual Roadside Litter Cleanup Comparison:

Year	Pounds Collected
2005	3,227,565
2004	3,026,730
2003	3,222,675

The DOC inmate crews and the CSWP litter pickups are performed separately and independently of one another. The pounds of litter reported above represent the litter pick up efforts of each separately.

2005 Roadside Litter Pick Up Summary - NCDOT, AAH, DOC and CSWP

Roadside Litter Cleanup Recap and Comparison:

Departments and Other Groups	Pounds of Litter Picked Up by Year		
	2005	2004	2003
NCDOT *	691,065	491,805	455,490
DOC *	2,262,585	2,421,915	2,123,601
CSWP**	3,227,565	3,026,730	3,222,675
AAH**	3,677,440	3,795,040	3,649,360
Other volunteers *	365,280	400,620	382,590
Sum of Pounds	10,223,935	10,136,110	9,833,716

* Litter Sweep (only) litter pick up amount
**Annual litter pick up amount

NCDOT 2005 Disbursements:

NCDOT Disbursement Recap By Year			
	2005	2004	2003
NCDOT Employees	$4,457,575	$3,410,517	$3,328,699
Adopt-A-Highway	$280,045	351,875	293,357
DOC (Medium and Minimum Custody Inmates)	11,614,569	11,471,856	10,289,129
Disbursement by year:	$16,352,189	$15,234,258	$13,911,185

Department Of Environmental and Natural Resources

Division of Parks and Recreation 2005 Litter Cleanup Summary

Summary Statement: During 2005, most of the state parks hosted some type of litter cleanup. More than 2,300 bags of trash along with large items such as tires and appliances were collected from roadsides, trails and waterways in or near state parks. Estimated weight of all litter collected in 2005 is more than 60 tons.

Merchants Millpond and New River State Parks received grants this period that provided funding to greatly expand their litter cleanups. As a result, 19 tons were removed from property surrounding Merchants Millpond and 13 tons from the banks of the New River and its tributaries.

Litter Cleanup Efforts – Total for the Year of 2005

Park Name	Dates of Litter Pickups	# of Volunteers and/or Staff	# of Bags, or # of Man-Hours	# of Pounds	Other
Carolina Beach	10-01-05 11-12-05 12-18-05 12-20-05 various other dates	11 volunteers 7 volunteers 1 staff 3 staff 8 CSWs	12 bags 7 bags 2 bags 9 bags 20 bags		
Cliffs of Neuse	Total for Jan-June Total for July-Dec.	volunteers and CSWs volunteers and CSWs	10 bags 12 bags		Gave 7 programs on litter/pollution
Crowders Mountain	Each weekend	2 seasonal staff; 2 CSWs; various park volunteers	415 bags of roadside litter for the period		Instituted new litter control program at trail heads
Dismal Swamp	No activity this period				
Elk Knob	July – Dec 2005	4 staff and volunteers	40 bags	4,720 lbs	
Eno River	10-01-05 (Clean Sweep) Various dates	23 volunteers 3 staff	9 bags; 80 hours ----------	---------- 2,000 lbs est.	
Falls Lake	Various Dates	One volunteer picked up trash all over the park and went to the dump on his own.		Estimated weight is 300 lbs for the period.	
Fort Fisher	Weekly litter pickups	CSWs and staff	110 bags for 2005		
Fort Macon	No activity reported				
Goose Creek	1-29-05 4-10-05 4-30-05 6-17-05 8-26-05 10-20-05 11-19-05	3 volunteers 6 volunteers 15 volunteers 41 volunteers 1 volunteer 2 volunteers 12 volunteers	1 bag 1 bag 32 bags 2 bags 1 bag 2 bags 29 bags; 1 tire	Not weighed	Gave 4 programs this period on recycling and pollution

Litter Cleanup Efforts – Total for the Year of 2005

Park Name	Dates of Litter Pickups	# of Volunteers and/or Staff	# of Bags, or # of Man-Hours	# of Pounds	Other
Gorges	Jan. 24-27, 2005 March 28 & 29, 2005 May 7 & 14	8 inmates 12 inmates CSWs	200 bags of trash for this period	+ furniture, appliances, construction trash, etc.	
Hammocks Beach	06-04-05 9-15 to 10-02-05	14 volunteers 10 staff; 4 seasons	56 man-hours 441 man-hours	Estimated 1,200 lbs 4 tons estim.	Huggins Island cleanup with NC Coastal Fed. Hurricane Ophelia cleanup
Hanging Rock	4-16-05 06-07-05 various dates July – Dec 2005	22 REI volunteers 15 students Junior Rangers, others Staff & 6 volunteers	20 bags 5 bags 10 bags 110 bags	+ 2,000 lbs and other larger items not weighed	
Jockey's Ridge	05-04-05 and various other dates during Hurricane season	5 staff and 14 inmates	35 bags total	+ 2,500 lbs of floating debris	Gave "Recycled Regatta" programs using the trash
Jones Lake	1-12-05 2-20-05 2-26-05 3-25-05 3-26-05 5-08-05 various dates July-Dec.	One CSW (community service worker) on each date Park staff	5 bags 3 bags 2 bags 9 bags 4 bags 4 bags 6 bags		
Jordan Lake	4-16-05 4-22-05 May 05 6-11-05 8-19-05 10-10-05 10-22-05 11-26-05 12-28-05	Park volunteers	15 bags; 4 tires 12 bags; 2 buoys 10 bags 27 bags 8 bags; 3 tires 5 bags; 1 tire 2 bags 6 bags & other 2 bags		Cleanups were held at Parkers Crk, New Hope, Seaforth, Ebenzer and Haw River
Kerr Lake	10-01-05 (Clean Swp)	67 volunteers	38 bags	760 lbs est.	Satterwhite Point & Bullocksville
Lake James	Total for period	BRIDGE and park staff	100 bags		Cleanup of newly acquired shoreline area
Lake Norman	Weekly pickups	CSWs and staff	100 bags; 50 man-hours	150 lbs estimated	

Litter Cleanup Efforts – Total for the Year of 2005

Park Name	Dates of Litter Pickups	# of Volunteers and/or Staff	# of Bags, or # of Man-Hours	# of Pounds	Other
Lake Waccamaw	2-19-05 3-29-05 4-23-05 weekly 8-26-05 10-01-05 10-15-05	UNCW volunteers CSW Boy Scout Project Staff 14 scouts 95 Clean Sweep vol. 12 UNC-W volunteers	15 bags 6 bags 5 bags 4 bags 16 bags 42 bags 15 bags		Gave 10 ed. programs on how litter affects water quality
Lumber River	04-12-05 05-10-05 06-18-05 9-15-05 10-03-05 (Clean Sweep) 12-10-05	Staff and volunteers 64 volunteers	12 bags 8 bags 11 bags 2 bags 225 bags 3 bags	200 lbs 120 lbs 165 lbs 40 lbs 4,500 lbs 60 lbs	
Merchants Millpond	Total for Jan-June 2005 Total for July-Dec 2005	Inmates, CSWs, volunteers, staff Volunteers & CSWs	50 bags 25 bags	19.06 tons of tires, car parts, & appliances 350 lbs	Received grant from Waste Mgmt to clean up newly acquired property and 2 recycling bins.
Medoc Mountain	01-12-05 03-09-05 03-16-05 03-19-05 04-09-05 04-07-05 04-15-05 04-21-05 10-28-05 10-30-05	2 volunteers 1 CSW 1 CSW 1 CSW 1 CSW 1 CSW 1 CSW 1 CSW 2 volunteers 2 volunteers	11 bags 7 bags 8 bags 4 bags 5 bags 9 bags 5 bags 10 bags 4 bags 2 bags		
Morrow Mountain	Total for period	12 staff, 23 seasonals and several CSWs	300 man-hours	150 lbs	
Mt. Jefferson and New River	15 days each month from Jan-June 2005 Clean Sweep, Oct 05	National Emergency Grant Program workers 134 volunteers	1,000 man-hours 536 hours	25,400 lbs 5.5 tons plus 149 tires	Removed litter from riverbanks. Also put up wayside exhibit on litter. 33 miles of river were cleaned up.
Mount Mitchell	Various dates	Seasonal workers	20 bags		
Pettigrew	Various dates	Park staff	Not counted	9,390 lbs of metal recycled from roadside debris	Presented two ed. programs on recycling, reaching 300 students.
Pilot Mountain	Various dates --- totals for the period	CSWs Volunteers Staff	44 bags 10 bags 43 bags	Not weighed	

Litter Cleanup Efforts – Total for the Year of 2005					
Park Name	**Dates of Litter Pickups**	**# of Volunteers and/or Staff**	**# of Bags, or # of Man-Hours**	**# of Pounds**	**Other**
Raven Rock	No activity reported				
Singletary Lake	06-16-05	7 volunteers	12 bags	Not weighed	
South Mountains	January 15, 2005 February 12, 2005 March 26, 2005 April 28, 2005 April 29, 2005 July-Dec, 2005	1 volunteer 1 staff 6 volunteers & 2 staff Bridge crew; 1 staff Bridge crew; 1 staff Staff members	3 bags 5 bags 2 truck loads 1 truck load 1 truck load 9 bags	 2,360 lbs 1,600 lbs 1,600 lbs 	
Stone Mountain	Various dates	Park staff & volunteers	140 bags	1,600 lbs est.	
Weymouth Woods	04-16-05 04-19-05 05-04-05 05-15-05 05-24-05 06-04-05 06-05-05 07-12-05 07-13-05 10-22-05 11-12-05 11-13-05 11-26-05 12-17-05	1 CSW 1 CSW 1 CSW 1 CSW 1 CSW Park staff Volunteers 1 CSW 1 CSW 1 CSW 1 CSW 1 CSW 1 CSW 2 CSWs	3 bags 5 bags 6 bags 6 bags 3 bags 6 bags 6 bags 2 bags 2 bags 5 bags 4 bags 5 bags 3 bags 6 bags		
William B. Umstead	03-21-05 06-04-05	10 volunteers 1 seasonal staff	6 bags 3 bags	55 lbs 40 lbs	

The above information describes the Division of Parks and Recreation litter cleanup efforts in 2005. Estimated weight of all litter collected in 2005 is more than 60 tons. During 2004, approximately 200 litter cleanups were held across the state park system, beyond the normal daily maintenance carried out by staff, versus 120 litter cleanups in 2003. A total of 20,000 pounds of trash was collected in 2004 versus 17,500 pounds in 2003.

2005 N.C. State Parks Recycling Report

Park	# of Sites	Site Location	Aluminum	Plastic	Glass	Paper	Other	(#lbs) Collected	Revenue Generated	(Total) Expense
Carolina Beach	26	Maintenance Area I, Visitor Center, Campground 15, Picnic Area 3, Marina I, Parking Lots 5	300	0	0	0	42 cu yd	300	$0.00	$0.00
Cliffs of the Neuse	4	Campground, Lake Area, Picnic Area, Concessions	220	115	210	325	34,536	35,406	$219.81	$1,048.46
Crowders Mountain	6	Linwood Road Access, Main Trailhead, Park Facilities and Projects, Lake Area, Picnic Areas #1 & #2	108	415	218	297	1,000	2,038	$0.00	$0.00
Eno River	1	Few's Ford	229	487	1,955	332	0	3,003	$0.00	$0.00
Falls Lake	15	Hwy 50 Boat Launch, Sandling Beach, Beaverdam, Holly Point Campground, Shinleaf Prim. Campground, Rollingview, BW Wells	0	0	0	0		0	$0.00	$0.00
Fort Fisher	1	Refreshment Stand	150	25	0	400	0	575	$0.00	$0.00
Fort Macon	0	N/A	0	0	0	0	0	0	$0.00	$0.00
Goose Creek	10	Picnic Area 2, Campground #2, Park Shop I, Environmental Ed/VC 4, Dinah's Landing Access 1	200	90	35	140	0	465	$0.00	$0.00
Gorges	3	Park Office, Highway 281 Access Area, Frozen Creek Access Area	120	240	330	1,020	1,710	3,420	$0.00	$0.00
Hammocks Beach	4	Visitor Center, Island Waiting Station, Staff Kitchen, Beach Front Island Gazebo	440	95	0	55		590	$0.00	$20.00
Hanging Rock	6	Campground, Parking Areas, Picnic Areas, Park Maintenance Facilities, Group Camp, Lake Area	292	250	300	0	0	842	$135.60	$45/gas, $500/staff time
Jockey's Ridge	2	Picnic Area, Maintenance Shop	325	175	335	216	0	1,051	$0.00	$0.00
Jones Lake	3	Visitor Center	115	80	0	35	35	265	$0.00	$0.00
		Picnic Area	55	35	0	0	0	90	$0.00	$0.00
		Shop Area	70	0	0	0	0	70	$0.00	$0.00
Jordan Lake	17	Boat Ramps, Picnic Areas, Park Office, Campgrounds, Maintenance Area	612	323	25	2300	50	3,310	$0.00	$2,147.40
Kerr Lake	8	All areas	70	50	200	0	0	320	$0.00	$0.00
Lake James	1	Day Use Area (Office, Restroom, Concession Stand)	36	19	0	61	72	188	$0.00	$0.00
Lake Norman	2	Swimming Area, Campground	0	180	200	1700	609	2,689	$0.00	$0.00
Lake Waccamaw	0		15	10	0	110	0	135	$0.00	$0.00
			20	0	0	0	0	20	$0.00	$0.00
Lumber River	1	Princess Anne	175	40	0	500	0	715	$0.00	$0.00

2005 N.C. State Parks Recycling Report										
Park	**# of Sites**	**Site Location**	**Aluminum**	**Plastic**	**Glass**	**Paper**	**Other**	**(#lbs) Collected**	**Revenue Generated**	**(Total) Expense**
Medoc Mountain	3	Picnic Area, Park Office, Campground	60	0	0	0	0	60	$0.00	$0.00
Merchants Millpond	5	Family Campground, Picnic Area, Canoe Area, Walk-in Group Sites, Shop	0	0	0	0	0	0	$0.00	$0.00
Morrow Mountain	8	Camp Loop A, B, & C Washhouses, Mtn. Top & Lower Picnic Areas, Boathouse & Boat Launch Areas, Office Area	75	25	0	20	500	620	$0.00	$0.00
Mount Mitchell	2	Summit Area, Personnel Barracks	0	0	0	0	0	0	$0.00	$0.00
Mount Jefferson/	6	MOJE	70	139	116	166	0	491	$0.00	$1,388.00
New River		NERI - US 221 Access	78	155	130	186	0	549	$0.00	$1,554.00
		NERI - Wagoner Road Access	75	150	126	180	0	531	$0.00	$1,499.00
		NERI - Alleghany Co Access	28	55	47	67	0	197	$0.00	$555.00
		NERI - Scenic Corridor	14	28	23	33	0	98	$0.00	$278.00
		NERI - King's Creek Access	14	28	23	33	0	98	$0.00	$278.00
Pettigrew	7	Picnic Area, Campground, Cypress Point restrooms, Cypress Point Pier, Boat Ramp, Brumsey Woods, Bee Tree Overlook	200	0	0	0	9,390	9,590	$0.00	$0.00
Pilot Mountain	4	Picnic Areas 2	200	250	400	0	0	850	$0.00	$337.53
		Comfort Station 1	140	100	200	0	0	440	$0.00	$174.75
		Family Campground 1	110	250	800	0	0	1,160	$0.00	$460.72
Raven Rock	3	Refreshment Stand, Picnic Area, Park Office	50	10	0	0	150	210	$0.00	$0.00
Singletary Lake	2	Ipecac, Loblolly	0	0	0	0	0	0	$0.00	$0.00
South Mountains	7	Shinney Creek Picnic Area	19	5	0	0	0	24	$0.00	$0.00
		Jacob Fork Picnic Area	175	200	50	0	0	425		
		Picnic Shelter	25	5	0	0	0	30		
		Park Office	75	50	10	500	0	635		
		Residences (3)	19	10	0	0	0	29		
Stone Mountain	4	Picnic Area	85	0	0	0	0	85	$0.00	$0.00
		Campground	110	0	0	0	0	110		
		Group Campground	40	0	0	0	0	40		
		Trail Head	50	0	0	0	0	50		

2005 N.C. State Parks Recycling Report										
Park	**# of Sites**	**Site Location**	**Aluminum**	**Plastic**	**Glass**	**Paper**	**Other**	**(#lbs) Collected**	**Revenue Generated**	**(Total) Expense**
Weymouth Woods	3	Visitor Center, Maintenance Area, Road Right of Way	250	350	500	1000	0	2,100	$0.00	$0.00
Wm. B. Umstead	13	Group Camps, Picnic Areas, Tent & Trailer, Residences	38	20	448	10	250	766	$0.00	$268.00
Yorkshire Center	1	Ground Floor	22	25	0	1320	330	1,697	$0.00	$0.00
		TOTALS	**5,574**	**4,484**	**6,681**	**11,006**	**48,632**	**76,377**	**$355.41**	**$10,008.86**

It should be noted that the category of Other Recycled is showing a large increase from last year. This is primarily due to the Cliffs of the Neuse State Park recycling of 15,020 pounds of scrap wood and 14,980 pounds of old wood fencing. The Cliffs of the Neuse State Park recycled a total of 35,406 pounds that includes the scrap wood and metal.

The Division of Parks and Recreation Recycling Recap:

Number of Pounds Recycled by Year			
Item	2005	2004	2003
Aluminum	5,574	5,913	5,343
Plastic	4,484	3,344	3,448
Glass	6,681	4,614	4,322
Metal			
Paper	11,006	9,250	5,350
Other	48,632	15,420	16,427
Totals	76,377	38,541	34,760

Other Statewide Litter Cleanups

North Carolina Big Sweep

North Carolina Big Sweep is a 501(c)(3) nonprofit organization whose mission is litter-free watersheds. Since its inception (19 years ago), it has recruited almost 220,000 Big Sweep volunteers who have retrieved more than 7.5 million pounds of debris from North Carolina's environment.

The 2005 fall cleanups posed a challenge with higher gas prices and travel restrictions. In addition, coastal counties that conducted their cleanups on the weekend after the statewide cleanup date had to deal with Hurricane Ophelia as it slowly trudged up North Carolina's coastline. In spite of these challenges, Big Sweep had more volunteers participate in 2005 than in the previous two years. Thirteen counties broke their all-time record for volunteer participation. These record-breaking counties were Columbus, Cumberland, Forsyth, Gaston, Greene, Henderson, Jackson, Nash, Orange, Pitt, Randolph, Rockingham, and Surry counties. Thirty-three other counties experienced an improvement in volunteer participation from the previous year. The results by county of the 2005 Big Sweep cleanups are shown below.

In addition to the cleanups in 2005, Big Sweep volunteers were out in their communities teaching children and adults about the harmful effects of littering. Some Big Sweep County Coordinators were able to have weekly columns in their local newspapers, which helped to keep the littering problems in the forefront of people's minds. Big Sweep educational exhibits were displayed at numerous festivals, conferences, and other events. A new bilingual *Splish Splash* teacher activity book about the harmful effects of marine debris was published and distributed statewide for teachers of kindergarten through third grades. More information can be found through its Web site at www.ncbigsweep.org.

N.C. Big Sweep's 2005 Litter Pickup Results

County	Sites	Volunteers	Miles	Tires	Bags	Pounds	Unusual Finds, Miscellaneous Comments
Alamance	3	64	3	31	68	1,980	Large chain, sleeper sofa, washing machine, air compressor, terminal box, fishing pole, pipes, dumbbell.
Alexander/ Catawba	7	90	8	7	350	33,000	Oct. 8. Steps, 1/2 ship's wheel, bowling pin, ornamental doll.
Alleghany/ Ashe	16	134	33	149	401	11,000	Sept.17.Water heaters, I-beam, gutters, siding, toolbox, tarps, range hood, bikes, wringer washing machine, road cones, 50gal.drums
Beaufort	1	9	0	0	3	60	
Bladen	1	2	1	0	3	150	
Brunswick	1	452	17	0	359	7,180	
Buncombe	1	84	12	50	37	735	
Burke	10	135	15	50	500	11,000	Sept. 17. Box springs, floating dock Styrofoam, grills, camper door, cooler, refrigerator doors, car axle.
Cabarrus	6	163	3	64	125	3,780	Bike, car jack, couch, grill, rebar, sliding bhoard, grill, engine, drum, lawn chairs.
Caldwell	16	276	38	32	596	10,446	Prison arm band, case of whipped topping, bag of okra, beach chair, underwear, railroad spikes, muffler, grill, 9 5-gal. drums, buckets, rug.
Camden	1	5	3		10	200	

County	Sites	Volunteers	Miles	Tires	Bags	Pounds	Unusual Finds, Miscellaneous Comments
Carteret	13	207	390	49	248	6,140	Oct. 8. Boat hatch, shovel, anchor, 3 beach chairs, boat lift, 5' wire, gas drum, fence, beach umbrella, 12 TVs, dredging pipe, grill.
Caswell	1	42	6	0	58	1,157	Oct. 8 and all month.
Chatham	5	32	5	4	25	600	Carpet, propane tank.
Cleveland	1	20	12	3	32	700	
Columbus	2	95	8	0	42	900	Large floats, wooden chair, plastic slide.
Craven	20	50	1				also having cleanup on OCT. 8. WCB Monday w/results
Cumberland	5	360	3	380	400	18,225	105 Shopping carts.
Currituck	2	20	17	0	20	200	
Dare	1	250	65	0	310	6,200	Lot of rope and seaweed.
Davie	3	60	3	1	29	600	
Duplin	1	60	1			52,780	Oct. 8
Durham	11	145	12		121	2,415	
Forsyth		2,343	1		1,309	47,725	Vacuum cleaner, wallet.
Franklin	2	15	2	1	32	660	Battery, sign, camera, umbrella, pliers, 2006 car registration card, dead possum and turtle, 2 metal posts, 2 large pieces of wood.
Gaston	1	1,058	80	150	823	19,660	Bathtub, inflatable pool, satellite dish, car seat, car stereo, part of a rifle, car doors, shopping cart.
Graham	5	32	5	4	137	2,820	Refrigerator, bedsprings, carpet, large bundle of wire.
Greene	4	49	3	0	28	560	
Guilford	11	292	16	9	204	4,400	Shopping carts, camping stove, refrigerator, lots of Styrofoam cups and construction material.
Halifax	2	3	4	10	25	700	
Harnett	3	40	4	2	60	760	Trailer tag.
Haywood	1	24	4	12	240	5,040	Sept. 17 lots of plastic and pallets. Even found kitchen sink.
Henderson	21	195	19	68	247	6,240	Chair, 2 car gas tanks, microwave, pink golf bag, baby stroller, 100 roof shingles, surf board, dishwasher, "a very strange doll".
Hyde	1	35	3	0	14	280	Skulls of various mammals and reptiles, empty turtle egg shells, Japanese hard hat.
Iredell	3	76	44	63	269	6,780	91 pieces of wood, 6 Styrofoam, plastic barrel, part of pier, crate, pallet, wooden box.
Jackson	1	625	14	6	20	600	Power supply unit, 2 chairs, looks like part of an airplane.
Johnston	2	15	1	0	22	425	
Jones	2	22	3	5	32	840	Cleanups all month long. 55 gal. drum of Mountain Dew, swing set, car hood, 10 used needles, bike.
Lee	4	93	12	6	60	1,800	Shopping cart, auto parts, signs, lead acid batteries, furniture.
Lenoir	1	19	2	2	51	1,020	Shopping carts, remote control, hubcaps, and bike rim.
Macon	1	8	1	0	54	1,080	
Martin	1	19	1	1	23	500	OCT. 8. Toilet seat, sprinkler, rake, chair.
McDowell	0	0	0	0	0	0	CANCELLED due to Governor's restriction on travel (uses inmate labor).
Mecklenburg	15	510	71	0	521	10,410	Aquarium, trashcan, terracotta pipe, Mickey Mouse watch.
Mitchell	1	33	6				

County	Sites	Volunteers	Miles	Tires	Bags	Pounds	Unusual Finds, Miscellaneous Comments
Moore	1	18	2	0	10	200	
Nash/Edgecombe	1	700	20		200	4,000	
New Hanover	10	357	30	0	388	7,760	
Northampton	1	10	2	0	13	260	
Onslow	28	301	81		518	10,360	Oct. 15; Nov. 5.
Orange	13	183	21	4	186	3,405	Shopping cart, umbrellas, clothes drying rack, mattress, lawn chair, wheel cover,30-gallon can, ride-on toys, wagon, ladder, moped, metal signs.
Pamlico	8	22	32	1	9	200	Cooler, whirly gig duck, 2 boat cushions, siding.
Person	1	37	1		23	460	
Pitt	7	633	7		894	5,870	
Polk	1	15	8	1	21	440	2x6, inner tube.
Randolph	12	181	12	20	196	5,585	Balloons, Christmas tree lights, antique metal tricycle, boat bottom, marble, lantern, bus backseat, wheelbarrow, pipe, metal toys, 55 gal. drum.
Richmond	1	28	5	6	72	1,440	Chairs, TVs, fish netting.
Robeson	1	64	5	25	225	4,500	Grocery carts, park rules sign.
Rockingham	64	1,179	300	210	1,924	52,000	CLEANUPS ALL MONTH. 45 # ceramic insulation for high-tension wires, toupee, chamber pot with holes in it, 300 lbs rebar.
Rowan	1	45	5	15	172	3,740	Nov. 5.
Rutherford	9	92	44	101	89	3,950	Sept. 24. Refrigerator, washing machine, ironing board, sheet metal, construction wood, lawn chairs, door.
Sampson	1	8	2	1	8	180	
Scotland	5	65	5	4	125	2,580	
Stanly	7	46	14	8	61	1,500	Chairs, gas mask, long planks of wood, metal sawhorse.
Stokes	1	650	58	63	1,537	32,000	Skeleton of pony, kiddy pool, porta john, hot water heater, desk, inner tubes.
Surry	12	77	38	7	146	3,060	Furniture, car parts, dead deer.
Swain	1	6	1				
Transylvania	1	65	1				
Tyrrell	1	10	3	0	10	200	Salt treated lumber.
Union	2	8	2	0	8	160	Lots of pieces of wood, Styrofoam bait cups.
Vance	2	67	3	0	38	760	Loveseat, hot water heater, box fans, lawnchair, mop bucket, Xmas decoration, 2 inflatable rafts.
Wake	26	443	47	47	556	15,385	New fishing lures, working waterproof watch, car fender, mattresses, fishnet, and toothpaste, foam pier float, full Gurkin pickle.
Watauga/ Avery	2	87	1		90	1,800	Sept. 17. More cleanups in two weeks.
Wayne	14	282	10	0	95	1,200	Shopping cart, most of a golf cart, ironing board, construction supplies.
Wilkes	1	153	1		100	2,000	Oct. 8
Wilson	4	67	4	1	34	750	Frog released alive. Street sign, 2 bike frames, traffic cone.
Yadkin	1	8	2	2	6	160	Oct. 8
05 TOTALS	**450**	**14,168**	**1,714**	**1,675**	**15,662**	**447,653**	

There is no data for Anson, Bertie, Buncombe, Chowan Clay, Granville, Hertford, Hoke, Lincoln, Madison, Montgomery, Pasquotank, Pender, Perquimans, Warren, Washington and Yancey Counties.

North Carolina Keep America Beautiful

North Carolina Keep America Beautiful, Inc. is a nonprofit public education organization dedicated to enhancing the natural beauty of North Carolina communities, improving waste handling practices and empowering individuals to take greater responsibility for improving community environments. N.C. KAB is comprised of local, independent affiliates located in communities all across North Carolina.

The N.C. KAB Affiliates participated in the 2005 Great American Cleanup™. This annual cleanup runs from March to the end of May. The volunteers worked on a number of projects such as picking up litter, removing debris, used tires, abandoned mobile homes and junk cars, eliminating illegal dumps, restoring playgrounds and planting trees, flowers and bulbs. There were 42,905 volunteers that expended more than 92,593 hours in these various initiatives, and overall saved the state's taxpayers in equivalent labor costs through all their volunteer efforts. The reported amount of litter picked up during their N.C. Great American Cleanup was 1,033,574 pounds.

Volunteers by N.C. KAB Affiliate - All Projects:

Affiliate City/County	Volunteers*	Hours*	Pounds Collected:
Belmont	136	272	6,000
Bladen	125	375	800
Brunswick	1,115	2,228	28,180
Buncombe	150	600	5,000
Charlotte	308	1,305	10,450
Durham	157	198	1,120
Duplin	132	296	144,840
Franklin	50	222	4,350
Gastonia	562	2,875	18,200
High Point	158	36	66,641
Iredell	1,000	2,500	150,000
Laurinburg	72	200	1,760
McDowell	2,650	4,200	22,300
Mecklenburg	1,500	3,750	67,500
Moore	1,673	2,312	60,180
Nash	682	721	13,640
New Hanover	5,384	11,122	284,000
Onslow	2,372	9,488	7,041
Pasquotank	6	5	1,200
Shelby	134	459	2,880
Wake	5,449	9,950	70,756
Wayne	200	480	10,540
Winston	18,890	39,000	56,196
Total	42,905	92,593	1,033,574

* For all projects

Anti-Litter Education/Prevention – 2005

Department of Environmental and Natural Resources

Division of Pollution Prevention and Environmental Assistance

In the summer of 2005, DPPEA rolled out a new campaign called RE3 to increase recycling participation among those 18-34 years of age. The campaign had cinema ads airing in 22 counties. There is also a new slate of six commercials airing on TimeWarner, Cox and Charter cable throughout the state – these can be found on-line at RE3.org/flicks.htm.

Workshops were held throughout the state for local government and college recycling coordinators and environmental educators. All attendees received REact, a complete guide to social marketing and increasing recycling participation. REact can be found online at RE3.org/coordinators.htm along with campaign give-a-ways. Local governments across the state also received truck ads to display on their recycling trucks.

In addition to the workshops, the RE3 crew traveled around the state to festivals, setting up an RE3 booth to publicize the benefits of recycling. The RE3 campaign along with its sponsors TimeWarner, Sobe and Surfcamp solicited participants to enter a contest drawing, which brought attention to the importance of recycling. While registration occurred at the RE3 booth, contest partners used cinema ads, television commercials, and displays in Lowe's Foods to direct participants to register to win at RE3.org.

In addition, RE3 and a recycling message also appeared on 4.5 million Mountain Dew cans across the state in June. The sponsors selected three winning entrants. Two winners won a trip to the ESPN X-Games in LA and a third won a week at Surf Camp on the coast of North Carolina.

The commercials, cinema ads, posters, truck ads, REact resource book and other campaign items can be viewed on-line at www.RE3.org. This site also contains a public face dispelling myths and answering common questions such as, "What's in it for me?" RE3.org also has an entire section dedicated to recycling coordinators.

Division of Parks and Recreation

Litter Prevention: During 2005 there were 25 educational programs on litter, recycling and pollution were presented to students and the general public during this period. Crowders Mountain and New River State Parks also installed wayside exhibits to educate the public about litter. These park staffs reported that the exhibits were successful in encouraging visitors to pick up litter. Park trails were visibly cleaner as a result. Most of the state parks have recycling stations and encourage park visitors to recycle aluminum, paper, glass and plastic items rather than just toss them into the trashcans.

Division of Marine Fisheries – N.C. Marine Patrol

Marine Patrol officers actively pursued litter violations along the waterways and highways of North Carolina along with their normal patrol duties.

Officers cleaned up coastal waters during this period by removing abandoned fishing gear and abandoned crab pots. This year's cleanup was very successful and there was less debris to pick up unlike prior years.

N.C. Wildlife Resources Commission

The Division of Engineering Services maintains 196 boating access areas and 38 public fishing access areas across the state. Approximately 3,190 hours was spent policing and removing litter from these sites. "Littering is Illegal" signs are maintained on all sites.

The Division of Wildlife Management reports 171 hours of general litter pick-up on game lands across the state. The Division of Enforcement Officers participated in numerous public service announcements pertaining to the proper disposal of lawfully taken wildlife.

NCDOT - Office of Beautification Programs

During 2005 the Office of Beautification Programs continued to place emphasis on enhancing its Web site in promoting anti-litter education. Currently the Union County - Yes! Yes! We Can Stop Littering Campaign and the Gaston County 2005-2006 Beautification and Environmental Education Programs are provided in their entirety. The intent of this site is to be a resource for educators in need of classroom curriculum material. The information can be found at the Office of Beautification Programs homepage at www.ncdot.org/~beautification through the NCDOT Anti-Litter Efforts link. The curriculums can be downloaded for classroom usage.

In addition, the Office of Beautification Programs provided a variety of educational materials for schools, civic groups and others. This included anti-litter stickers, decals, pencils, car litterbags, temporary tattoos, leaflets and Swat-A-Litterbug cards. Other links/items available through its Web site include the litter law, Swat-A-Litterbug, Adopt-A-Highway, Litter Sweep, printable activity pages - *Litter Activity Book* with lessons and activities for second and third grades and information about NCDOT's fight against litter.

The Office of Beautification Programs also distributed car litterbags in the tens of thousands through rest areas, welcome centers, the N.C. State Fair, Earth Day and upon request to numerous groups.

Annual Litter Prevention Awards Contest: The NCDOT, along with the Office of the Governor and the N.C. Beverage Association, sponsors the Annual Litter Prevention Awards Contest. Eligible categories are as follows: Government Agencies, Schools/Youth Groups and Nonprofits. Each category offers first place prizes of $1,000 and second place prizes of $500. Winners are posted to the Office of Beautification Programs Web site within the Litter Prevention Contest link.

Yes! Yes! We Can Stop Littering Campaign: Is an alliance between the Union County Rotary Clubs, the Union County Public School System, county charter and private schools, local businesses and the NCDOT to prevent littering. The overall purpose is to cultivate a cultural change in Union County to stop littering during a five-year period. The program is in its fifth year. It is estimated that 5,600 students participated in 2005. In previous years, there were 6,600 in 2004 and approximately 6,000 in 2003.

The objectives are to promote awareness and change attitudes, through enhancing pride in a clean environment, and create a positive action by citizens to prevent littering and polluting the environment. The Union County Rotary Clubs are the major drivers of this initiative with other

sponsors providing various assists as the program moved forward. The NCDOT Office of Beautification Programs for example, provided items as litterbags, stickers and tattoos with anti-littering messages, promotional pencils and plaques to support the "Yes! Yes! We Can Stop Littering Campaign."

Bus Placard Campaign: Litter prevention signage specifically for placement within transit area buses was created as a pilot program. The Raleigh Capital Area Transit (CAT) was the first to place two placards inside each of their 60 buses in November of 2004. The message content seeks everyone to assist in the fight against litter, states that cigarette butts are litter and that a fine of up to $1,000 can be given upon conviction. Fayetteville was the next city to pilot the placards.

The intent of the pilot was to stimulate litter prevention and inform that even the smallest of items, such as improperly discarded cigarette butts, are litter and that littering is a fineable offense. The placards were in either 11" x 17" format or 8.5" x 11" in English and Spanish in the quantity required specifically for each pilot program. These can be viewed on the Office of Beautification Programs Web site at www.ncdot.org/~beautification within the NCDOT Anti Litter Efforts link. There was no charge for the placards and no fee was charged for the inside bus space displaying the placard.

Radio Campaign: From February through March of 2005, there was a continuance of the litter prevention ad campaign that began in 2004. Due to the changing number of affiliate stations of the N.C. News Network, the total number of ads based on the number of affiliates left a shortfall of 2,370 ads. To deliver the ads promised, NCNN aired 40 ads on their Prime Network during Feb. and Mar. of 2005. This totaled 3,000 ads, which brought the total number of ads for the campaign to 19,470 up from 18,720. This extended period brought the estimated number of listeners from 1,463,200 to 1,494,600. The network was comprised of 80 affiliate stations and four Spanish speaking stations.

N.C. State Fair Booth: A teacher materials window was incorporated into the Roadside Environmental Unit's booth. Teachers were able to request teacher kits. The teachers were able to solicit litter prevention materials, such as Swat-A-Litterbug stickers and cards, don't be a litterbug temporary tattoos, litter law fliers and car litterbags. The car litterbags had "Stop the Littering" printed on one side along with the message "it could cost you...up to a $2,000 fine, community service work and a point on one's driver license." There were 335 kits mailed to teachers statewide with enough materials for more than 10,000 students.

Swat-A-Litterbug Program: In 2005, approximately 7,500 Swat-A-Litterbug letters were mailed to those observed littering – in 2004 more than 6,600 letters and in 2003 there were 6,000 letters mailed. The Office of Beautification Programs continues to administer the Swat-A-Litterbug program. Those observed littering can be reported to Swat-A-Litterbug on-line through the Office of Beautification Programs Web site at www.ncdot.org/~beautification or through the mail or calling *HP (State Highway Patrol) or by calling the NCDOT Customer Service Office at 1-877-DOT-4YOU.

The information required in a Swat-A-Litterbug report is the vehicle license plate number, time, date, street, city, county, and a description of the littering offense.

Swat-A-Litterbug is viewed as an educational tool, which informs those observed violating the litter law via a letter. The letters, which are signed by the Colonel of the State Highway Patrol, inform recipients of their littering, that littering is illegal and the penalties they could receive if convicted. Those submitting the license plate numbers are anonymous. There are no citations or warnings issued from these reports. The program is totally anonymous and no record is kept regarding who receives a letter.

Litter License Plate: As of this report date, there have been 466 litter plates issued. This number is up from 444 in 2004. The General Assembly approved the Litter Prevention license plate during the 2000 session. The initial 300 plates were sold in 2001 and the plate became available through the tag agencies by the beginning of 2002. Ten dollars of each plate sold is diverted to a "Litter Prevention Fund" on a quarterly basis. The money is used to help support other statewide anti litter efforts.

Litter Enforcement – 2005 Summary

Department of Crime Control and Public Safety

In 2005, the State Highway Patrol issued 708 tickets for littering. The State Highway Patrol also partnered with N.C. Department of Transportation. This past year the State Highway Patrol participated in the NCDOT Litter Sweep (biannual event) by focusing on ticketing individuals that either littered or failed to properly secure or cover their loads. Troopers issued more than 300 citations during the spring and fall Litter Sweep.

State Highway Patrol Recap of Litter Charges G.S. 14-399 and local ordinances:

Year	Number of Charges
2005	708
2004	681
2003	683

The Division of Motor Vehicle Enforcement Officers were transferred from the NCDOT to the Department of Crime Control and Public Safety State Highway Patrol in January of 2003. In the table below, the tickets issued for G.S. 20-116(g) violations represent the combined tickets issued by the State Highway Patrol and the DMV enforcement officers.

State Highway Patrol Recap of Improper Loading/covering of Vehicle G.S. 20-116(g):

Year	Number of Charges
2005	1,384
2004	1,164
2003	1,161

Division of Parks and Recreation

State park rangers wrote a total of 60 litter citations during 2005 versus 32 citations in 2004.

Division of Marine Fisheries - Marine Patrol

In 2005 the Marine Patrol officers issued 17 citations and 8 warnings for a total of 25 cases attributing 83 hours to this effort. In 2004, the Marine Patrol Officers issued 6 littering citations expending 69.5 hours.

Marine Patrol Citation Recap:

Year	Citations	Warnings	Time Spent
2005	17	8	83 hours
2004	6	0	69.5 hours
2003	5	4	54 hours

The N.C. Marine Patrol is still pursuing the removal of a sunken barge on the north side of the Beaufort Drawbridge in Town Creek. This is the last of the active felony littering cases from the last period and all other felony cases have been processed through superior court.

N.C. Wildlife Resources Commission

The Division of Engineering Services maintains 196 boating access areas and 38 public fishing access areas across the state. Approximately 3,190 man-hours were spent policing and removing litter from these sites. "Littering is Illegal" signs are maintained on the access areas.

The Division of Wildlife Management reported 171 hours and approximately 1,958 miles driven for general litter pick-up on game lands across the state.

In regards to the past Wildlife Enforcement litter reports, the Administrative Office of the Courts provides citation information for G.S. 14-399, as well as 113-264(a) and 75A-10(c). These are commonly used by officers for violations on game lands, access areas and waters of this state.

Wildlife Resources Commission Litter Charges Recap G.S. 14-399 and local ordinances:

Year	Charges
2005 *	751
2004 *	744
2003	646

* Includes G.S. 14-399, 113-264 (a), local ordinances and 75A-10(c).

ADMINISTRATIVE OFFICE OF THE COURTS
Research and Planning Division

Contact: Ngoc B. Nguyen, Research Associate
ngoc.b.nguyen@nccourts.org
919-715-4844

REPORT ON LITTERING CHARGES AND CONVICTIONS

Pursuant to Session Law 2001-512, Section 9

February 1, 2006

This report provides detailed information on littering offenses for calendar year 2005.

Data on charges and convictions by county, the number of charges disposed, and the manner of disposition are provided for the following twelve offenses:

Offense Code		
4425	Improper Loading/Covering of Vehicle	§ 20-116(g)
5370	Commercial Littering	§ 14-399(e)
5371	Littering Hazardous Waste	§ 14-399(e)
5372	Littering not more than 15 pounds	§ 14-399(c)
5373	Littering more than 15 but less than 500 pounds	§ 14-399(d)
5374	Littering more than 500 pounds	§ 14-399(e)
5375	Unintentional Littering not more than 15 Pounds	§ 14-399(c1)
5376	Unintentional Littering more than 15 but less than 500 Pounds	§ 14-399(d1)
5377	Unintentional Littering more than 500 Pounds	§ 14-399(e1)
6248	Litter Gameland/Access Area	§ 113-264(a)
8514	Littering Beer/Wine Container	local ordinance
****	Litter State Waters/Inland Lake Waters	§ 75A-10(c)

STATEWIDE LITTERING CHARGES AND CONVICTIONS

Calendar Year 2005

The following data are from the AOC's Automated Criminal/Infraction System for calendar year 2005. The number of charges, convictions, and dispositions represents totals from district and superior court. Some of the defendants have other charges in addition to a littering offense. It is possible for a defendant to be charged in one calendar year and convicted in the next. Thus, for any given calendar year, the defendants convicted are not necessarily the same defendants charged in that year. There is not an offense code for GS 75A-10(c); this offense is designated by four asterisks.

			CHARGES BY CHARGING AGENCY									METHOD OF DISPOSITION				
Offense Code	Charges	Convictions	ABC	ALE	DMV	Police	Sheriff	SHP	WRC	Other	Charges Disposed	Guilty Plea	Trial: Guilty	Trial: Not Guilty	Dismiss	Other
4425	1741	1159	0	0	9	312	29	1384	0	7	1807	21	0	0	616	1170
5370	7	0	0	0	0	0	4	0	0	3	8	4	0	0	4	0
5371	11	0	0	0	0	5	6	0	0	0	9	0	0	0	5	4
5372	3095	1626	11	26	0	1411	308	643	488	208	3121	955	36	25	1390	715
5373	122	59	0	0	0	29	51	9	5	28	113	49	1	1	56	6
5374	30	3	0	0	0	7	12	1	1	9	29	10	0	0	15	4
5375	110	71	0	0	0	37	8	45	19	1	88	4	0	0	27	57
5376	3	2	0	0	0	2	0	1	0	0	4	0	0	0	2	2
5377	3	1	0	0	0	0	0	3	0	0	2	0	0	0	1	1
6248	244	167	0	0	0	0	0	0	224	20	261	58	0	7	84	112
8514	103	56	2	0	0	70	10	6	12	3	113	39	0	1	51	22
****	4	1	0	0	0	1	0	0	2	1	4	1	0	0	3	0
2005 Total	**5473**	**3145**	**13**	**26**	**9**	**1874**	**428**	**2092**	**751**	**280**	**5559**	**1141**	**37**	**34**	**2254**	**2093**
2004 Total	4,950	2,942	10	23	8	1,660	398	1,839	743	268	5,110	1,181	55	40	2,017	1,817

Three-year Comparison

Littering Offenses *			Number Of Charges By Charging Agency							
	Number of Charges	Number of Convictions	ABC	ALE	Police	DMV	Sheriff	SHP	WRC	Other
2005	3,732	1,986	13	26	1,562	0	399	708	751	273
2004	3,469	2,005	10	23	1,377	2	368	681	743	265
2003	3,266	1,804	10	50	1,360	2	303	683	646	212

* Totals do not include charges and convictions for offense code 4425, GS 20-116(g).

LITTERING CHARGES AND CONVICTIONS BY COUNTY

Calendar Year 2005

The following data are from the AOC's Automated Criminal/Infraction System for calendar year 2005. The number of charges and convictions represents totals from district and superior court. Some of the defendants have other charges in addition to a littering offense. It is possible for a defendant to be charged in one calendar year and convicted in the next. Thus, for any given calendar year, the defendants convicted are not necessarily the same defendants charged in that year.

The numbers in bold represent county totals. County data include only the codes for which there were any charges or convictions. There is not an offense code for littering under NCGS 75A-10©; this code is designated by four asterisks.

	Offense Code	Charges	Convictions			Offense Code	Charges	Convictions
ALAMANCE	4425	25	18		**BERTIE**	4425	2	2
	5372	29	18			5372	10	5
	5373	1	0			5373	1	0
	5375	1	1				**13**	**7**
		56	**37**					
					BLADEN	4425	7	4
ALEXANDER	4425	0	1			5372	22	16
	5372	12	1			5373	2	2
		12	**2**			8514	1	0
							32	**22**
ALLEGHANY	4425	2	2					
	5372	6	5		**BRUNSWICK**	4425	40	30
	8514	1	1			5372	30	12
		9	**8**			5373	1	1
						5374	1	0
						5375	3	0
ANSON	4425	4	4				**75**	**43**
	5372	10	3					
	6248	15	3		**BUNCOMBE**	4425	25	26
		29	**10**			5372	93	46
						5373	6	2
						5375	2	0
ASHE	4425	1	0			8514	3	1
	5372	1	1				**129**	**75**
	8514	1	1					
		3	**2**					
					BURKE	4425	15	13
						5372	21	17
AVERY	4425	3	3			5373	2	0
	5372	4	2			6248	4	4
	6248	1	1				**42**	**34**
		8	**6**					
					CABARRUS	4425	74	65
BEAUFORT	4425	5	3			5372	51	30
	5372	23	16			5373	2	0
		28	**19**			5375	4	1
							131	**96**

2005 LITTERING CHARGES AND CONVICTIONS BY COUNTY

	Offense Code	Charges	Convictions
CALDWELL	4425	9	5
	5372	27	14
	5373	2	0
	5375	3	1
	6248	16	13
		57	**33**
CAMDEN	4425	2	3
	5372	1	1
	5373	1	1
		4	**5**
CARTERET	4425	16	12
	5370	2	0
	5372	64	30
	5373	1	1
	5374	2	0
	5375	1	1
	5377	1	1
	6248	0	1
		87	**46**
CASWELL	4425	1	2
	5371	4	0
	5372	9	6
	5373	1	2
		15	**10**
CATAWBA	4425	28	18
	5372	64	26
	5375	1	2
	6248	7	6
		100	**52**
CHATHAM	4425	16	13
	5372	50	31
	6248	2	3
	8514	1	0
	****	1	1
		70	**48**
CHEROKEE	4425	7	4
	5372	10	5
	6248	1	2
		18	**11**
CHOWAN	4425	3	1
	5372	23	19
	5373	1	2
		27	**22**
CLAY	4425	2	1
	5372	1	1
		3	**2**
CLEVELAND	4425	28	17
	5372	44	21
	5374	1	0
	5375	1	4
	6248	1	0
	8514	3	2
		78	**44**
COLUMBUS	4425	15	17
	5372	15	11
	8514	1	0
		31	**28**
CRAVEN	4425	8	4
	5372	68	35
	5373	6	1
	5374	1	0
	5375	2	2
	8514	3	2
		88	**44**
CUMBERLAND	4425	69	47
	5372	50	23
	5373	4	0
	5375	2	1
		125	**71**
CURRITUCK	4425	12	15
	5372	7	4
	5375	0	1
	8514	1	0
		20	**20**
DARE	4425	15	13
	5372	51	24
	5373	2	2
	5374	2	0
	6248	11	6
	8514	3	3
		84	**48**

2005 LITTERING CHARGES AND CONVICTIONS BY COUNTY

	Offense Code	Charges	Convictions		Offense Code	Charges	Convictions
DAVIDSON	4425	27	17	**GASTON**	4425	34	22
	5372	36	14		5372	153	90
	5373	6	2		5373	2	1
	5374	1	0		5375	2	4
	5375	2	1		5377	1	0
	6248	10	7		6248	8	4
	8514	0	1		8514	1	0
		82	**42**			**201**	**121**
DAVIE	4425	4	3	**GATES**	4425	0	1
	5372	17	7		5372	2	2
	5373	1	0			**2**	**3**
		22	**10**				
DUPLIN	4425	12	10	**GRAHAM**	6248	2	1
	5372	10	4	**GRANVILLE**	4425	3	2
	5375	1	0		5370	1	0
		23	**14**		5372	12	7
					5373	3	1
					6248	7	4
DURHAM	4425	16	11			**26**	**14**
	5372	43	22				
	5373	3	3				
	6248	18	10	**GREENE**	4425	1	1
	8514	3	0		5372	6	4
		83	**46**			**7**	**5**
EDGECOMBE	4425	2	1	**GUILFORD**	4425	50	41
	5372	14	6		5371	1	0
	5375	1	1		5372	69	20
	6248	4	4		5373	1	0
		21	**12**		8514	3	0
						124	**61**
FORSYTH	4425	35	16				
	5372	70	50	**HALIFAX**	4425	11	5
	5373	3	0		5372	26	12
	5374	1	0		5373	2	2
	5375	5	2		5375	5	2
	8514	11	6		6248	0	0
		125	**74**			**44**	**21**
FRANKLIN	4425	12	10	**HARNETT**	4425	13	5
	5372	15	0		5372	37	13
	5373	2	2		5373	4	1
	5375	0	1		8514	1	0
		29	**13**			**55**	**19**

2005 LITTERING CHARGES AND CONVICTIONS BY COUNTY

	Offense Code	Charges	Convictions
HAYWOOD	4425	21	14
	5372	14	10
	5373	3	1
	8514	1	0
		39	**25**
HENDERSON	4425	7	6
	5370	1	0
	5372	22	14
	8514	4	3
		34	**23**
HERTFORD	4425	5	0
	5371	2	0
	5372	19	4
	5373	1	2
	5374	2	1
	5375	1	0
		30	**7**
HOKE	4425	9	4
	5372	4	5
	6248	0	1
		13	**10**
HYDE	4425	1	1
	5372	5	6
	5375	1	0
		7	**7**
IREDELL	4425	42	30
	5372	42	13
	5375	1	0
	6248	3	2
	8514	2	2
		90	**47**
JACKSON	4425	6	2
	5372	48	40
	5373	0	0
	6248	12	9
	8514	1	0
		67	**51**
JOHNSTON	4425	57	31
	5372	38	15
	5377	1	0
	8514	1	0
		97	**46**

	Offense Code	Charges	Convictions
JONES	4425	3	2
	5372	9	5
	5373	1	0
	5374	2	0
	6248	1	1
		16	**8**
LEE	4425	7	4
	5372	14	6
	8514	1	0
		22	**10**
LENOIR	4425	11	8
	5372	10	6
	8514	1	0
		22	**14**
LINCOLN	4425	10	4
	5372	14	9
		24	**13**
MACON	4425	4	1
	5372	10	5
	6248	1	1
		15	**7**
MADISON	4425	1	0
	5372	6	4
		7	**4**
MARTIN	4425	4	3
	5372	7	3
	5375	2	2
	6248	1	0
		14	**8**
MCDOWELL	4425	7	3
	5372	22	18
	5373	1	0
	5375	2	1
	6248	2	0
	8514	7	6
		41	**28**
MECKLENBURG	4425	170	116
	5372	231	109
	5373	5	1
	5375	35	19
	5376	2	1
	8514	12	7
	****	1	0
		456	**253**

2005 LITTERING CHARGES AND CONVICTIONS BY COUNTY

	Offense Code	Charges	Convictions
MITCHELL	4425	2	1
	5372	4	4
	5375	1	1
	8514	1	0
		8	**6**
MONTGOMERY	4425	6	5
	5372	20	16
	6248	7	7
	8514	4	2
		37	**30**
MOORE	4425	21	12
	5372	5	0
	8514	1	0
		27	**12**
NASH	4425	27	7
	5372	11	3
	5375	1	0
	6248	2	1
		41	**11**
NEW HANOVER	4425	90	49
	5370	3	0
	5372	106	41
	5373	1	3
	5374	1	0
	5375	4	1
	6248	2	2
	8514	3	3
		210	**99**
NORTHAMPTON	4425	5	4
	5372	5	1
	5374	2	0
	6248	3	3
		15	**8**
ONSLOW	4425	44	30
	5372	29	16
	5373	4	1
	5374	1	0
	5375	0	1
	8514	0	1
		78	**49**
ORANGE	4425	10	11
	5372	16	7
	5373	2	1
		28	**19**
PAMLICO	4425	1	0
	5372	1	0
	5375	0	1
		2	**1**
PASQUOTANK	4425	7	4
	5372	24	13
	5373	1	1
	6248	2	1
		34	**19**
PENDER	4425	20	6
	5372	17	8
	5375	1	0
		38	**14**
PERQUIMANS	4425	4	3
	5372	4	2
		8	**5**
PERSON	4425	9	8
	5372	5	1
	5375	1	1
	6248	1	1
	****	1	0
		17	**11**
PITT	4425	27	12
	5372	63	23
	5373	0	1
	5374	1	0
	5375	2	1
	8514	12	11
		105	**48**
POLK	4425	2	1
	5372	66	49
	6248	41	33
		109	**83**
RANDOLPH	4425	13	8
	5372	38	8
		51	**16**
RICHMOND	4425	20	9
	5372	27	15
	5373	1	0
	6248	30	16
	8514	2	0
		80	**40**

2005 LITTERING CHARGES AND CONVICTIONS BY COUNTY

	Offense Code	Charges	Convictions
ROBESON	4425	18	9
	5372	61	35
	5373	1	0
	5374	1	0
	8514	1	0
		82	**44**
ROCKINGHAM	4425	6	5
	5372	14	7
	5373	1	1
		21	**13**
ROWAN	4425	26	21
	5372	20	15
	5373	1	1
	6248	19	14
	****	1	0
		67	**51**
RUTHERFORD	4425	3	3
	5371	1	0
	5372	42	26
	5373	4	1
	8514	2	2
		52	**32**
SAMPSON	4425	20	13
	5372	17	12
	5373	1	1
		38	**26**
SCOTLAND	4425	8	5
	5372	18	8
	5373	1	0
		27	**13**
STANLY	4425	2	0
	5372	38	14
	5373	1	1
	5375	3	2
	5376	1	1
		45	**18**
STOKES	4425	2	1
	5371	2	0
	5372	7	7
	5374	1	0
		12	**8**
SURRY	4425	10	5
	5371	1	0
	5372	13	9
	5373	1	1
		25	**15**
SWAIN	5372	8	4
	5374	1	0
	6248	1	0
		10	**4**
TRANSYLVANIA	4425	3	2
	5372	8	6
	5373	2	0
	5375	0	1
	6248	6	5
		19	**14**
TYRRELL	4425	2	2
	5372	8	5
	5373	1	1
	5375	1	1
		12	**9**
UNION	4425	29	14
	5372	32	10
	5374	1	0
	5375	3	2
		65	**26**
VANCE	4425	10	5
	5372	12	7
	5373	11	2
	5374	1	0
		34	**14**
WAKE	4425	205	141
	5372	398	223
	5373	1	1
	5374	3	2
	5375	9	6
	6248	2	1
	8514	1	0
		619	**374**
WARREN	4425	3	1
	5372	8	3
		11	**4**

2005 LITTERING CHARGES AND CONVICTIONS BY COUNTY

	Offense Code	Charges	Convictions
WASHINGTON	4425	2	1
	5372	6	0
		8	**1**
WATAGUA	4425	10	12
	5372	28	16
	8514	3	0
		41	**28**
WAYNE	4425	18	5
	5372	17	10
	5373	1	0
	6248	1	0
		37	**15**
WILKES	4425	13	10
	5372	12	13
	5373	14	9
	5374	3	0
	5375	6	6
		48	**38**
WILSON	4425	15	14
	5372	44	24
	5374	1	0
	8514	4	1
		64	**39**
YADKIN	4425	7	3
	5372	12	9
	5373	0	3
	8514	1	1
		20	**16**
YANCEY	4425	2	0
	5372	10	10
	5373	1	0
	8514	1	0
		14	**10**

LITTERING CHARGES BY COUNTY BY AGENCY

Calendar Year 2005

The following data are from the AOC's Automated Criminal/Infraction System for calendar year 2005. The number of charges and convictions represents totals from district and superior court. Some of the defendants have other charges in addition to a littering offense. It is possible for a defendant to be charged in one calendar year and convicted in the next. Thus, for any given calendar year, the defendants convicted are not necessarily the same defendants charged in that year.

The numbers in bold represent county totals. County data include only the codes for which there were any charges or convictions. There is not an offense code for littering under NCGS 75A-10(c); this code is designated by four asterisks.

	Charging Agency	Offense Code	Charges			Charging Agency	Offense Code	Charges
ALAMANCE	Police	4425	1		**ASHE**	SHP	4425	1
		5372	20				5372	1
		5373	1			WRC	8514	1
	Other	5372	1					**3**
	Sheriff	5372	2					
	SHP	4425	24					
		5372	4		**AVERY**	Police	5372	1
		5375	1			SHP	4425	3
	WRC	5372	2				5372	1
			56			WRC	5372	2
							6248	1
								8
ALEXANDER	Police	5372	3					
	Sheriff	5372	4					
	SHP	5372	5					
	WRC	5372	0		**BEAUFORT**	Police	4425	2
			12				5372	10
						Other	5372	3
						Sheriff	5372	1
ALLEGHANY	Police	5372	2			SHP	4425	3
		8514	1				5372	6
	SHP	4425	2			WRC	5372	3
	WRC	5372	4					**28**
			9					
					BERTIE	Other	5373	1
						Sheriff	5372	2
ANSON	Police	5372	2			SHP	4425	2
	Sheriff	4425	1				5372	1
		5372	1			WRC	5372	7
	SHP	4425	3					**13**
		5372	5					
	WRC	5372	2		**BLADEN**	Police	5372	1
		6248	15			Other	5372	1
			29			Sheriff	5372	0
							5373	2
						SHP	4425	7
							5372	7
						WRC	5372	13
							8514	1
								32

2005 LITTERING CHARGES BY COUNTY BY AGENCY

	Charging Agency	Offense Code	Charges
BRUNSWICK	Police	4425	3
		5372	10
	DMV	4425	1
	Other	5372	3
		5374	1
	Sheriff	5372	2
	SHP	4425	36
		5372	10
		5375	3
	WRC	5372	5
		5373	1
			75
BUNCOMBE	ALE	5372	2
	Police	5372	2
		4425	2
		5372	71
		5373	4
		5375	1
	Other	5372	1
		8514	2
		5372	4
		5373	2
	Sheriff	5372	2
	SHP	4425	23
		5372	6
		8514	1
	WRC	5372	5
		5375	1
			129
BURKE	Police	5372	6
		5373	1
	Other	5372	1
		5373	1
	SHP	4425	15
		5372	2
	WRC	5372	12
		6248	4
			42
CABARRUS	Police	4425	3
		5372	22
		5373	1
		5375	1
	Sheriff	4425	1
		5372	7
	SHP	4425	70
		5372	22
		5373	1
		5375	3
			131
CALDWELL	Police	4425	1
		5372	8
	Other	5373	1
	Sheriff	4425	1
		5372	1
	SHP	4425	7
		5372	10
		5375	2
	WRC	5372	8
		5373	1
		5375	1
		6248	16
			57
CAMDEN	Other	5373	1
	SHP	4425	2
	WRC	5372	1
			4
CARTERET	ALE	5372	2
	Police	4425	5
		5372	17
	Other	5370	2
		5372	2
		5374	2
	Sheriff	5372	8
	SHP	4425	11
		5372	34
		5373	1
		5375	1
		5377	1
	WRC	5372	1
			87

2005 LITTERING CHARGES BY COUNTY BY AGENCY

	Charging Agency	Offense Code	Charges			Charging Agency	Offense Code	Charges
CASWELL	Police	4425	1		**CLAY**	SHP	4425	2
	Sheriff	5371	4			WRC	5372	1
		5372	3					**3**
		5373	1					
	SHP	5372	1					
	WRC	5372	5		**CLEVELAND**	Police	4425	3
			15				5372	11
							8514	1
						Sheriff	5372	17
CATAWBA	ALE	5372	1				5374	1
	Police	4425	5			SHP	4425	25
		5372	30				5372	13
	Sheriff	4425	1				8514	1
		5372	2			WRC	5372	3
	SHP	4425	22				5375	1
		5372	22				6248	1
	WRC	5372	9				8514	1
		5375	1					**78**
		6248	7					
			100					
					COLUMBUS	Police	4425	2
							5372	10
CHATHAM	Police	5372	2			SHP	4425	13
	Other	5372	7				5372	3
	Sheriff	5372	8				8514	1
	SHP	4425	16			WRC	5372	2
		5372	5					**31**
		8514	1					
	WRC	5372	28					
		6248	2		**CRAVEN**	Police	4425	2
		****	1				5372	23
			70				5373	3
							8514	3
						Other	5372	1
CHEROKEE	Police	5372	3			Sheriff	5372	3
	Sheriff	5372	2			SHP	4425	6
	SHP	4425	7				5372	36
		5372	1				5373	3
	WRC	5372	4				5375	2
		6248	1			WRC	5372	5
			18				5374	1
								88
CHOWAN	Police	5372	9					
	Other	5372	1					
		5372	2					
	Sheriff	5373	1					
	SHP	4425	3					
	WRC	5372	11					
			27					

2005 LITTERING CHARGES BY COUNTY BY AGENCY

	Charging Agency	Offense Code	Charges			Charging Agency	Offense Code	Charges
CUMBERLAND	ALE	5372	2		**DAVIDSON**	Police	4425	3
	Police	4425	9				5372	12
		5372	28				5375	1
		5373	2			Other	5372	2
	Other	5372	1				5373	1
		5373	2			Sheriff	5372	9
	Sheriff	5372	5				5373	4
	SHP	4425	60				5374	1
		5372	3			SHP	4425	24
		5375	1				5372	4
	WRC	5372	11				5373	1
		5375	1				5375	1
			125			WRC	5372	9
							6248	10
								82
CURRITUCK	ALE	5372	1					
	Other	5372	1		**DAVIE**	Police	4425	1
	Sheriff	4425	2				5372	1
		5372	2			Other	5373	1
		8514	1			Sheriff	4425	1
	SHP	4425	10				5372	3
		5372	1			SHP	4425	2
	WRC	5372	2				5372	7
			20			WRC	5372	6
								22
DARE	ALE	5372	2					
	Police	4425	7		**DUPLIN**	Police	4425	1
		5372	32				5372	1
		5374	2			Sheriff	5372	3
	Other	5372	2			SHP	4425	11
		5372	1				5372	3
	Sheriff	4425	1			WRC	5372	3
		5372	4				5375	1
		8514	2					**23**
	SHP	4425	7					
		5372	3					
	WRC	5372	7		**DURHAM**	ABC	5372	6
		5373	2				8514	2
		6248	11			Police	4425	7
		8514	1				5372	22
			84				5373	3
							8514	1
						Other	5372	3
							6248	16
						Sheriff	5372	1
						SHP	4425	9
							5372	9
						WRC	5372	2
							6248	2
								83

2005 LITTERING CHARGES BY COUNTY BY AGENCY

	Charging Agency	Offense Code	Charges			Charging Agency	Offense Code	Charges
EDGECOMBE	Police	5372	5		**GATES**	SHP	5372	1
	SHP	4425	2			WRC	5372	1
		5372	6					**2**
		5375	1					
	WRC	5372	3		**GRAHAM**	WRC	6248	2
		6248	4					
			21					
					GRANVILLE	Police	4425	3
							5372	6
FORSYTH	Police	4425	20			Other	5372	1
		5372	41				5373	2
		5373	2			Sheriff	5370	1
		5374	1				5372	3
		5375	2				5373	1
		8514	11			SHP	5372	2
	Other	5372	3			WRC	6248	7
	Sheriff	5372	3					**26**
		5373	1					
	SHP	4425	15					
		5372	5		**GREENE**	Sheriff	5372	2
		5375	3			SHP	4425	1
	WRC	5372	18				5372	2
			125			WRC	5372	2
								7
FRANKLIN	Police	4425	1		**GUILFORD**	Police	4425	14
		5372	4				5371	1
	Sheriff	5372	1				5372	43
		5373	2				8514	3
	SHP	4425	11			Other	5372	2
		5372	9				5372	10
	WRC	5372	1			Sheriff	4425	1
			29				5372	9
							5373	1
GASTON	ALE	5372	1			SHP	4425	35
	Police	4425	4				5372	5
		5372	51					**124**
		5373	1					
		8514	1					
	Other	4425	6		**HALIFAX**	ALE	5372	2
		5372	34			Police	4425	2
		5375	1				5372	8
	Sheriff	5372	2			Sheriff	5372	7
	SHP	4425	24				5373	2
		5372	49			SHP	4425	9
		5373	1				5372	5
		5375	1				5375	1
		5377	1			WRC	5372	4
	WRC	5372	16				5375	4
		6248	8					**44**
			201					

2005 LITTERING CHARGES BY COUNTY BY AGENCY

	Charging Agency	Offense Code	Charges
HARNETT	Police	4425	2
		5372	9
		8514	1
	Other	5372	1
	Sheriff	5372	5
		5373	4
	SHP	4425	11
		5372	11
	WRC	5372	11
			55
HAYWOOD	ALE	5372	1
	Police	4425	2
	Sheriff	4425	2
		5372	9
		5373	3
		8514	1
	SHP	4425	17
		5372	3
	WRC	5372	1
			39
HENDERSON	Police	4425	2
		5372	8
		8514	3
	Other	5370	1
	Sheriff	5372	2
	SHP	4425	5
		5372	12
	WRC	8514	1
			34
HERTFORD	ALE	5372	1
	Police	4425	1
		5372	8
	Other	5372	4
	Sheriff	5371	2
		5373	1
		5374	2
	SHP	4425	4
		5372	3
	WRC	5372	3
		5375	1
			30
HOKE	Police	4425	1
		5372	1
	Sheriff	5372	1
	SHP	4425	8
		5372	2
			13
HYDE	Sheriff	5375	1
	SHP	4425	1
		5372	1
	WRC	5372	4
			7
IREDELL	ALE	5372	1
	Police	4425	5
		5372	16
		8514	2
	Other	5372	1
	Sheriff	4425	1
		5372	8
	SHP	4425	36
		5372	9
	WRC	5372	7
		5375	1
		6248	3
			90
JACKSON	Police	4425	2
		5372	5
	Other	5372	8
		6248	1
	Sheriff	5372	2
	SHP	4425	4
		5372	2
		8514	1
	WRC	5372	31
		6248	11
			67
JOHNSTON	ALE	5372	1
	Police	4425	8
		5372	17
		8514	1
	Sheriff	4425	1
		5372	8
	SHP	4425	48
		5372	12
		5377	1
			97

2005 LITTERING CHARGES BY COUNTY BY AGENCY

	Charging Agency	Offense Code	Charges
JONES	Police	4425	1
		5372	3
	Other	5373	1
	Sheriff	5372	2
		5374	2
	SHP	4425	2
		5372	3
	WRC	5372	1
		6248	1
			16
LEE	Police	4425	5
		5372	11
		8514	1
	Other	5372	1
	Sheriff	5372	1
	SHP	4425	2
		5372	1
			22
LENOIR	Police	4425	4
		5372	4
		8514	1
	Sheriff	5372	2
	SHP	4425	7
		5372	3
	WRC	5372	1
			22
LINCOLN	Police	4425	2
		5372	4
	Other	5372	1
	Sheriff	4425	1
		5372	4
	SHP	4425	7
		5372	4
	WRC	5372	1
			24
MACON	Police	5372	5
	Sheriff	4425	1
		5372	5
	SHP	4425	3
	WRC	6248	1
			15

	Charging Agency	Offense Code	Charges
MADISON	SHP	4425	1
		5372	3
	WRC	5372	3
			7
MARTIN	Sheriff	5372	3
		5375	2
	SHP	4425	4
		5372	3
	WRC	5372	1
		6248	1
			14
McDOWELL	Police	4425	4
		5372	2
		5375	1
		8514	1
	Other	8514	1
	Sheriff	5372	1
		5373	1
	SHP	4425	3
		5372	5
	WRC	5372	14
		5375	1
		6248	2
		8514	5
			41
MECKLENBURG	ABC	5372	2
	ALE	5372	2
	Police	4425	35
		5372	193
		5373	5
		5375	24
		5376	1
		****	1
		8514	12
	Other	5372	2
	Sheriff	5372	2
	SHP	4425	135
		5372	28
		5375	11
		5376	1
	WRC	5372	2
			456

2005 LITTERING CHARGES BY COUNTY BY AGENCY

	Charging Agency	Offense Code	Charges			Charging Agency	Offense Code	Charges
MITCHELL	Sheriff	8514	1		**NEW HANOVER**	ALE	5372	1
	SHP	4425	2			Police	4425	11
		5372	2				5372	71
		5375	1				5375	3
	WRC	5372	2				8514	3
			8			DMV	4425	3
						Other	5372	5
							5373	1
MONTGOMERY	Police	5372	2			Sheriff	4425	3
		8514	4				5370	3
	SHP	4425	6				5372	14
		5372	3				5374	1
	WRC	5372	15			SHP	4425	73
		6248	7				5372	15
			37				5375	1
						WRC	6248	2
								210
MOORE	ABC	5372	2					
	Police	4425	3					
		5372	1		**NORTHAMPTON**	Police	5372	1
		8514	1			Sheriff	5374	2
	Sheriff	4425	1			SHP	4425	5
		5372	1				5372	3
	SHP	4425	17			WRC	5372	1
	WRC	5372	1				6248	3
			27					**15**
NASH	Police	4425	8		**ONSLOW**	ALE	5372	1
		5372	3			Police	4425	2
	Other	5372	1				5372	8
	Sheriff	5372	3			DMV	4425	1
		5375	1			Other	5372	2
	SHP	4425	19				5373	3
		5372	4				5374	1
	WRC	6248	2			Sheriff	5372	3
			41				5373	1
						SHP	4425	41
							5372	13
						WRC	5372	2
								78

2005 LITTERING CHARGES BY COUNTY BY AGENCY

	Charging Agency	Offense Code	Charges
ORANGE	Police	4425	4
		5372	10
	Other	5372	2
	Sheriff	5372	2
		5373	2
	SHP	4425	6
		5372	2
			28
PAMLICO	SHP	4425	1
		5372	1
			2
PASQUOTANK	ALE	5372	2
	Police	4425	1
		5372	13
	Sheriff	5372	1
		5373	1
	SHP	4425	6
		5372	2
	WRC	5372	6
		6248	2
			34
PENDER	Police	5372	2
	DMV	4425	1
	Other	5372	1
	Sheriff	5372	2
	SHP	4425	19
		5372	12
		5375	1
			38
PERQUIMANS	Sheriff	5372	2
	SHP	4425	4
	WRC	5372	2
			8
PERSON	Police	5372	1
	Other	5372	1
		****	1
	SHP	4425	9
		5372	1
		5375	1
	WRC	5372	2
		6248	1
			17
PITT	ABC	5372	1
	ALE	5372	2
	Police	4425	3
		5372	41
		5375	1
		8514	11
	DMV	4425	1
	Other	5374	1
	Sheriff	4425	1
		5372	2
	SHP	4425	22
		5372	14
		8514	1
	WRC	5372	3
		5375	1
			105
POLK	Police	5372	1
	Sheriff	5372	1
	SHP	4425	2
		5372	3
	WRC	5372	61
		6248	41
			109
RANDOLPH	Police	4425	4
		5372	7
	Other	5372	2
	Sheriff	5372	7
	SHP	4425	9
		5372	16
	WRC	5372	6
			51
RICHMOND	Police	4425	2
		5372	4
		5373	1
	Other	6248	1
	Sheriff	5372	5
		8514	1
	SHP	4425	18
		5372	13
	WRC	5372	5
		6248	29
		8514	1
			80

2005 LITTERING CHARGES BY COUNTY BY AGENCY

	Charging Agency	Offense Code	Charges
ROBESON	Police	4425	2
		5372	21
		8514	1
	Other	5372	14
	Sheriff	4425	1
	SHP	4425	15
		5372	14
		5373	1
		5374	1
	WRC	5372	12
			82
ROCKINGHAM	Police	5372	7
	Other	5373	1
	Sheriff	5372	2
	SHP	4425	6
		5372	3
	WRC	5372	2
			21
ROWAN	Police	4425	2
		5372	7
		5373	1
	Sheriff	5372	4
	SHP	4425	24
		5372	3
	WRC	5372	6
		6248	19
		****	1
			67
RUTHERFORD	Police	4425	1
		5371	1
		5372	16
		5373	1
		8514	1
	Other	5372	4
		5373	1
	Sheriff	5372	4
		5373	2
		8514	1
	SHP	4425	2
		5372	15
	WRC	5372	3
			52
SAMPSON	Police	4425	2
		5372	3
		5373	1
	Sheriff	4425	2
		5372	5
	SHP	4425	16
		5372	8
	WRC	5372	1
			38
SCOTLAND	ALE	5372	1
	Police	4425	1
		5372	4
	Other	5372	1
	Sheriff	5372	2
	SHP	4425	7
		5372	5
		5373	1
	WRC	5372	5
			27
STANLY	Police	5372	15
		5373	1
		5375	1
		5376	1
	Other	5372	2
	Sheriff	5372	8
		5375	1
	SHP	4425	2
		5372	6
	WRC	5372	7
		5375	1
			45
STOKES	Police	5371	2
		5372	1
	Other	5372	1
		5372	1
	Sheriff	5372	1
		5374	1
	SHP	4425	2
		5372	2
	WRC	5372	1
			12

2005 LITTERING CHARGES BY COUNTY BY AGENCY

	Charging Agency	Offense Code	Charges
SURRY	Police	5371	1
		5372	6
	Other	5372	1
		5373	1
	SHP	4425	10
		5372	3
	WRC	5372	3
			25
SWAIN	Police	5372	2
	Other	5374	1
	SHP	5372	4
	WRC	5372	2
		6248	1
			10
TRANSYLVANIA	Police	5372	2
	Other	5372	1
		5373	2
	Sheriff	5372	2
	SHP	4425	3
	WRC	5372	3
		6248	6
			19
TYRRELL	Other	5372	1
	Sheriff	5372	2
		5373	1
	SHP	4425	2
		5372	5
		5375	1
			12
UNION	Police	4425	9
		5372	11
		5374	1
	Other	5372	1
	Sheriff	4425	1
		5372	9
		5375	1
	SHP	4425	19
		5372	11
		5375	1
	WRC	5375	1
			65

	Charging Agency	Offense Code	Charges
VANCE	Police	5372	3
	DMV	4425	1
	Other	5372	2
	Sheriff	5372	2
		5373	11
		5374	1
	SHP	4425	9
		5372	5
			34
WAKE	Police	4425	67
		5372	296
		5373	1
		5374	3
		5375	1
		8514	1
	Other	4425	1
		5372	58
		6248	2
	Sheriff	4425	5
		5372	25
	SHP	4425	132
		5372	19
		5375	8
			619
WARREN	Police	4425	1
		5372	1
	Sheriff	5372	2
	SHP	4425	2
		5372	2
	WRC	5372	3
			11
WASHINGTON	SHP	4425	2
		5372	5
	WRC	5372	1
			8
WATAUGA	Police	5372	24
		8514	1
	DMV	4425	1
	Sheriff	5372	3
		8514	2
	SHP	4425	9
		5372	1
			41

2005 LITTERING CHARGES BY COUNTY BY AGENCY

	Charging Agency	Offense Code	Charges			Charging Agency	Offense Code	Charges
WAYNE	Police	4425	11		**YANCEY**	Police	5372	2
		5372	6			Other	5373	1
	Other	5372	1			Sheriff	8514	1
	Sheriff	5372	6			SHP	4425	2
	SHP	4425	7				5372	1
		5372	4			WRC	5372	7
	WRC	5373	1					**14**
		6248	1					
			37					
WILKES	Police	5372	3					
		5375	1					
	Other	5372	1					
		5373	5					
		5374	3					
	Sheriff	5372	4					
		5373	9					
		5375	2					
	SHP	4425	13					
		5372	1					
	WRC	5372	3					
		5375	3					
			48					
WILSON	Police	4425	2					
		5372	8					
		8514	4					
	Sheriff	5372	9					
		5374	1					
	SHP	4425	13					
		5372	4					
	WRC	5372	23					
			64					
YADKIN	Police	5372	5					
	Sheriff	5372	1					
	SHP	4425	7					
		5372	4					
	WRC	5372	2					
		8514	1					
			20					

ATTACHMENT A: Session Law 2001-512, Sections 9 and 10

SECTION 9. The text of G.S. 147-12 is designated as subsection (a) of that section, and G.S. 147-12 is further amended by adding a new subsection to read: "(b) The Department of Transportation, the Department of Correction, the Department of Crime Control and Public Safety, the State Highway Patrol, the Wildlife Resources Commission, the Division of Parks and Recreation in the Department of Environment and Natural Resources, and the Division of Marine Fisheries in the Department of Environment and Natural Resources shall deliver to the Governor by February 1 and August 1 of each year detailed information on the agency's litter enforcement, litter prevention, and litter removal efforts. The Administrative Office of the Courts shall deliver to the Governor by February 1 and August 1 of each year detailed information on the enforcement of the littering laws of the State, including the number of charges and convictions under the littering laws of the State. The Governor shall gather the information submitted by the respective agencies and deliver a consolidated semiannual report on or before March 1 and September 1 of each year to the Environmental Review Commission, the Joint Legislative Transportation Oversight Committee, and the House of Representatives and the Senate Appropriations Subcommittees on Natural and Economic Resources."

SECTION 10. The first reports required to be delivered by the Department of Transportation, the Department of Correction, the Department of Crime Control and Public Safety, the State Highway Patrol, the Wildlife Resources Commission, the Division of Parks and Recreation in the Department of Environment and Natural Resources, the Division of Marine Fisheries in the Department of Environment and Natural Resources, and the Administrative Office of the Courts to the Governor under G.S. 147-12(b), as enacted by Section 10 of this act, shall be due February 1, 2002. The first report required to be delivered by the Governor to the Environmental Review Commission, the Joint Legislative Transportation Oversight Committee, and the House of Representatives and the Senate Appropriations Subcommittees on Natural and Economic Resources under G.S. 147-12(b), as enacted by Section 10 of this act, shall be due March 1, 2002.

Attachment B: "Keep NC Clean and Green" Signs Posted By County

County	# Signs	County	# Signs	County	# Signs
Alamance	13	Hoke	7	Warren	9
Alexander	5	Hyde	7	Washington	7
Alleghany	12	Iredell	15	Watauga	12
Anson	10	Jackson	10	Wayne	15
Ashe	13	Johnston	21	Wilkes	17
Avery	12	Jones	10	Wilson	18
Beaufort	14	Lee	9	Yadkin	9
Bertie	9	Lenoir	14	Yancey	9
Bladen	17	Lincoln	13		
Brunswick	12	Macon	6		
Buncombe	16	Madison	10		
Burke	12	Martin	15		
Cabarrus	15	McDowell	13		
Caldwell	10	Mecklenburg	20		
Camden	5	Mitchell	10		
Carteret	6	Montgomery	12		
Caswell	16	Moore	11		
Catawba	15	Nash	20		
Chatham	15	New Hanover	8		
Cherokee	6	Northampton	14		
Chowan	6	Onslow	10		
Clay	3	Orange	14		
Cleveland	17	Pamlico	4		
Columbus	15	Pasquotank	4		
Craven	10	Pender	12		
Cumberland	18	Perquimans	4		
Currituck	7	Person	9		
Dare	5	Pitt	20		
Davidson	14	Polk	8		
Davie	9	Randolph	18		
Duplin	17	Richmond	8		
Durham	14	Robeson	15		
Edgecombe	16	Rockingham	16		
Forsyth	19	Rowan	13		
Franklin	18	Rutherford	12		
Gaston	18	Sampson	20		
Gates	5	Scotland	12		
Graham,	3	Stanly	12		
Granville	10	Stokes	12		
Greene	12	Surry	14		
Guilford	24	Swain	6		
Halifax	18	Transylvania	8		
Harnett	18	Tyrrell	3		
Haywood	10	Union	15		
Henderson	11	Vance	8		
Hertford	10	Wake	31		

- Discretionary signs (1995) - 20 per Highway Division (a total of 280)
- Rest Areas & Welcome Centers - 58
- Total Signs - 1,827

In addition to the "Keep NC Clean & Green" signs there are approximately 1400 "Littering Is Illegal" signs posted across the state. These were issued at a rate of 100 per Highway Division.

North Carolina Contacts

Statewide Contacts

N.C. Department of Transportation

George Kapetanakis
NCDOT Litter Programs Coordinator
Office of Beautification Programs
gkapetanakis@dot.state.nc.us
(919) 715-3188

Helen Landi
Director
Office of Beautification Programs
hlandi@dot.state.nc.us
(919) 715-3188

Department of Correction

David Osborne
Division of Prisons Headquarters
ODR01@doc.state.nc.us
(919) 838-4000

Timothy D. Moose
Division of Community Corrections (CSWP)
mtd01@doc.state.nc.us
(919) 716-3145

Dept. of Crime Control & Public Safety

Lieutenant Everett Clendenin
Public Information Office
eclendenin@nccrimecontrol.org
(919) 733-5027

Administrative Office of the Courts

Ngoc B. Nguyen
Research Associate, Research & Planning Division
Ngoc.B.Nguyen@nccourts.org
(919) 715-4844

Department of Environment and Natural Resources
Division of Pollution Prevention and Environmental Assistance

Scott Mouw
Environmental Supervisor/Section Chief
scott.mouw@ncmail.net
(919) 715-6512

Division of Marine Fisheries

Major W. M. Davis
N.C. Marine Patrol
Mike.davis@ncmail.net
(252) 726-7021

Division of Parks and Recreation

Marti Kane
Lead Interpretation and Education Specialist
marti.kane@ncmail.net
(919) 841-4066

Wildlife Resources Commission

Mitchell D. Kuykendall, Captain / Training Director
Division of Enforcement
mitch.kuykendall@ncwildlife.org
(919) 707-0030

Other Statewide Volunteer Groups

N.C. Big Sweep

Judy Bolin
President
ncbigsweep@bellsouth.net
(919) 366-3888

N.C. Keep America Beautiful, Inc.

Brenda Barger
Chair
bargebf@co.mecklenburg.nc.us
(704) 432-1772

North Carolina Department of Environment and Natural Resources
Division of Air Quality

NCDAQ Analysis of CA LEV-II Vehicle Emissions Standards

Presented to the Environmental Review Commission

May 3, 2006

Brock M. Nicholson, P.E.
Deputy Director, NCDAQ

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North Carolina Department of Environment and Natural Resources
Division of Air Quality

Outline

- Air Quality in North Carolina
- Review of Vehicle Standards
- CA LEV-II Project
- CA LEV-II vs. Federal Tier 2
  - NOx and VOC emissions benefits
  - Projected impacts on ambient air quality
- Fleet Averaging
  - Comparison of CA and NC fleets
- Resources
- Options/Next Steps

2

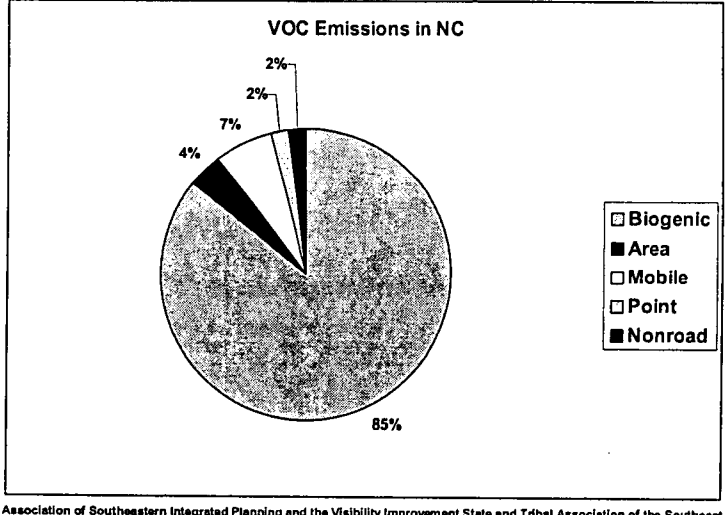
Air Quality - Ozone

- All* areas of NC are attaining the 8-hr ozone standard except the Charlotte area
  *Triangle status pending USEPA approval
- Recall... NOx + VOC + sunlight = ozone
- NOx
  - precursor pollutant of concern in NC
  - majority of VOCs come from natural sources
- On-road mobile sources contribute significantly to the total NOx emissions in NC

3

VOC emissions

Typical Summer Weekday



Source: NCDAQ, Association of Southeastern Integrated Planning and the Visibility Improvement State and Tribal Association of the Southeast, Version BaseF4. 2009 estimates include all controls scheduled to be in place in 2009, including, but not limited to the NC Clean Smokestacks Act (point sources), Federal Tier 2 (on-road mobile sources) and the expanded NC Inspection and Maintenance Program (on-road mobile sources)

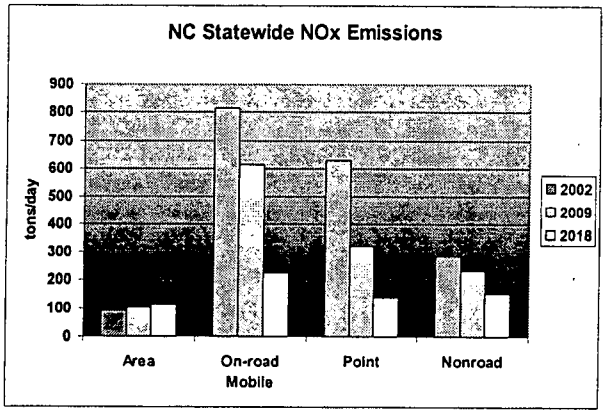
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North Carolina Department of Environment and Natural Resources

Division of Air Quality

NOx emissions

Typical Summer Weekday

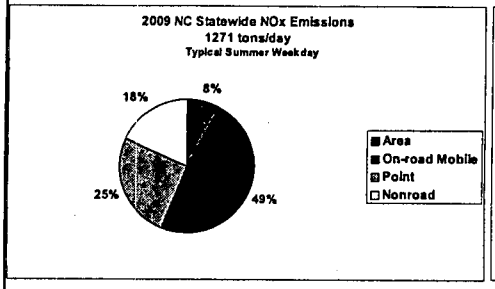


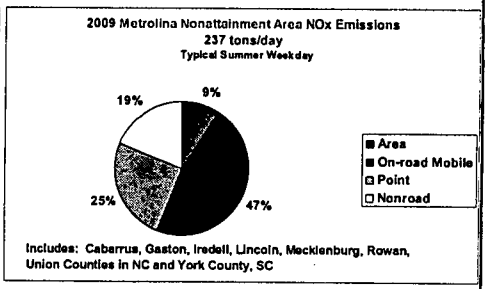
Source: NCDAQ, Association of Southeastern Integrated Planning and the Visibility Improvement State and Tribal Association of the Southeast, Version BaseF4. 2009 estimates include all controls scheduled to be in place in 2009, including, but not limited to the NC Clean Smokestacks Act (point sources), Federal Tier 2 (on-road mobile sources) and the expanded NC Inspection and Maintenance Program (on-road mobile sources)

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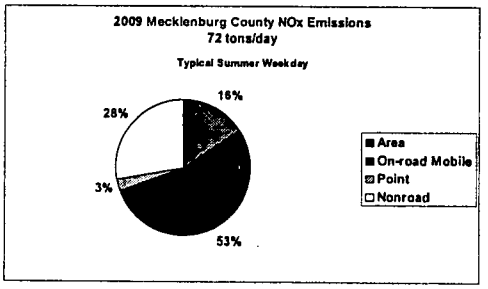
North Carolina Department of Environment and Natural Resources

Division of Air Quality





Includes: Cabarrus, Gaston, Iredell, Lincoln, Mecklenburg, Rowan, Union Counties in NC and York County, SC



Source: NCDAQ, Association of Southeastern Integrated Planning and the Visibility Improvement State and Tribal Association of the Southeast, Version BaseF4 2009 estimates include all controls scheduled to be in place in 2009, including, but not limited to the NC Clean Smokestacks Act (point sources), Federal Tier 2 (on-road mobile sources) and the expanded NC Inspection and Maintenance Program (on-road mobile sources)

6

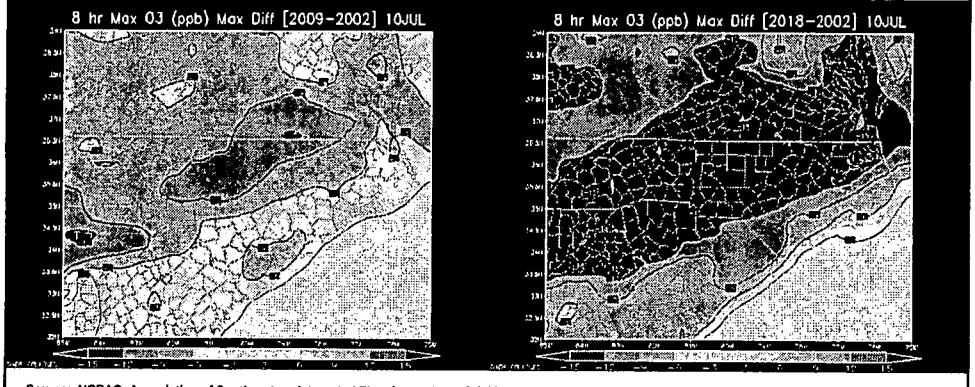
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Predicted Future Air Quality
Current Federal and State Rules

Example of expected ozone reductions between 2002 and 2009

Example of expected ozone reductions between 2002 and 2018

Scales are the same on both maps.
Purple indicates 8-hour ozone reductions greater than 15 ppb.



Source: NCDAQ, Association of Southeastern Integrated Planning and the Visibility Improvement State and Tribal Association of the Southeast, Version BaseF4

North Carolina Department of Environment and Natural Resources
Division of Air Quality

Vehicle Emissions Standards in the US

- Federal – Currently "Tier 2"
  - Adopted in 1999
  - Phased in 2004-2010
  - Fleet Average Requirement for NOx
  - Covers all States
  - Federal Clean Air Act (CAA) Section 209(a) "preempts" states from establishing separate standards
- California – Currently "CA LEV-II"
  - CAA Section 209(b) exempts California from the Sec 209(a) preemption
  - However, CA must obtain a waiver from USEPA for state standards to be effective
    - CA standards must be equal to or more stringent than the Federal standards
  - Fleet Average Requirement for VOC

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Objective of this Analysis

- Estimate the NOx and VOC emissions benefits of adopting California Vehicle Emission Standards (CA LEV-II) in NC
- Apply knowledge from recent 8-hour ozone modeling studies to estimate the impacts of adopting CA LEV-II
- Compare the NC and CA vehicle fleet and age distributions to assess the need for "fleet averaging"
- Estimate State staffing resources needed if NC adopts CA LEV-II

CA LEV-II vs. Federal Tier 2

- CA LEV-II program starts with model year 2010 vehicles
- CA LEV-II emissions estimates include:
  - Fleet averaging enforcement
  - Zero Emitting Vehicle (ZEV) component
  - Phase-in percentages by exhaust certification bin
    - Provided by USEPA in MOBILE6.2 ready format
      - Represents the California Air Resources Board (CARB) phase-in schedule
      - It represents an estimate of the mix of vehicles that manufacturers will distribute to meet the fleet average standard

CA LEV-II vs. Federal Tier 2

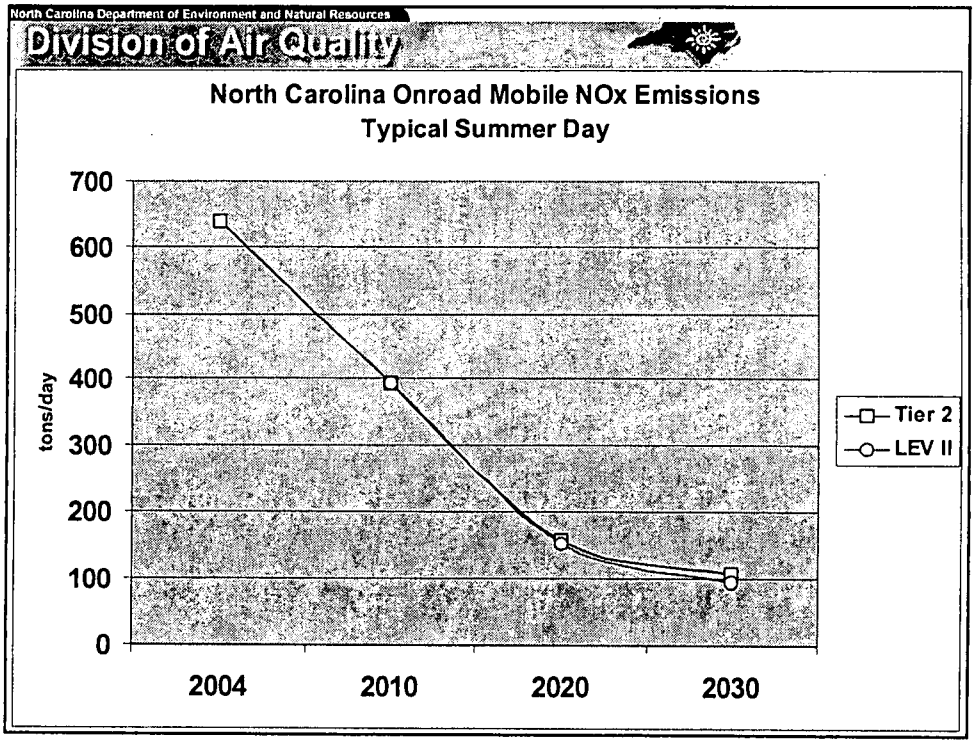
Emission estimates were developed using:

- USEPA motor vehicle emissions model (MOBILE6.2)
- USEPA mobile modeling guidance
- NC specific input data including:
  - Vehicle mix, vehicle age distribution, vehicle miles traveled (VMT), speeds, Inspection/Maintenance Programs (I/M), fuels, temperatures
- Federal Tier 2 estimates for 2004, 2010, 2020 and 2030
- CA LEV-II estimates for 2010, 2020 and 2030

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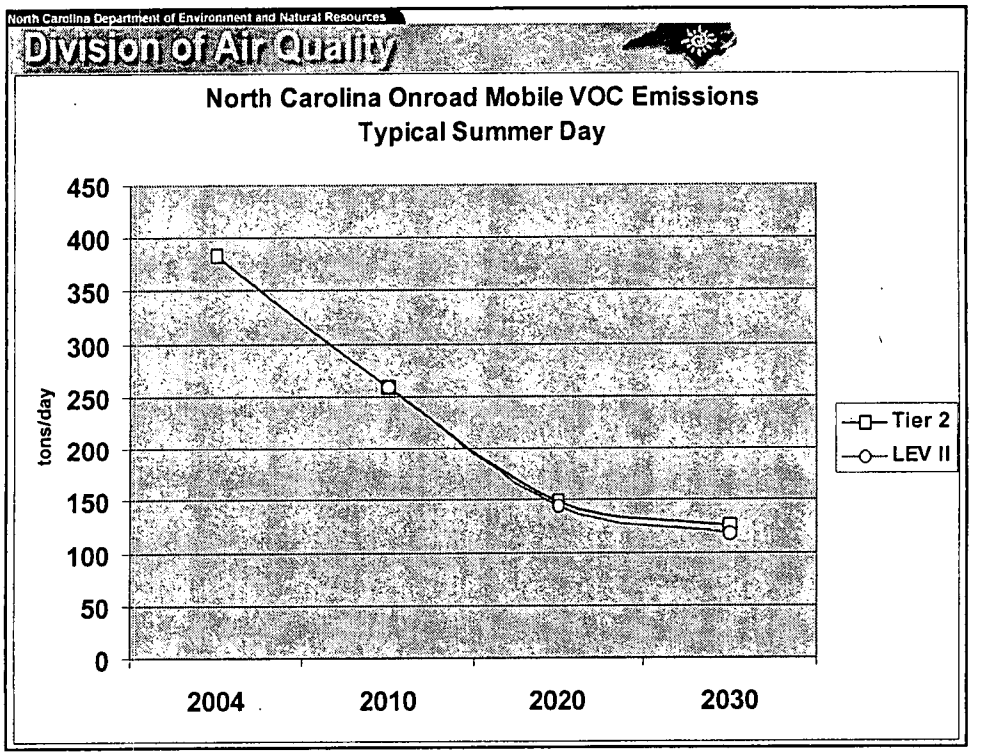
Methods: USEPA Technical Guidance on the Use of MOBILE 6.2 for Emission Inventory Preparation, August 2004

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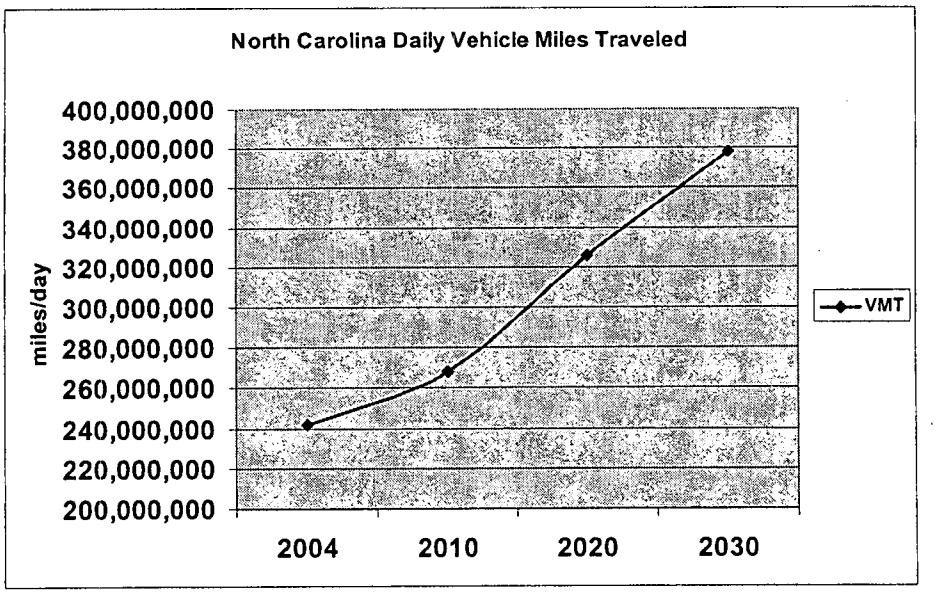
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CA LEV-II vs. Federal Tier 2

Emissions Reductions Summary

- On-road mobile sources only
- CA LEV-II Program in NC starting with model year 2010

	2010	2020	2030
NOx	0.1%	4%	10%
VOC	0.1%	3%	6%

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North Carolina Department of Environment and Natural Resources
Division of Air Quality

Air Quality Modeling

- During NCDAQ's current SIP modeling...

  Air Quality modeling sensitivities were performed by NCDAQ to assess the impacts of *additional* future year NOx emissions reductions from on-road mobile sources

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Air Quality Modeling

Future year (2009) NOx emissions from onroad mobile sources were reduced by 10% in the following counties:

Mecklenburg

Union

Gaston

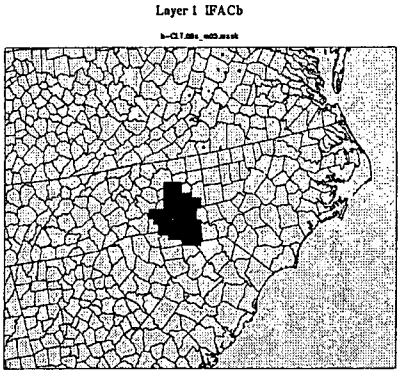
Lincoln

Iredell

Cabarrus

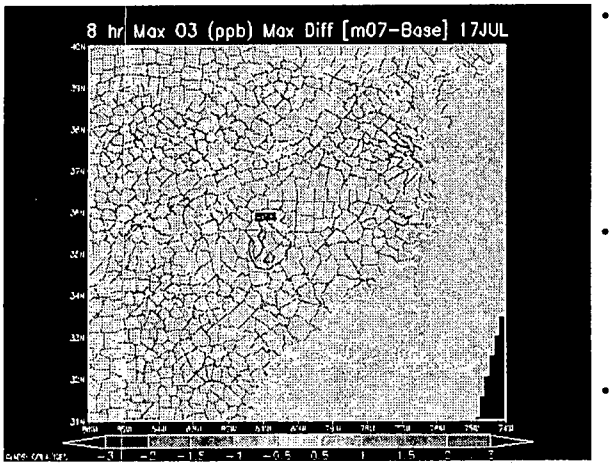
Rowan

The 10% NOx reduction in 2009 is equivalent to ~10 tons/day in this region



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Air Quality Modeling



- 10 tons/day onroad mobile NOx reduction across the Metrolina area resulted in lowering 8-hour ozone concentrations by 0.1 to 1.0 ppb in 2009
- Only 1 of the 7 modeled days resulted in changes as high as 1.0 ppb (shown)
- Only 2 of the 7 modeled days resulted in changes as high as 0.5 ppb

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North Carolina Department of Environment and Natural Resources
Division of Air Quality

Air Quality Modeling

For the Metrolina area...

2009 on-road mobile NOx ~ 100 tons/day (w/ Tier 2)

2020 on-road mobile NOx ~ 25 tons/day (w/ Tier 2)

If...

- 10% = 10 tons/day NOx in 2009 = 1 ppb max benefit

Then..

- 4 % = 1 ton/day NOx in 2020 = 0.1 ppb max benefit

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North Carolina Department of Environment and Natural Resources
Division of Air Quality

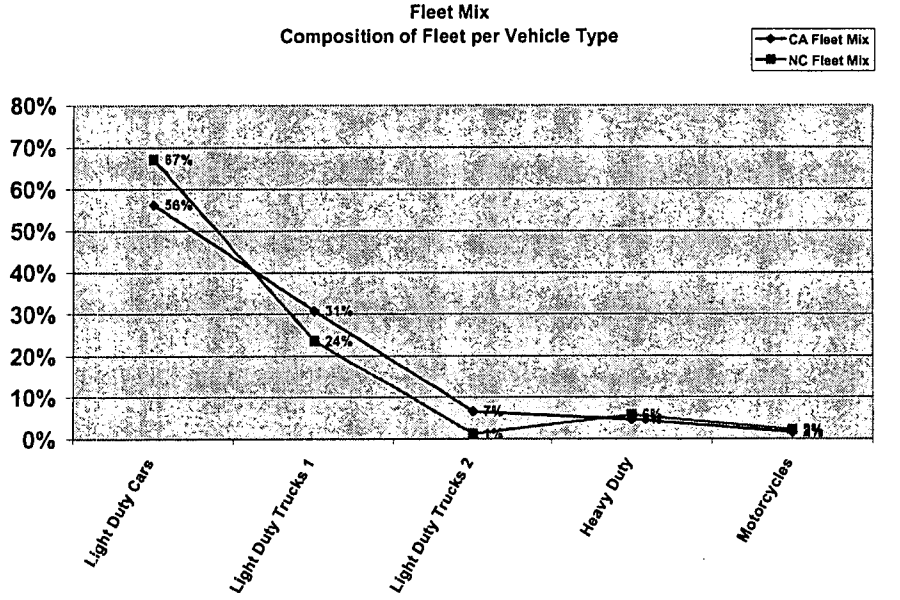
Fleet Characteristics

- Com parison of the NC and CA vehicle fleets
  - Composition
  - Age distributions
- A ssess the value of "fleet averaging" enforcement

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North Carolina Department of Environment and Natural Resources

Division of Air Quality

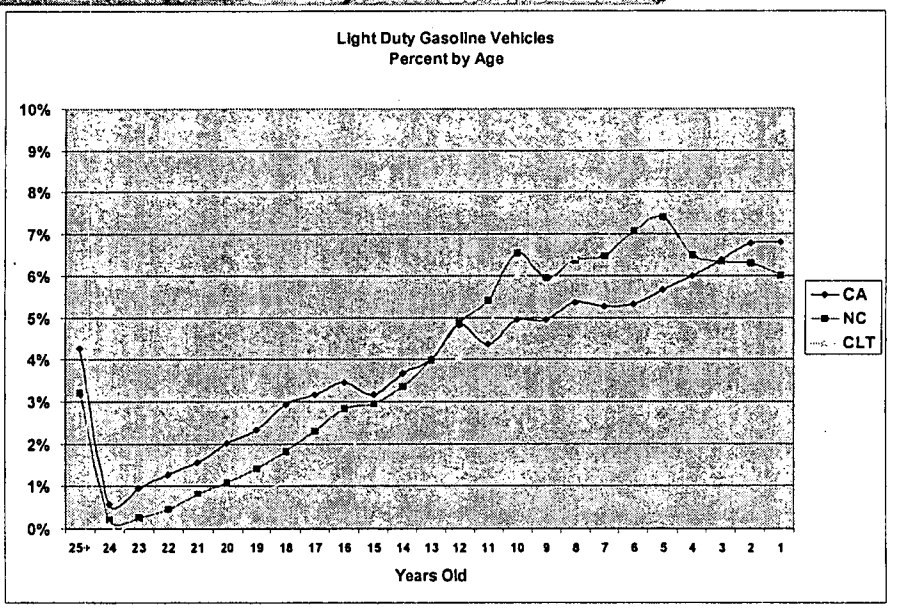


21

Sources: North Carolina Department of Transportation and California Air Resources Board

North Carolina Department of Environment and Natural Resources

Division of Air Quality

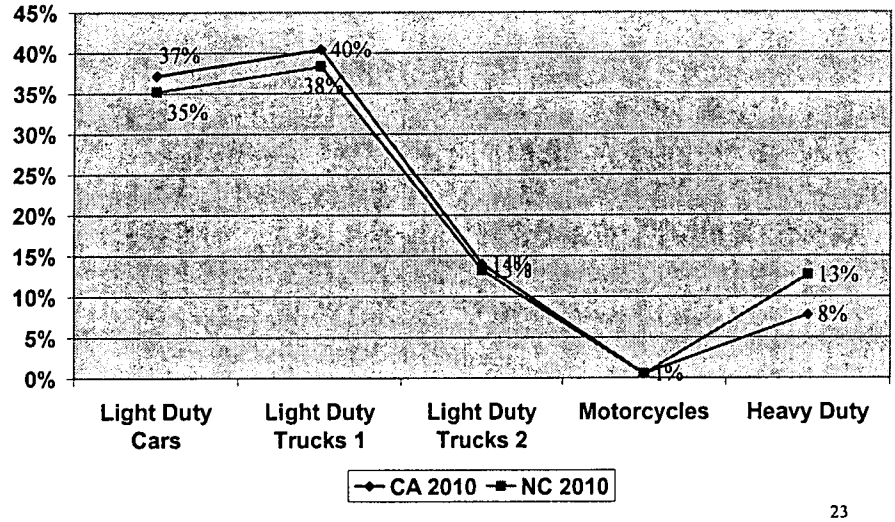


Sources: North Carolina Department of Transportation and California Air Resources Board

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Note: CLT includes Gaston and Mecklenburg Counties

VMT Mix
Percent of VMT per Vehicle Type



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Sources: North Carolina Department of Transportation and California Air Resources Board
Methods: USEPA Technical Guidance on the Use of MOBILE 6.2 for Emission Inventory Preparation, August 2004

North Carolina Department of Environment and Natural Resources
Division of Air Quality

Staff Resources

- DAQ and DMV
  - DMV: Primary point of enforcement
  - DAQ: Audits, monitor performance of program, public outreach and troubleshoot registration issues
- Fleet average enforcement
  - *Potential* State staffing requirements with fleet average enforcement
    - Washington, 1.5 full time employees (FTEs)
    - New York, 2-3 people (not full time)
    - Massachusetts, 2-3 people (not full time)
  - Potential duties of DAQ Employees
    - Enforce compliance of fleet average requirement
    - Work with manufacturers / dealers and public on vehicle model availability issues

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Source: NCDAQ, Washington State Department of Ecology-Air Quality Program

Staff Resource Impacts

- Existing Tasks:
  - Transportation conformity, SIP modeling and emissions inventories would require more time and resources due to more complicated mobile sources emissions estimation techniques
  - This would also impact Local Air Quality Agencies, Metropolitan Planning Organizations and Rural Planning Organizations involved in the transportation conformity process

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Source: NCDAQ, Washington State Department of Ecology-Air Quality Program

Summary

- CA LEV-II benefits relative to Federal Tier II in future years:
  - NOx emissions would be reduced by 0.1%, 4% and 10% in 2010, 2020 and 2030, respectively
  - VOC emissions would be reduced by 0.1%, 3% and 6% in 2010, 2020 and 2030, respectively
  - Air Quality benefits: Less than 0.1 ppb ozone reduction in 2020

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Summary - continued

- Air Quality: Ozone concentrations would change *less than* 0.1 ppb in 2020
- Vehicle fleet age: NC currently has a newer fleet of light duty vehicles (passenger cars) than California
- Vehicle population: NC has a greater number of light duty vehicles (passenger cars) and fewer light duty trucks (including SUVs) than California
- Implementation Resources: Other States suggest 1-2 employees needed for enforcement of fleet average requirements
- Implications for ongoing DAQ activities: More complicated emission estimation techniques would lengthen NCDAQ timelines for transportation conformity, SIP modeling and emission inventories

Contributors

- Mike Abraczinskas, NCDAQ
- Phyllis Jones, NCDAQ
- Vicki Chandler, NCDAQ
- Pat Bello, NCDAQ
- Heather Hildebrandt, NCDAQ
- Charles O. Davis, NCDAQ
- Laura Boothe, NCDAQ
- Sheila Holman, NCDAQ
- Nick Witcraft, NCDAQ
- Patrick Butler, NCDAQ



Questions/Comments

Brock M. Nicholson, P.E.
Deputy Director, NC Division of Air Quality
919-715-0587
Brock.Nicholson@ncmail.net

EXHIBIT I

Presentation to the Environmental Review Commission

Good Morning! My name is Michael Douglas. I am the Regional Engineer for the Public Water Supply Section, Raleigh Regional Office. I work with and supervise a staff of eight engineers, technicians and a water treatment plant consultant. The Public Water Supply Section regional offices consist of 51 staff member working to serve the citizens of North Carolina.

The primary responsibility of the Public Water Supply Central Office and regional offices is to protect public health as the primacy agency for EPA in the administration of the Safe Drinking Water Act. The regional offices conduct routine inspections of the groundwater and surface water systems throughout the state. Inspections serve to ensure regulatory compliance, identify deficiencies, issue Notice of Violations, and provide technical assistance.

Water system operators conduct a wide array of monitoring and testing on all drinking water, especially surface water sources. While the quality of groundwater is somewhat constant, surface water quality can vary with the weather conditions (heavy rains or drought conditions), man influenced events such as spills, and other factors.

Although the main focus in surface water treatment plant is the finished water to the consumers, water system operators perform operational testing on the raw water source to ensure the necessary treatment occurs.

Operators of surface water systems monitor the following parameters on both the raw and finished water:

Temperature
Turbidity
Color
pH
Carbon Dioxide
Total Organic Carbon
Total alkalinity
Total hardness
Dissolved Oxygen
Iron
Manganese
Fluoride
Chloride
Phosphate
Bacteria

These parameters are monitored and analyzed on the raw water in the daily operations of a surface water treatment plant. Water system operators vary chemical feed requirements based on the analytical results of these parameters. This data is submitted to the Public Water Supply Section, both the Central Office and the respective regional office, in a monthly operating report.

In additional to the analyses within the treatment plant, distribution samples are taken. Samples are collected by water system personnel and analyzed by certified laboratories. The laboratories send the analyses to the Public Water Supply Central Office to determine compliance with monitoring requirements. Systems monitor for:

Bacteria
Lead and Copper
Volatile Organic Chemicals
Synthetic Organic Chemicals
Disinfection By-Products (Trihalomethanes and HAAs)
Radionuclides
Inorganic Chemicals

When the monthly operating reports come to the regional offices, the Water Treatment Plant Consultants review them. Here is a typical report from the City of Raleigh. The consultants look at the turbidity levels, total water treated, hours of plant operation, process flow rates, fluctuation in chemical dosages, filter run times, backwash frequency and remaining information on the monthly operating reports. They are looking either for rule violations or operational problems, such as widely varying chemical feed rates that might indicate some problem at the facility. If some operational issue is identified, we contact the water system to provide assistance.

We inspect surface water treatment plants annually. We also conduct several other onsite visits during the year. Generally, the working relationship with the water system personnel is good. The regional staff

receives telephone calls and email inquires for technical assistance with operational and regulatory concerns. Our technical assistance is used to help water system operators to optimize effective of treatment. Some examples of technical assistance provided:

1. We assisted one system in the evaluation of its water chemistry to determine optimal chemical feed rates to enhance turbidity removal.

2. When one water plant had clogged its filter with treatment chemicals, they contacted us to assist in developing a solution.. The consultant's working knowledge of the treatment processes were invaluable to returning the facility to operation.

3. We have provided several systems technical assistance in resolving taste and odor problems with suggestions as chemical addition, such as potassium permanganate or granular activated carbon.

4. We provide onsite training and particpate in the licensing schools for water and distribution operators.

The balancing act that water systems must conduct in order to meet treatment and water quality standards is increasingly difficult, needing higher level of operator expertise and more input and involvement from the

state. The standards that water systems must meet are continuously tightening. The details of the requirements are so involved that continuous support and training are needed. In general, water system operators take compliance with standards seriously: remember, they and their families typically drink the water they produce too.

The goal of the Public Water Supply Section regional offices is to work with local governments, water system operators, and water consumers to ensure compliance with the regulations. We will work through regulatory actions, such issuance of violations as needed, but we also provide significant technical assistance to systems to help them maintain compliance in the first place.

If you have any questions, I will be happy to try to address them at this time.

MONTH: August

YEAR: 2005

E.M. JOHNSON WATER PLANT AT RALEIGH, N.C. WSID:03-92-010

REPORT OF PLANT OPERATIONS TO DIVISION OF ENVIRONMENTAL HEALTH

NC DEPARTMENT OF ENVIRONMENTAL, HEALTH, AND NATURAL RESOURCES

SEP 06 2005

DATE	TOTAL WATER TREATED	HOURS OF PLANT OPER.	FILTER RATE GPM/FT2	LENGTH OF RUNS							CHEMICALS USED /POUNDS														CHEMICAL DOSAGES MG/L												
							WASHING				FERRIC	ALKALI			CHLORINE		OTHER CHEMICALS								FERRIC	CAUSTIC		LIME	CHLORINE								
				MIN HOURS	MAX HOURS	AVG HOURS	# UNITS USED	# UNITS WASHED	SURFACE WASH	WASH H2O USED	LIQUID	CAUSTIC PRE	CAUSTIC POST	LIME POST	PRE	POST	NH3	FLUORIDE DRY	CORR. INHIB.	CARBON	COAG AID POLY	FIL. AID POLY	POT. PERM.		PRE	POST	POST	PRE	POST	NH3	FLUORIDE	CORR. INHIB.	CARBON	COAG. AID POLY.	FIL. AID POLY.	POT. PERM.
1	57.5	24	3.34	34	71	47.6	22	16	0	1.8	22601		9724		1540	2880	415	494	1280		38		2111	47.13	0.00	20.28	0.00	3.21	6.01	0.87	1.03	2.67	0.00	0.08	0.00	4.40
2	56.7	24	3.29	28	71	45.5	22	6	0	0.5	22360		9509		1485	2790	438	484	1270		37		640	47.28	0.00	20.11	0.00	3.14	5.90	0.93	1.02	2.69	0.00	0.08	0.00	1.35
3	52.3	24	3.61	28	71	48.6	22	12	0	1.4	24427		10607		1628	2970	398	503	1390		41		2679	47.01	0.00	20.41	0.00	3.13	6.73	0.77	0.97	2.68	0.00	0.08	0.00	5.16
4	65.7	24	3.61	35	72	52.5	22	14	0	1.9	25788		11232		1683	2952	504	538	1470		43		1976	47.06	0.00	20.50	0.00	3.07	5.39	0.92	0.98	2.68	0.00	0.08	0.00	3.61
5	64.7	24	3.76	35	72	52.5	22	6	0	0.8	26054		10967		1528	2776	508	566	1460		42		1892	48.28	0.00	20.32	0.00	2.93	6.14	0.94	1.05	2.71	0.00	0.08	0.00	3.51
6	64.1	24	3.72	34	65	50.2	22	18	0	2.2	26162		10714		1427	2753	494	542	1430		42		2136	48.94	0.00	20.04	0.00	2.87	5.15	0.92	1.01	2.67	0.00	0.08	0.00	4.00
7	61.5	24	3.57	32	64	48.9	22	8	0	1.2	24942		10222		1364	2646	479	525	1380		40		1533	48.63	0.00	19.93	0.00	2.66	5.16	0.93	1.02	2.69	0.00	0.08	0.00	2.99
8	63.7	24	3.70	40	51	44.0	22	8	0	0.7	26062		10601		1416	2626	483	529	1410		42		1839	49.06	0.00	19.95	0.00	2.67	4.94	0.91	1.00	2.65	0.00	0.08	0.00	3.46
9	59.6	24	3.46	29	60	46.1	22	20	0	1.9	23821		9768		1367	2485	459	491	1310		39		2043	47.92	0.00	19.65	0.00	2.73	5.00	0.92	0.99	2.64	0.00	0.08	0.00	4.11
10	52.2	24	3.03	29	60	46.5	22	6	0	0.8	20982		8601		1205	2350	435	466	1110		34		1717	48.20	0.00	19.76	0.00	2.77	5.40	1.00	1.07	2.55	0.00	0.08	0.00	3.94
11	56.5	24	3.28	32	60	50.5	22	10	0	1.1	22111		9307		1221	2636	460	460	1190		37		1318	46.92	0.00	19.76	0.00	2.59	5.59	0.98	0.98	2.53	0.00	0.08	0.00	2.80
12	60.0	24	3.48	32	60	53.2	22	10	0	1.1	23423		10273		1370	2792	493	515	1370		39		1347	48.81	0.00	20.53	0.00	2.74	5.58	0.99	1.03	2.74	0.00	0.08	0.00	2.99
13	61.6	24	3.57	30	65	54.9	22	14	0	1.5	24043		10541		1420	2810	478	527	1417		41		1902	48.80	0.00	20.52	0.00	2.76	5.47	0.93	1.03	2.76	0.00	0.08	0.00	3.70
14	59.6	24	3.46	29	65	49.2	22	10	0	1.0	23239		10141		1341	2727	463	323	1370		39		1866	48.63	0.00	20.44	0.00	2.70	5.60	0.91	0.66	2.78	0.00	0.08	0.00	3.74
15	62.3	24	3.61	29	65	48.7	22	14	0	1.5	24479		10022		1345	2766	470	0	1413		40		1841	47.11	0.00	19.29	0.00	2.59	5.32	0.90	0.00	2.72	0.00	0.08	0.00	3.54
16	66.2	24	3.84	24	67	47.6	22	10	0	1.0	25416		10727		1505	3013	478	0	1520		44		1832	48.83	0.00	19.43	0.00	2.73	5.46	0.87	0.00	2.76	0.00	0.08	0.00	3.32
17	57.6	24	3.34	33	67	49.4	22	8	0	0.9	22053		9226		1271	2499	424	0	1320		37		2021	48.91	0.00	19.20	0.00	2.65	5.20	0.88	0.00	2.75	0.00	0.08	0.00	4.21
18	56.3	24	3.27	33	70	51.5	22	10	0	1.1	22070		8910		1275	2589	413	0	1140		36		2221	47.00	0.00	19.95	0.00	2.72	5.51	0.88	0.00	2.43	0.00	0.08	0.00	4.73
19	62.3	24	3.61	38	72	54.8	22	14	0	1.4	24153		9869		1469	2764	464	0	1220		40		1793	46.49	0.00	19.99	0.00	2.81	5.32	0.90	0.00	2.35	0.00	0.08	0.00	3.46
20	64.7	24	3.76	35	72	53.9	22	6	0	0.8	25664		10424		1572	2907	460	0	1490		41		1698	47.56	0.00	19.32	0.00	2.81	5.39	0.85	0.00	2.76	0.00	0.08	0.00	3.15
21	62.4	24	3.62	35	70	51.3	22	12	0	1.3	24717		10077		1367	2652	512	0	1460		40		1586	47.49	0.00	19.36	0.00	2.83	5.10	0.98	0.00	2.81	0.00	0.08	0.00	3.05
22	67.7	24	3.93	33	71	52.1	22	14	0	1.4	26427		11112		1694	2821	463	0	1660		44		1788	48.81	0.00	19.68	0.00	3.00	5.60	0.92	0.00	2.78	0.00	0.08	0.00	3.17
23	63.4	0	3.68	24	71	45.7	22	14	0	1.5	25066		10456		1630	2720	455	0	1450		42		1604	47.41	0.00	19.80	0.00	3.08	5.14	0.86	0.00	2.74	0.00	0.08	0.00	3.03
24	59.2	24	3.44	30	71	48.1	22	10	0	1.0	23398		9648		1518	2473	472	0	1350		38		1263	47.39	0.00	19.54	0.00	3.07	5.01	0.96	0.00	2.73	0.00	0.08	0.00	2.56
25	66.1	24	3.76	35	65	47.6	22	8	0	0.8	25423		10550		1676	2016	449	0	1480		43		1766	48.83	0.00	19.43	0.00	3.09	3.71	0.83	0.00	2.73	0.00	0.08	0.00	3.25
26	63.2	24	3.67	34	73	48.6	22	14	0	1.7	25796		10367		1684	3328	468	0	1470		41		1839	48.94	0.00	19.67	0.00	3.19	6.31	0.89	0.00	2.79	0.00	0.08	0.00	3.49
27	67.6	24	3.92	34	73	50.3	22	8	0	0.9	27548		10393		1698	2783	485	0	1540		46		1666	48.86	0.00	19.43	0.00	3.01	4.94	0.86	0.00	2.73	0.00	0.08	0.00	2.96
28	63.2	24	3.67	35	61	55.3	22	10	0	1.2	23638		9370		1302	2458	491	203	1360		41		1929	44.85	0.00	17.78	0.00	2.47	4.68	0.93	0.39	2.58	0.00	0.08	0.00	3.66
29	68.9	24	4.00	40	61	53.9	22	14	0	1.4	26402		10348		1351	2948	473	1033	1640		45		1584	45.95	0.00	18.01	0.00	2.35	5.13	0.82	1.80	2.85	0.00	0.08	0.00	2.76
30	65.7	24	3.81	40	61	52.4	22	4	0	0.6	24925		10424		1583	2859	474	988	1530		43		1962	45.49	0.00	19.82	0.00	2.89	5.22	0.87	1.80	2.70	0.00	0.08	0.00	3.58
31	67.3	24	3.91	34	62	48.6	22	20	0	2.0	26004		10765		1708	2749	478	983	1540		43		1641	46.33	0.00	19.18	0.00	3.04	4.90	0.85	1.75	2.74	0.00	0.08	0.00	2.92
TOT.	1929	720	86.6	1014	2250	1548	682	348	0	38.2	758193	0	314906	0	45623	84538	14428	10179	43330	0	1258	0	55023	1275	0.00	526	0.00	75.3	140	24.4	15.6	72.7	0.00	2.11	0.00	91.8
AVE	62.2	23.2	3.62	32.7	72.9	50.0	22.0	11.2	0.00	1.2	24490		10158		1472	2727	465	328	1398		40.6		1775	47.22	0.00	19.5	0.00	2.79	5.19	0.90	0.58	2.69	0.00	0.08	0.00	3.40
MAX	68.9	24	4.00	40	65	55.3	22	20	0	2.2	27548	0	11232	0	1708	3328	512	1033	1640	0	46	0	2679	49.06	0.00	20.5	0.00	3.19	6.31	1.00	1.80	2.85	0.00	0.08	0.00	4.73
MIN	52.2	0	3.03	24	51	44.0	22	4	0	0.5	20982	0	8601	0	1205	2016	398	0	1110	0	34	0	640	44.85	0.00	17.8	0.00	2.35	3.71	0.82	0.00	2.35	0.00	0.08	0.00	2.56

RATE OF BACKWASH (INS. RISE/MIN) 24 % WASH WATER 0.02 BASINS LAST CLEANED (CONTINUOUS)

SIGNED John Dankward KB

Grade: A Surface Certification No. 2679

EXHIBIT J

Month: Aug
Year: 20

REPORT OF PHYSICAL TESTS AND CHEMICAL ANALYSIS

N.C. Dept of Envi and Natural Resources
Division of Environme alth, Public Water Supply Section

PUBLIC WATER SYSYTEM FOR: **E.M. Johnson Water Treatment Plant** PWSID: **03-92-010**

SEP 06 2005

DATE	RAW WATER TEMP. C	TURBIDITY, NTU				COLOR, units		pH, units			CARBON DIOXIDE, mg/L			T. ALKALINITY, mg/L			T. HARDNESS, mg/L	
		RAW WATER	NO. OF TESTS FINISHED	% TESTS BELOW 0.3 NTU	VALUE EXCEEDING 1 NTU	RAW	FINISHED	RAW	FILTERED	FINISHED	RAW	FILTERED	FINISHED	RAW	FILTERED	FINISHED	RAW	FINISHED
1	28.6	5.3	24	100	0	202	0	6.3	6.4	8.3	28.71	16.70	0.36	30	23	38	30.0	29.0
2	29.0	7.2	24	100	0	202	0	6.2	6.4	8.5	31.79	17.09	0.25	27	23	37	29.0	29.0
3	29.2	9.1	24	100	0	273	0	6.4	6.5	8.5	22.56	16.55	0.26	29	25	38	29.5	29.0
4	29.4	9.9	24	100	0	300	0	6.4	6.5	8.7	22.56	14.49	0.12	29	24	35	29.0	29.0
5	9.5	11.4	24	100	0	275	0	6.3	6.5	8.7	26.44	13.84	0.16	27	24	39	29.5	29.5
6	29.4	11.1	24	100	0	268	0	6.3	6.4	8.4	26.80	16.70	0.28	28	23	37	28.0	29.5
7	29.3	10.6	24	100	0	302	1	6.3	6.4	8.4	23.76	16.72	0.28	26	22	32	28.5	28.7
8	29.8	10.5	24	100	0	272	0	6.2	6.4	8.2	41.05	18.34	0.42	29	22	37	28.5	29.0
9	28.8	10.7	24	100	0	285	0	7.4	6.4	8.0	2.44	16.21	0.64	28	19	34	29.0	29.0
10	29.3	10.3	24	100	0	303	2	6.2	6.3	8.3	32.97	22.56	0.38	28	22	37	29.0	29.0
11	29.0	10.7	24	100	0	302	0	6.3	6.4	8.3	29.06	19.65	0.36	29	22	36	28.5	29.5
12	29.4	10.2	24	100	0	280	0	6.3	6.4	8.5	20.10	14.86	0.16	21	20	27	29.0	29.0
13	29.5	10.2	24	100	0	290	0	6.3	6.5	8.5	29.67	15.25	0.22	27	22	38	28.5	29.0
14	29.5	10.3	24	100	0	291	0	6.3	6.5	8.6	26.19	15.23	0.19	28	23	36	28.5	29.0
15	29.7	9.7	24	100	0	297	0	6.2	6.6	8.7	30.12	11.83	0.14	25	21	34	29.0	28.8
16	29.9	8.8	24	100	0	272	0	6.3	6.5	8.7	30.36	14.54	0.16	27	23	39	29.0	28.1
17	29.8	9.1	24	100	0	262	0	6.3	6.5	8.7	25.25	14.54	0.16	27	23	39	29.0	29.5
18	29.1	8.7	24	100	0	262	3	6.4	6.5	8.7	24.11	14.88	0.16	27	23	39	29.0	29.0
19	29.5	9.2	24	100	0	275	0	6.3	6.4	8.6	27.06	15.97	0.19	27	22	38	29.5	29.0
20	29.4	9.5	24	100	0	320	0	6.4	6.5	8.5	25.01	13.28	0.24	28	21	36	29.0	29.0
21	29.7	8.9	24	100	0	275	0	6.4	6.5	8.6	23.34	13.28	0.21	28	21	38	28.5	28.6
22	30.0	9.3	24	100	0	336	4	6.2	6.5	8.6	31.79	14.90	0.17	27	21	37	29.0	29.0
23	29.5	9.2	24	100	0	284	0	6.3	6.5	8.7	27.92	14.23	0.15	26	22	39	29.0	29.0
24	29.7	8.2	24	100	0	299	0	6.3	6.6	8.7	22.56	9.54	0.13	22	19	32	29.0	29.0
25	29.6	7.9	24	100	0	264	0	6.4	6.6	8.7	18.76	9.36	0.13	21	17	31	29.0	29.0
26	28.9	8.8	24	100	0	278	1	6.4	6.6	8.7	21.18	11.30	0.14	26	21	36	29.0	29.0
27	28.7	9.1	24	100	0	280	0	19.6	6.6	9.7	0.00	10.28	0.01	23	20	31	29.0	29.0
28	28.7	8.8	24	100	0	277	0	6.5	6.6	8.2	18.44	10.54	0.43	26	21	34	29.0	29.0
29	29.7	9.1	24	100	0	301	0	6.4	6.6	7.1	19.00	10.07	4.54	25	21	30	29.5	29.1
30	29.4	8.5	24	100	0	294	0	6.4	6.6	7.4	18.57	10.54	2.46	25	21	31	29.0	29.0
31	29.0	8.8	24	100	0	333	12	6.4	6.7	7.7	21.49	9.40	1.27	27	21	35	29.0	29.0
AVG:	28.7	9.3	24	100	0	282	1	6.8	6.5	8.4	24.16	14.28	0.48	27	22	35	29.0	29.0
MAX:	30.0	11.4	24	100	0	336	12	19.6	6.7	9.7	41.05	22.56	4.54	30	25	39	30.0	29.5
MIN:	9.5	5.3	24	100	0	202	0	6.2	6.3	7.1	0.00	9.36	0.01	21	17	27	28.0	28.1

PART II - DEHNR 1940 (revised 5/93) Equivalent
Water Supply (review 5/96)

CERTIFIED BY: [signature]

SIGNED: John Dorland KB

LABORATORY ID#: 37604

CERTIFICATE GRADE: A NO: 2679

Month: August
Year: [redacted]

REPORT OF PHYSICAL TESTS AND CHEMICAL ANALYSIS

N.C. Department of Environment and Natural Resources
Division of Environmental Health, Public Water Supply Section

PUBLIC WATER SYSTEM FOR: **E.M. Johnson Water Treatment Plant** PWSID: **03-92-010**

RECEIVED
SEP 06 2005
PUBLIC WATER SUPPLY SECTION

DATE	DISSOLVED OXYGEN, mg/l	IRON, mg/L		MANGANESE, mg/L		FLUORIDE, mg/L		CHLORIDE, mg/L		NITRATE mg/L as N	SILICA mg/L as SiO2	RESIDUAL CHLORINE			CT	
	RAW	RAW	FINISHED	RAW	FINISHED	RAW	FINISHED	RAW	FINISHED	FINISHED	FINISHED	BEFORE FILTER	MINIMUM AT POE	SYSTEM: # OF TESTS BELOW 2.0	CALCULATED	CT CALCULATED/ CT
1		0.110	0.003	0.65	0.00	0.10	0.98					0.60	3.49	0	169.7	21.7
2		0.093	0.000	0.79	0.00	<0.1	0.98					0.60	3.75	0	185.0	22.8
3		0.129	0.000	0.94	0.00	<0.1	0.96				5.60		0.85	0	155.7	20.3
4		0.713	0.000	0.94	0.00	<0.1	1.02					1.90	3.96	0	189.5	22.9
5		1.030	0.000	0.91	0.00	<0.1	1.03						3.50		181.4	23.3
6		0.860	0.000	1.01	0.00	<0.1	1.02					1.20	3.28		159.3	22.6
7		0.157	0.000	1.09	0.00	0.13	0.95						3.43		162.0	23.2
8	4.46	0.141	0.000	1.03	0.00	0.12	0.94					1.40	3.49	0	162.0	23.2
9	4.14	0.141	0.000	0.73	0.00	0.21	0.93					1.70	3.36	0	157.5	22.0
10	4.03	0.119	0.000	1.14	0.00	0.12	0.81			0.12	5.60	0.20	3.30	0	165.6	22.0
11	4.16	0.141	0.000	1.02	0.00	0.12	0.85					0.80	3.49		171.0	23.2
12	4.48	0.127	0.000	0.60	0.00	0.13	1.01					14.03	4.08		188.6	23.9
13		0.131	0.000	1.03	0.00	0.14	1.04					0.50	3.80		178.7	24.1
14		0.132	0.000	1.00	0.00	0.12	0.71					0.30	3.85		181.4	21.9
15		0.148	0.000	0.81	0.00	0.12	0.16						2.77		181.4	24.0
16	4.25	0.104	0.000	0.79	0.00	0.12	0.14					0.44	3.10	0	184.5	23.4
17		0.125	0.000	0.91	0.00	0.12	0.14			0.12	5.60		3.69	0	179.1	22.6
18	3.61	0.122	0.000	0.91	0.00	0.12	0.14					1.00	3.69	0	173.3	21.7
19	4.61	0.121	0.000	1.03	0.00	0.13	0.14					0.40	3.90		184.1	23.5
20		0.112	0.000	1.06	0.00	0.13	0.14					0.52	3.60		179.6	25.3
21		0.128	0.000	0.90	0.00	0.13	0.12					0.40	3.75		194.4	27.0
22	4.27	0.158	0.000	0.84	0.00	0.13	0.12					0.30	3.50	0	174.2	26.4
23	4.23	0.103	0.000	0.88	0.00	0.13	0.120					0.40	3.91	0	186.8	27.6
24	4.20	0.146	0.000	0.74	0.00	0.14	0.12	8.43	14.07	0.13	6.05	0.50	4.00		186.8	26.5
25	4.10	0.132	0.000	0.64	0.00	0.12	0.14					1.50	3.87	0	178.2	24.3
26	4.90	0.122	0.000	1.01	0.00	0.12	0.14					3.40	3.90		186.3	22.3
27		0.108	0.000	0.67	0.00	0.13	0.13					2.75	3.80		181.8	23.4
28		0.116	0.001	0.77	0.00	0.13	0.13						3.35		184.1	25.5
29	4.66	0.147	0.000	0.85	0.00	0.13	1.62					0.20	3.30		165.6	28.3
30	4.95	0.126	0.000	0.93	0.00	0.13	1.93					1.09	3.61		174.6	26.1
31	4.93	0.129	0.000	0.97	0.00	0.13	1.92					1.18	3.60		169.2	23.9
AVG:	4.37	0.199	0.000	0.89	0.00	0.13	0.66	8.43	14.07	0.12	5.71	1.49	3.5	0	176.5	23.8
MAX:	4.95	1.030	0.003	1.14	0.00	0.21	1.93	8.43	14.07	0.13	6.05	14.03	4.1	0	194.4	28.3
MIN:	3.61	0.093	<0.025	0.60	0.00	0.10	0.12	8.43	14.07	0.12	5.60	0.20	0.9	0	155.7	20.3

PART II - DEHNR 1940 (Revised 5/93) Equivalent
Water Supply (review 5/96)

CERTIFIED BY: Tammy

SIGNED: [signature]

LABORATORY ID#: 37604

CERTIFICATE GRADE: A NO: 2679

N.C DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH, PUBLIC WATER SUPPLY SECTION

TURBIDITY MONITORING REPORT

RECEIVED
SEP 06 2005
BAL

MONTH: August
YEAR: 2005

PUBLIC WATER SYSTEM FOR: E.M. JOHNSON WATER PLANT

PWSID: 03-92-010

DATE	TIME	RESULT (NTU)	TIME	RESULT (NTU)	TIME	RESULT (NTU)	TIME	RESULT (NTU)	TIME	RESULT (NTU)	TIME	RESULT (NTU)
1	2	3	4	5	6	7	8	9	10	11	12	13
1	100	0.06	700	0.06	900	0.05	1500	0.05	1700	0.05	2100	0.05
2	300	0.06	500	0.06	900	0.06	1500	0.07	1700	0.05	2200	0.05
3	400	0.06	500	0.07	900	0.06	1400	0.06	1800	0.05	2300	0.06
4	200	0.07	800	0.06	900	0.06	1300	0.06	1900	0.05	2100	0.05
5	100	0.06	700	0.05	1100	0.05	1400	0.05	1900	0.05	2100	0.05
6	400	0.05	700	0.07	1100	0.06	1500	0.06	1800	0.06	2200	0.05
7	100	0.05	500	0.05	1000	0.05	1300	0.05	2000	0.05	2300	0.05
8	100	0.05	600	0.06	1100	0.06	1300	0.06	1700	0.06	2200	0.06
9	300	0.07	500	0.06	1100	0.07	1300	0.06	2000	0.05	2400	0.06
10	100	0.06	500	0.06	900	0.06	1400	0.06	1700	0.05	2400	0.06
11	100	0.05	800	0.06	900	0.05	1300	0.06	1700	0.05	2100	0.06
12	100	0.06	700	0.06	1000	0.07	1300	0.05	2000	0.05	2100	0.05
13	400	0.06	800	0.06	1000	0.06	1500	0.07	1700	0.06	2300	0.05
14	100	0.06	800	0.06	900	0.06	1500	0.06	1900	0.06	2200	0.06
15	400	0.07	500	0.06	900	0.06	1600	0.06	1700	0.05	2400	0.06
16	200	0.06	600	0.06	900	0.06	1300	0.05	1800	0.05	2300	0.06
17	400	0.06	600	0.06	1200	0.06	1400	0.06	2000	0.06	2300	0.06
18	300	0.07	500	0.06	1200	0.06	1400	0.05	2000	0.06	2100	0.06
19	400	0.06	500	0.07	1200	0.06	1300	0.06	1800	0.06	2200	0.06
20	300	0.06	600	0.05	900	0.05	1400	0.05	1800	0.06	2400	0.06
21	200	0.06	800	0.07	1200	0.06	1500	0.06	1700	0.05	2400	0.05
22	200	0.06	700	0.06	1100	0.06	1300	0.05	1900	0.07	2100	0.05
23	300	0.06	600	0.06	1200	0.06	1400	0.07	2000	0.06	2400	0.06
24	300	0.06	800	0.06	1200	0.06	1600	0.07	2000	0.08	2400	0.07
25	100	0.06	500	0.07	1200	0.06	1300	0.06	1700	0.05	2100	0.05
26	200	0.06	600	0.06	1200	0.12	1600	0.07	2000	0.06	2100	0.06
27	400	0.06	600	0.06	1000	0.07	1300	0.05	1700	0.05	2300	0.05
28	100	0.05	800	0.06	900	0.05	1300	0.05	1900	0.05	2200	0.06
29	400	0.06	500	0.06	1200	0.06	1300	0.06	1700	0.05	2200	0.05
30	100	0.05	800	0.05	1000	0.05	1600	0.06	1700	0.05	2400	0.05
31	400	0.07	700	0.06	1200	0.07	1300	0.06	1900	0.07	2200	0.05

PART III
DENR 1940(5/93)EQUIVALENT
WATER SUPPLY (REVIEW 5/96)

CERTIFIED BY: Larry McMillan

SIGNED: John Daniel KP CERTIFICATE GRADE: A NO. 2679

AVG	0.06
MAX	0.12
MIN	0.05

N.C. DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH, PUBLIC WATER SUPPLY SECTION

RESIDUAL DISINFECTANT (CHLORINE) MONITORING REPORT

RECEIVED
SEP 06 2005

MONTH: August
YEAR: 2005

PUBLIC WATER SYSTEM FOR: E.M. JOHNSON WATER PLANT

PWSID: 03-92-010

DATE	TIME	RESULT MG/L	TIME	RESULT MG/L	TIME	RESULT MG/L	TIME	RESULT MG/L	TIME	RESULT MG/L	TIME	RESULT MG/L
1	2	3	4	5	6	7	8	9	10	11	12	13
1	100	3.49	600	3.72	900	3.76	1300	3.71	1900	3.84	2300	3.56
2	100	3.75	500	3.83	900	3.89	1300	4.22	1700	4.26	2300	3.95
3	300	3.98	600	4.11	1200	3.04	1400	0.85	1700	2.20	2100	3.80
4	200	3.96	500	3.96	900	4.08	1300	4.20	1800	4.26	2300	4.25
5	100	4.34	800	4.32	1200	4.14	1600	3.81	1900	3.50	2200	3.50
6	100	3.60	800	3.41	1000	3.28	1300	3.51	2000	3.50	2200	3.50
7	200	3.58	500	3.57	1100	3.60	1300	3.43	1900	3.50	2200	3.50
8	100	3.50	600	3.50	900	3.53	1300	3.52	1800	3.57	2400	3.49
9	100	3.50	700	3.36	1200	3.36	1600	3.49	2000	3.45	2300	3.44
10	200	3.40	600	3.30	900	3.45	1300	3.73	1900	3.88	2400	3.61
11	300	3.63	500	3.65	1100	3.57	1600	3.49	1700	3.61	2100	4.03
12	100	4.10	800	4.10	1200	4.10	1300	4.10	1900	4.08	2200	4.10
13	400	3.96	500	4.00	1200	3.87	1300	3.96	1800	3.80	2400	3.83
14	100	3.85	600	3.88	1000	3.85	1300	3.85	1800	4.00	2200	4.27
15	400	4.20	500	4.20	1000	4.20	1600	4.04	1800	4.03	2400	2.77
16	100	3.10	800	4.10	1100	4.22	1300	3.22	1700	4.18	2300	4.06
17	200	4.00	500	4.10	900	3.80	1300	3.94	1800	3.83	2400	3.69
18	100	3.69	600	3.69	900	3.71	1300	3.80	1700	3.89	2300	3.90
19	100	4.00	700	3.90	900	4.03	1300	4.10	1900	4.05	2400	4.05
20	300	3.95	800	3.83	1000	3.88	1300	3.94	1800	3.99	2100	3.60
21	200	4.08	700	4.10	1000	4.02	1300	4.10	2000	4.22	2400	3.75
22	200	3.50	500	3.50	900	3.75	1400	4.01	1900	3.90	2100	4.12
23	400	4.11	600	3.91	900	4.09	1500	4.23	2000	4.10	2200	4.00
24	100	4.00	600	4.00	1200	4.11	1300	4.17	1800	4.15	2300	4.13
25	300	4.00	700	3.97	900	3.89	1300	3.90	1700	3.88	2100	3.87
26	400	3.90	500	4.00	1100	4.10	1400	4.10	1900	4.17	2100	4.16
27	400	4.09	600	4.11	1200	4.00	1300	3.90	1900	3.90	2100	3.80
28	100	3.93	600	4.03	1000	3.95	1300	4.00	2000	4.22	2300	3.35
29	100	3.51	800	3.30	900	3.49	1400	3.65	2000	3.74	2400	3.73
30	100	3.77	500	3.94	1200	4.02	1600	3.67	1800	3.61	2200	3.66
31	100	3.60	700	3.70	1200	3.64	1400	3.70	1700	3.77	2200	3.66

PART IV
DENR 1940 (5/93)
WATER SUPPLY (REVIEW 5/96)

CERTIFIED BY: Tony McMillan LABORATORY ID# 37604

SIGNED: John Scotland Lmon CERTIFICATE GRADE: A NO. 2679

AVG	3.81
MAX	4.34
MIN	0.85

Month: **August**
Year: **2005**

Individual Filter Monitoring Report

PWS: **City of Raleigh – E.M. Johnson WTP** PWS ID#: **03-92-010**

Did any Individual Filter Turbidity Exceedance(s) trigger the EPA-required reporting during this month? Yes ☐ No ☒
If yes, please enter the appropriate information in the table below for each exceedance.

Filter #	Turbidity	Date(s) Exceeded	Reason for Exceedance	Corrective Action Taken

I certify that turbidity was measured for each individual filter at least every 15 minutes for the entire month and that records are available for review:

DENR 1940, Part V
Water Supply

ORC: _____ Certification Grade: A No. 2679

RECEIVED
SEP 06 2005
PUBLIC WATER SUPPLY SECTION

Month: August 2005
Year: [redacted]

N.C. Department of Environment, and Natural Resources

MICROBIOLOGICAL OPERATIONS REPORT

Public Water System For: [redacted] E.M. Johnson Water Treatment Plant PWSID: 03-92[redacted]

DATE	RAW WATER												FILTERED				ENTRY POINT				INCUBATOR TEMP.	REMARKS
	MEMBRANE FILTER PROCEDURES						COLILERT MPN PROCEDURES					COLI-FORMS PER 100 mL	TOTAL PLATE COUNT per mL	COLIFORMS/100mL			TOTAL PLATE COUNT per mL	COLIFORMS/100mL				
	A		B		C		COLILERT QUANTI-TRAY							MEMBRANE FILTER	MULTIPLE TUBE	COLILERT		MEMBRANE FILTER	MULTIPLE TUBE	COLILERT		
	TOTAL COLONIES	COLIFORM COLONIES	TOTAL COLONIES	COLIFORM COLONIES	TOTAL COLONIES	COLIFORM COLONIES	ml USED	Lg. YELLOW	Sm. YELLOW	Lg. FLUOR	Sm. FLUOR											
(1)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
1							1	47	10	1	0	16070	<2			A	<2			A	35.0	
2							1	45	13	0	0	14830	<2			A	<2			A	35.0	
3							1	48	14	0	0	20980	<2			A	<2			A	35.0	
4							1	48	10	0	0	17890	<2			A	<2			A	35.0	
5							1	49	11	0	0	21430	<2			A	<2			A	35.1	
6							1	47	5	0	0	13540	<2			A	<2			A		
7							1	39	5	0	0	8130	<2			A	<2			A		
8							1	43	8	0	0	11120	<2			A	<2			A	34.9	
9							1	47	6	0	0	14010	<2			A	<2			A	35.0	
10							1	42	4	2	1	9320	<2			A	<2			A	35.0	
11							1	49	12	1	0	22470	<2			A	<2			A	35.0	
12							1	49	22	0	0	38730	<2			A	<2			A	35.0	
13							1	49	0	19	0	13550	<2			A	<2			A		
14							1	41	3	0	0	8550	<2			A	<2			A		
15							1	41	10	1	0	10430	<2			A	<2			A	35.1	
16							1	45	6	1	0	11980	<2			A	<2			A	35.0	
17							1	45	9	0	0	13140	<2			A	<2			A	35.0	
18							1	48	11	0	0	18600	<2			A	<2			A	35.0	
19							1	49	22	0	0	38730	<2			A	<2			A	35.1	
20							1	49	20	0	0	34480	<2			A	<2			A		
21							1	49	19	0	0	32550	4			A	<2			A		
22							1	49	17	2	0	29090	<2			A	<2			A	35.0	
23							1	49	28	0	0	54750	<2			A	<2			A	35.0	
24							1	49	18	0	0	30760	<2			A	<2			A	35.0	
25							1	49	19	0	0	32550	<2			A	<2			A	35.0	
26							1	49	15	0	0	26130	<2			A	<2			A	35.0	
27							1	49	18	0	0	30760	<2			A	2			A		
28							1	49	22	0	0	38730	<2			A	<2			A		
29							1	47	13	1	0	17850	<2			A	<2			A	35.0	
30							1	48	13	2	0	20140	<2			A	<2			A	35.0	
31							1	49	18	0	0	30760	<2			A	<2			A	35.2	

CERTIFIED BY: Larry Mimlin (Signature)

ORC: John Dullard KB (Signature)

LABORATORY ID #: 37604

CERTIFICATION GRADE: A NO.: 2679

DEHNR 3763 (12/90): Equivalent
Public Water Supply Section (Review 12/92)

Month: August
Year: 2005

NC Department of Environment and Natural Resources
Division of Environmental Health, Public Water Supply Section

Surface Water System Monthly Operating Report

DBP Precursor Removal Performance

System Name: City of Raleigh	System PWS ID#: 03-92-010
Source Name: Falls Lake	Source Code: SO1
Facility / Plant Name: EM Johnson Water Treatment Plant	Treated Code: EP1
Lab Cert ID#: 37604	

Year	Month	Source Water Alkalinity (mg/L)	Source Water TOC (mg/L)	Treated Water TOC (mg/L)	(A) Actual % TOC Removal	(B) Required % TOC Removal	Removal Ratio (A) / (B)	Method Used to Determine Ratio	Quarterly Average Ratio	RAA[1] Ratio (Last 4 Quarters)
2004	October	31.0	5.843	2.353	59.7	45	1.33	Step 1		
	November	29.3	5.251	2.355	55.1	45	1.23	Step 1	1.30	1.30
	December	27.5	5.850	2.296	60.8	45	1.35	Step 1		
2005	January	29.6	6.221	2.285	63.3	45	1.41	Step 1		
	February	26.5	6.380	2.189	65.7	45	1.46	Step 1	1.44	1.37
	March	25.0	7.276	2.500	65.6	45	1.46	Step 1		
2005	April	24.4	6.255	2.320	62.9	45	1.40	Step 1		
	May	26.3	6.100	2.310	62.1	45	1.38	Step 1	1.36	1.37
	June	25.6	5.390	2.210	59.0	45	1.31	Step 1		
2005	July	27.5	4.680	2.120	54.7	45	1.22	Step 1		
	August	25.0	4.880	2.060	57.8	45	1.28	Step 1	1.25	1.34
	September					45		Step 1		

[1]RAA =Running Annual Average Computed Quarterly

Alternative Compliance Criteria

(Should only be filled out if using Alternative Compliance Criteria - see chart below)

Year	Month	Source water UV_{254} (m^{-1})	Source water DOC mg/L	Source water SUVA (L/mg-m)	Source water QTR AVG	Source water RAA	Treated water UV_{254} (m^{-1})	Treated water DOC mg/L	Treated water SUVA (L/mg-m)	Treated water QTR AVG	Treated water RAA
	January										
	February										
	March										
	April										
	May										
	June										
	July										
	August										
	September										
	October										
	November										
	December										

Alternative Compliance Criteria		
Alt. 1	Source Water TOC <2.0 mg/L	[ ]
Alt. 2	Treated Water TOC < 2.0 mg/L	[ ]
Alt. 3	Source Water SUVA ≤ 2.0 L/mg-m	[ ]
Alt. 4	Treated Water SUVA ≤ 2.0 L/mg-m	[ ]
Alt. 5	Treated Water Alkalinity < 60 mg/L	[ ]

Softening Systems Only >

Data Certified By: John Garland LMEN (Signature) Date: 9/2/05

DENR Form DBP3 (2001)

RECEIVED
SEP 06 2005

Month: **August**
Year: **2005**

NC Department of Environment and Natural Resources
Division of Environmental Health, Public Water Supply Section

Surface Water System Monthly Operating Report (Ozone)

DBP Precursor Removal Performance

Water System Name: City of Raleigh	PWS ID Number: 03-92-010
Facility / Plant Name: EM Johnson Water Treatment Plant	Entry Point Code: EP1
Source Name: Falls Lake	Source Code: SO1
	Lab Cert ID#: 37604 (Bromate); 37721 (Bromide)

Monthly Data

Date (At least 1 Monthly Sample is Required)	Monthly Bromate at EP (mg/L)	* Monthly Source Water Bromide (mg/L)
08/10/05	<0.01	0.033
	<0.01	0.033

Quarterly Data

Month / Year	Bromate		Bromide	
	Monthly Average (mg/L)	Quarterly Average (mg/L)	Monthly Average (mg/L)	Quarterly Average (mg/L)
October, 2004	<0.01		0.050	
November, 2004	<0.01	<0.01	0.050	0.050
December, 2004	<0.01		0.050	
January, 2005	<0.01		0.040	
February, 2005	<0.01	<0.01	0.020	0.030
March, 2005	<0.01		0.030	
April, 2005	<0.01		0.020	
May, 2005	<0.01	<0.01	0.030	0.027
June, 2005	<0.01		0.030	
July, 2005	<0.01		0.030	
August, 2005	<0.01	<0.01	0.033	0.032
September, 2005				

Bromate Running Annual Average at the end of most recent quarter: <0.01

Bromide Running Annual Average at the end of most recent quarter: 0.035

* Monthly Bromide monitoring is only required if seeking or maintaining reduced Bromate monitoring.

Type of Bromate Monitoring: Routine [X] Reduced [ ]

Data Certified By: John Overland Date 9/2/05

Signature

DENR Form DBP2 (2001)

RECEIVED
SEP 06 2005
PUBLIC WATER SUPPLY SECTION

Increase to Nutrient Offset Fees

Environmental Review Commission
May 3, 2006

Background

- Voluntary Program – Established by EMC
- Response to S.L. 1995-572
- Used to meet estuary nitrogen load in Neuse
- Provides options/flexibility for development
- Development pays fee to "purchase" nitrogen reduction off-site.
- EEP uses fees to mitigate off-site.

Original Offset Fee

- Established in 1998.
- Set at $11 per pound of nitrogen per year.
- Based on very little field data.
- Never updated or changed until now.
- Limited to Neuse River Basin.

Need for Changes

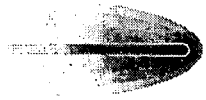
- Original fee was never updated.
- Program is entirely self-sustaining.
  - Receives no outside funding.
- Original fee not sufficient to pay for "purchased" stormwater mitigation.
- If fee was not changed – program could not support itself.

Requested Changes

- Oct 04: WQC requests changes to program.
- Regulated community in Tar-Pam requested access to program for Tar-Pam NSW Rules.
- Changes to accomplish two goals.
  - Update fee.
  - Expand program to Tar-Pam River Basin.

Proposed Changes to Offset Rule

- Expand program to Tar-Pam Basin.
- Change nitrogen fee to $57 per pound.
- Incorporate mechanism for land costs.
  - Land costs for mitigation sites not included in original rule.
  - EEP must purchase land near development site for mitigation.



For further information contact:

Tom Reeder
919-733-5083 extension 528
tom.reeder@ncmail.net

Why $57 per pound?

- $57/lb based on actual NCSU field data.
- Orig. $11/lb based on very little field data.
- $11/lb assumed $24K per acre of mitigation
- NCSU costs – approx. $100K per acre.
  - $100K does not include land costs.
- Verified costs with other sources.
  - $150K + per acre of mitigation w/o land costs.

Rulemaking Process

- Changes followed APA Rulemaking Proc.
- Noticed in Sept 1, 2005 *NC Register*
  - EMC specifically solicited alternative cost data.
- 2 Public Hearings
- Approved by GovOps in Oct 2005.
- Approved by RRC in Feb 2006
  - No letters requested legislative review.

Summary

- Voluntary Program
- Completely self-sustaining
- Changes allowed program to continue operation & expand to Tar-Pam.
- Fee change based on actual costs.

MINUTES
ENVIRONMENTAL REVIEW COMMISSION
15 May 2006

The Environmental Review Commission (ERC) met on Monday 15 May 2006 at 4:00 p.m. in Room 544 of the Legislative Office Building. Senator Albertson presided.

The following members were present: Senators Albertson, Bingham, Dorsett, Kinnaird, and Swindell; and Representatives Gibson, Hackney, Harrison, Justice, and Warren. Mr. George Givens, Commission Counsel; Mr. Jeffrey Hudson, Assistant Commission Counsel; Ms. Jennifer McGinnis, Assistant Commission Counsel; Mr. Tim Dodge, Commission Analyst; and Ms. Dot Waugaman, Commission Clerk, were also present.

On 10 May 2006, notice was sent to members and interested parties via e-mail and regular mail. A copy of the notice of the meeting is included in the attachments to these minutes as **Exhibit A**. Copies of the agenda for the meeting and visitor registration sheets are included in the attachments as **Exhibits B** and **C**.

Senator Albertson welcomed the members and audience and recognized Mr. Givens for his comments. Mr. Givens said there are 27 bills to be considered. Twenty-five of the draft bills were attached to a memorandum to the members (see **Exhibit D**). The other two drafts were handed out separately.

Senator Albertson announced each of the drafts by short title, asked for discussion, requested a motion on acceptance of each draft, and votes were taken. Mr. George Givens pointed out that the bills that are approved will be included in the final report of the Commission to the General Assembly and therefore be made eligible for consideration during the short session. The results are as follows:

- **Environmental Technical Corrections 2006 – 2005-SYz-29 [v.3] (04/21)** (see **Exhibit E**)
  Mr. George Givens said there are no controversial items in the bill. Representative Pryor Gibson moved that the bill be recommended for consideration by the General Assembly during the 2006 Regular Session and included as a legislative proposal in the report of the Commission to the General Assembly. Motion carried

- **Amend Environmental Laws 2006 – 2005-SYz-27 [v.5] (03/26)** (see **Exhibit F**)
  Mr. Givens stated there were five items in the bill. Representative Gibson moved that the bill be recommended for consideration by the General Assembly during the 2006 Regular Session and included as a legislative proposal in the report of the Commission to the General Assembly. Motion carried.

- **Amend Natural Resources Laws 2006 – 2005-SYz-34 [v.34] (05/09)** (see **Exhibit G**)
  Mr. Givens stated there were three items in the bill. Representative Gibson moved that the bill be recommended for consideration by the General Assembly during the 2006 Regular Session and included as a legislative proposal in the report of the Commission to the General Assembly. Motion carried.

- **Environmental Reports Consolidation 2006 – 2005-SYz-31 [v.3] (04/21)** (see **Exhibit H**)
  Representative Gibson moved that the bill be recommended for consideration by the General Assembly during the 2006 Regular Session and included as a legislative proposal in the report of the Commission to the General Assembly. Motion carried.

- **Delay CWMTF Amendments – 2005-Rlz-15 [v.3] (04/14)** (see **Exhibit I**)
  The bill was requested by Mr. William Holman on behalf of the Board of the Clean Water Management Trust Fund. Representative Gibson moved that the bill be recommended for consideration by the General Assembly during the 2006 Regular Session and included as a

legislative proposal in the report of the Commission to the General Assembly. Motion carried.

- **Extend Climate Change Commission – 2005-SYz-25 [v.6] (04/25)** (see **Exhibit J)**
  The bill was requested by the Climate Change Commission. Representative Pricey Harrison moved that the bill be recommended for consideration by the General Assembly during the 2006 Regular Session and included as a legislative proposal in the report of the Commission to the General Assembly. Motion carried.

- **Fund Stream Mapping – 2005-Rlz-16 [v.3] (04/14)** (see **Exhibit K**)
  The bill was requested by the Clean Water Management Trust Fund. Representative Gibson moved that the bill be recommended for consideration by the General Assembly during the 2006 Regular Session and included as a legislative proposal in the report of the Commission to the General Assembly. Motion carried.

- **State Parks System Additions – 2005-Rlz-13 [v.2] (04/04)** (see **Exhibit** L)
  The bill was requested by the Division of Parks and Recreation. Representative Gibson moved that the bill be recommended for consideration by the General Assembly during the 2006 Regular Session and included as a legislative proposal in the report of the Commission to the General Assembly. Motion carried.

- **Tax Credits for Certain Real Prop. Donations – 2005-Flfz-19 [v.4] (03/14/)** (see **Exhibit M**)
  The bill was introduced last year, but the ERC was asked to re-recommend the bill for the short session. Representative Gibson moved that the bill be recommended for consideration by the General Assembly during the 2006 Regular Session and included as a legislative proposal in the report of the Commission to the General Assembly. Senator Bingham asked for an explanation of the tax election cap on page 2 of the bill. Mr. Bill Flournoy, DENR, who manages the conservation tax credit program, explained that DENR is requesting that the tax credit be allowed to be claimed against franchise tax and gross premium tax as well as income tax to allow those who do not have to pay income tax other ways to use the tax credit. Senator Bingham asked how much of an impact it would be. Mr. Flournoy said he did not know but would get the information for the Commission. Motion carried.

- **Mercury Switch Amendments – 2005-Rlz-17 [v.4] (05/03)** (see **Exhibit N**)
  Senator Bingham asked if there was any controversy on the part of the salvage dealers on the provisions of the bill. Mr. Dexter Matthews, Director of the Division of Waste Management, DENR, reported that the Division is still working with stakeholders. There is interest in a new federal program agreement in which the auto manufacturers will assist in the removal of the switches by paying for the transportation of the material. The bill would give time for the agreement to become effective. If the agreement at the federal level is reached, then all stakeholders will be content. Representative Gibson moved that the bill be recommended for consideration by the General Assembly during the 2006 Regular Session and included as a legislative proposal in the report of the Commission to the General Assembly. Motion carried.

- **Underground Storage Tank Amendments 2006 – 2005-RTfz-20 [v.3] (05/03)** (see **Exhibit O**)
  Senator Bingham asked where the pilot program for site specific cleanup standards will be. Mr. Givens replied the pilot program will be used at the discretion of the responsible parties at various sites. Mr. Grover Nicholson, Underground Storage Tank Program, DENR, said he does not know how many sites would elect to use the program, but he believes it will be multiple sites. There is a time limit in the bill, but not a number of sites limit. Representative Gibson moved that the bill be recommended for consideration by the General Assembly during the 2006 Regular Session and included as a legislative proposal in the report of the Commission to the General Assembly. Motion carried.

- **Underground Storage Tank Prgm. Funds – 2005-RTz-21 [v.1] (05/03)** (see **Exhibit P**)
  Representative Gibson moved that the bill be recommended for consideration by the General Assembly during the 2006 Regular Session and included as a legislative proposal in the report of

the Commission to the General Assembly. Motion carried.

- **Stormwater Management 2006 – 2005-RTz-19 [v.7] (05/03)** (see **Exhibit Q**)
  Mr. Givens said the bill is a work in progress. It reflects the work of the stakeholders group on a group of issues being negotiated. There is a commitment from all interested parties to continue to negotiate in good faith, but consensus has not yet been reached. If the General Assembly does not act this year, there will be two sets of competing stormwater rules that do not agree. The bill would disapprove the rules and repeal the Session Law and provide for a compromise scheme that would fall somewhere between the two. Representative Gibson moved that the bill be recommended for consideration by the General Assembly during the 2006 Regular Session and included as a legislative proposal in the report of the Commission to the General Assembly. Motion carried.

- **Low Emission Vehicles/Funds – 2005-SYz-40 [v.1] (05/09)** (see **Exhibit R**)
  Representative Harrison moved that the bill be recommended for consideration by the General Assembly during the 2006 Regular Session and included as a legislative proposal in the report of the Commission to the General Assembly. Motion carried.

- **Child Lead Poisoning/DENR Authority – 2005-SYz-39 [v.1] (05/09)** (see **Exhibit S**)
  Senator Bingham moved that the bill be recommended for consideration by the General Assembly during the 2006 Regular Session and included as a legislative proposal in the report of the Commission to the General Assembly. Motion carried.

- **Radiation Protection Program Fee Amendments – 2005-SYfz-37 [v.3] (05/09)** (see **Exhibit T**)
  Representative Harrison moved that the bill be recommended for consideration by the General Assembly during the 2006 Regular Session and included as a legislative proposal in the report of the Commission to the General Assembly. Motion carried.

- **Amend Sanitary District Authority – 2005-Rlz-14 [v.3] (04/14)** (see **Exhibit U**)
  Senator Bingham asked if someone who has a functional septic tank could be required to hook up to a sewer system. Mr. William Holman, Executive Director of the Clean Water Management Trust Fund, answered that the bill will treat sanitary districts the same as other water and sewer units and a person with a functional septic tank could be required to hook up to a sewer system to make it economically feasible for the service provider. Senator Bingham moved that the bill be recommended for consideration by the General Assembly during the 2006 Regular Session and included as a legislative proposal in the report of the Commission to the General Assembly. Motion carried.

- **Well Construction Fund/Grants for Local Prgms. – 2005-SYz-33 [v.3] (05/09)** (see **Exhibit V**)
  Representative Harrison moved that the bill be recommended for consideration by the General Assembly during the 2006 Regular Session and included as a legislative proposal in the report of the Commission to the General Assembly. Motion carried.

- **Private Drinking Water Wells/Local Well Prgms. – 2005-SYz-41 [v.2] (05/09)** (see **Exhibit W**)
  Representative Gibson moved that the bill be recommended for consideration by the General Assembly during the 2006 Regular Session and included as a legislative proposal in the report of the Commission to the General Assembly. Motion carried.

- **Clarify Animal Waste Tech Specialist Cert Rqs. – 2005-SYz-28 [v.3] (04/01)** (see **Exhibit X**)
  Representative Gibson moved that the bill be recommended for consideration by the General Assembly during the 2006 Regular Session and included as a legislative proposal in the report of the Commission to the General Assembly. Motion carried.

- **Community Conservation Assistance Program – 2005-SYz-38 [v.3] (05/09)** (see **Exhibit Y**)
  Representative Gibson moved that the bill be recommended for consideration by the General

Assembly during the 2006 Regular Session and included as a legislative proposal in the report of the Commission to the General Assembly. Motion carried.

- **Amend Solid Waste Franchise Statutes – 2005-RIz-18 [v.s] (01/24)** (see **Exhibit Z**) Representative Harrison moved that the bill be recommended for consideration by the General Assembly during the 2006 Regular Session and included as a legislative proposal in the report of the Commission to the General Assembly. Ms. Robin Smith, Assistant Secretary, DENR, explained that the primary consideration of the bill is to make sure that the public notice and public participation requirements already in the statutes allow for informed public participation. It adds more detail to the public notice requirements so when the franchise agreements are being considered at the local level, there is information available for people to review with respect to the size, type of facility and specific location. Motion carried.

- **Exempt Certain Greenhouses from Bldg Code – 2005-RFz-19 [v.6] (04/04)** (see **Exhibit AA**) Representative Gibson moved that the bill be recommended for consideration by the General Assembly during the 2006 Regular Session and included as a legislative proposal in the report of the Commission to the General Assembly. Motion carried.

- **Fertilizer Spreaders/Registration Exemption – 2005-RFfz-16 [v.5] (04/18)** (see **Exhibit BB**) Representative Gibson moved that the bill be recommended for consideration by the General Assembly during the 2006 Regular Session and included as a legislative proposal in the report of the Commission to the General Assembly. Senator Bingham asked if farmers transporting grain from one field to another could be added to this bill. Mr. Givens replied that it could be added to the bill in committee during the session. Motion carried.

- **Land Disturbing Activities Near Trout Waters – 2005-SBz-29 [v.2] (05/03)** (see **Exhibit CC**) Representative Gibson moved that the bill be recommended for consideration by the General Assembly during the 2006 Regular Session and included as a legislative proposal in the report of the Commission to the General Assembly. Representative Hackney asked if the bill would mean the Administrative Law Judge's (ALJ) decision would not have to be followed. Ms. Mary Penny Thompson, General Counsel for DENR, stated that is correct. The ALJ would make it a complete prohibition of activities to remain in the buffer, but the bill would allow for some minimal activities to occur in the buffer such as public infrastructure and stream restoration that have an impact on the stream but also have a benefit to the public and to the environment. Motion carried.

- **Limit Nutrient Offset Payments – 2005-SBfz-28 [v.3] (05/03)** (see **Exhibit DD**) Representative Gibson moved that the bill be recommended for consideration by the General Assembly during the 2006 Regular Session and included as a legislative proposal in the report of the Commission to the General Assembly. He later withdrew his motion and the bill will not be included in the ERC report.

- **Amend Interbasin Transfer Laws – 2005-SBz-27 [v.6] (04/27)** (see **Exhibit EE**) Representative Gibson moved that the bill be recommended for consideration by the General Assembly during the 2006 Regular Session and included as a legislative proposal in the report of the Commission to the General Assembly. Motion carried.

After consideration of the bills, Representative Gibson commented that most of the bills approved for the report have been discussed at ERC meetings and many are continuing items. He added that if anyone has any problem with any of the bills, he would speak with the Chair of the House Environment Committee, Representative Carolyn Justice, and ask that the bills not be reported out of Committee until the provisions in question are worked out. The purpose of including the bills in the ERC report is to provide eligibility or an infrastructure for continuing conversation in workgroups. Representative Gibson then moved to instruct staff to prepare a report and include all the bills that received a favorable motion in the report. Motion carried. Representative Gibson noted that a quorum was present for the meeting.

The meeting adjourned at 4:45 p.m.

Senator Daniel Clodfelter, Co-Chair

Senator Charlie Albertson, Co-Chair
Presiding

Representative Pryor Gibson, Co-Chair

Dot Waugaman, Commission Assistant

LIST OF EXHIBITS

Exhibit A	Notice of Meeting dated 10 May 2006
Exhibit B	Agenda of Meeting
Exhibit C	List of Attendees
Exhibit D	Memorandum dated 15 May 2006 to members of the ERC transmitting 25 legislative proposals for ERC to consider
Exhibit E	Bill Draft 2005-SYz-29 [v.3] (04/21), Environmental Technical Corrections 2006
Exhibit F	Bill Draft 2005 SYz-27 [v.5] (03/26), Amend Environmental Laws 2006
Exhibit G	Bill Draft 2005 SYz-34 [v.3] (05/09), Amend Natural Resources Laws 2006
Exhibit H	Bill Draft 2005 SYz-31 [v.3] (04/21), Environmental Reports Consolidation 2006
Exhibit I	Bill Draft 2005 RIz-15 [v.3] (04/14), Delay CWMTF Amendments
Exhibit J	Bill Draft 2005 SYz-25 [v.6] (04/25), Extend Climate Change Commission
Exhibit K	Bill Draft 2005 RIz-16 [v.3] (04/14), Fund Stream Mapping
Exhibit L	Bill Draft 2005 RIz-13 [v.2] (04/04), State Parks System Additions
Exhibit M	Bill Draft 2005 RIfz-19 [v.4] (03/14), Tax Credits for Certain Real Prop. Donations
Exhibit N	Bill Draft 2005 RIz-17 [v.4] (05/03), Mercury Switch Amendments
Exhibit O	Bill Draft 2005 RTfz-20 [v.3] (05/03), Underground Storage Tank Amendments 2006
Exhibit P	Bill Draft 2005 RTz-21 [v.1] (05/03), Underground Storage Tank Prgm. Funds
Exhibit Q	Bill Draft 2005 RTz-19 [v.7] (05/03), Stormwater Management 2006
Exhibit R	Bill Draft 2005 SYz-40 [v.1] (05/09), Low Emission Vehicles/Funds
Exhibit S	Bill Draft 2005 SYz-39 [v.1] (05/09), Child Lead Poisoning/DENR Authority
Exhibit T	Bill Draft 2005 SYfz-37 [v.3] (05/09), Radiation Protection Program Fee Amendments
Exhibit U	Bill Draft 2005 RIz-14 [v.3] (04/14), Amend Sanitary District Authority
Exhibit V	Bill Draft 2005 SYz-33 [v.3] (05/09), Well Construction Fund/Grants for Local Prgms
Exhibit W	Bill Draft 2005 SYz-41 [v.2] (05/09), Private Drinking Water Wells/Local Well Prgms
Exhibit X	Bill Draft 2005 SYz-28 [v.3] (04/01), Clarify Animal Waste Tech Specialist Cert Rqs
Exhibit Y	Bill Draft 2005 SYz-38 [v.3] (05/09), Community Conservation Assistance Program
Exhibit Z	Bill Draft 2005 RIz-18 [v.3] (01/24), Amend Solid Waste Franchise Statutes

LIST OF EXHIBITS

Exhibit AA Bill Draft 2005 RFz-19 [v.6] (04/04), Exempt Certain Greenhouses from Bldg. Code

Exhibit BB Bill Draft 2005 RFfz-16 [v.5] (04/18), Fertilizer Spreaders/Registration Exemption

Exhibit CC Bill Draft 2005 SBz-29 [v.2] (05/03), Land Disturbing Activities Near Trout Waters

Exhibit DD Bill Draft 2005 SBfz-28 [v.3] (05/03), Limit Nutrient Offset Payments

Exhibit EE Bill Draft 2005 SBz-27 [v.6] (04/27), Amend Interbasin Transfer Laws

EXHIBIT A

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 733-2578
FAX: (919) 715-5460

SUSAN S. IDDINGS
ASSISTANT COMMISSION COUNSEL
401 LEGISLATIVE OFFICE BUILDING
(919) 733-6660

JENNIFER L. McGINNIS
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

DOT WAUGAMAN
COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 715-2525
FAX (919) 754-3232

JEFF W. HUDSON
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

TIMOTHY R. DODGE
COMMISSION ANALYST
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

10 May 2006

TO: Members of the Environmental Review Commission
Interested Parties

FROM: George F. Givens, Commission Counsel
Dot Waugaman, Commission Clerk

RE: **Notice of Commission Meeting**
Additional Information

COMMISSION MEETING – 15 May 2006:

The Environmental Review Commission (ERC) will meet at **4:00 p.m. Monday 15 May 2006 in Room 544 of the Legislative Office Building in Raleigh** to consider legislative proposals for recommendation to the 2006 Regular Session of the General Assembly.

SCHEDULE OF FUTURE MEETINGS:

The Commission may also meet at other times while the General Assembly is in session (G.S. 120-70.44). When the Commission meets while the General Assembly is in session, written notice will not be mailed to persons on the mailing list. Rather, notice will be given at a session of the Senate and House of Representatives as provided by G.S. 143-318.12(b) and will be distributed by email, if possible. The Commission will resume a schedule of regular monthly meetings following adjournment of the 2006 Session of the General Assembly.

ADDITIONAL INFORMATION:

If you have questions related to the Commission, please feel free to contact the Commission Counsel or other Commission staff at (919) 733-2578.

EXHIBIT B

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 733-2578
FAX: (919) 715-5460

SUSAN S. IDDINGS
ASSISTANT COMMISSION COUNSEL
401 LEGISLATIVE OFFICE BUILDING
(919) 733-6660

JENNIFER L. McGINNIS
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

DOROTHY M. WAUGAMAN
COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 715-2525
FAX: (919) 754-3232

JEFF W. HUDSON
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

TIMOTHY R. DODGE
COMMISSION ANALYST
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

AGENDA
4:00 p.m. Monday 15 May 2006
Room 544 Legislative Office Building
Raleigh, North Carolina

1. Call to order
   Senator Charles W. Albertson, Presiding

2. Introductory remarks by Cochairs
   Senator Charles W. Albertson
   Senator Daniel G. Clodfelter
   Representative Pryor A. Gibson

3. Report to the Commission and explanation of agenda items
   George F. Givens, Commission Counsel

4. Consideration of legislative proposals for recommendation to the 2006 Regular Session of the 2005 General Assembly
   George F. Givens, Commission Counsel

5. Commission discussion and announcements

6. Adjourn

SCHEDULE OF FUTURE MEETINGS:

The Commission may also meet at other times while the General Assembly is in session (G.S. 120-70.44). When the Commission meets while the General Assembly is in session, written notice will not be mailed to persons on the mailing list. Rather, notice will be given at a session of the Senate and House of Representatives as provided by G.S. 143-318.12(b) and will be distributed by email, if possible. The Commission will resume a schedule of regular monthly meetings following adjournment of the 2006 Session of the General Assembly.

ADDITIONAL INFORMATION:

Persons having questions about the Commission meeting or other matters related to the Commission may contact Commission Counsel or other Commission staff at (919) 733-2578.

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — May 15, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Patrick Buffkin	Alley Assoc, Inc.
Kath Hawkins	Rogers Group
Rob Thompson	NCPSRG
Karen	Smith Anderson
Beatrice Williams	CUCA
Dan Holman	CUMTF
Mary Wilder	DSWC - DENR
Mike Nelson	Conservation Council
Brian Wright	Conservation Council
Christine Wunsche	Environment North Carolina
Erin Kinsey	NC Conservation Network

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — May 15, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
T. Gray Hauser	NC DENR- Land Resources
Kim Hibbard	NCLM
Anita Watkins	NCLM
Greg Peverill	Solid Waste Sucs
Butch Gunnells	NCBA
Elizabeth Self	NC Sierra Club
Bill Flournoy	NC DENR
TAD BOGGS	NC DENR
Don Reuter	NC DENR
CAROL TINGLEY	NC DPR
Sandra Long	Martin Marietta Materials

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — May 15, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Stephanie Simpson	NC Assn. of REALTORS, Inc.
Michael Bradsford	NC DENR - DWM - HWS
Dexter Matthews	NC DENR - DWM
Colleen Kochanek	Smith Moore
Henry Jones	Attorney - Raleigh
Stephen Woodson III Jr	NC Farm Bureau
John Pollard	NCADA
Amy Pickle	Southern Environment Law Center
Harry Simmons	NC Beach, Inlet + Waterway Assoc.
Robin Smith	DENR
Steve Wall	DENR

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — May 15, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Lisa Schell	CWMTF
Beverly Hall	DENR/DEH/Radiation Protection
Patrick Butler	DENR / Division of Air Quality
Richard Whisnant	UNC School of Gov't
Lisa Martin	NC Home Builders
Tom Beason	NC Environ Defense, NRCF, NCSEA
Doug Lassiter	NCSTA
Preston Howard	MCIC
Tommy Stevens	NCPC
Amy Simes	NCDENR
Andy Ellen	NCRMN

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — May 15, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Elizabeth Ouzts	Environment North Carolina
Hope Taylor-Guevara	Clean Water for NC 2009 Cli Hill Rd Durham

EXHIBIT D

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 733-2578
FAX: (919) 715-5460

SUSAN S. IDDINGS
ASSISTANT COMMISSION COUNSEL
401 LEGISLATIVE OFFICE BUILDING
(919) 733-6660

JENNIFER L. McGINNIS
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

DOROTHY M. WAUGAMAN
COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 715-2525
FAX: (919) 754-3232

JEFF W. HUDSON
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

TIMOTHY R. DODGE
COMMISSION ANALYST
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

Monday 15 May 2006

To: Members of the Environmental Review Commission

From: George F. Givens, Commission Counsel

Re: Draft legislative proposals

Attached are the legislative proposals for consideration by the Environmental Review Commission for recommendation to the 2006 Regular Session of the 2005General Assembly.

LEGISLATIVE PROPOSALS

#	Short Title
1.	Environmental Technical Corrections 2006.
2.	Amend Environmental Laws 2006.
3.	Amend Natural Resource Laws 2006.
4.	Environmental Reports Consolidation 2006.
5.	Delay CWMTF Provisions.
6.	Extend Legislative Commission on Global Climate Change.
7.	Fund Stream Mapping.
8.	State Parks System Additions.
9.	Tax Credits For Certain Real Property Donations.
10.	Mercury Switch Amendments.

11. Underground Storage Tank Amendments 2006.

12. Underground Storage Tank Program Funds.

13. Stormwater Management 2006.

14. Low-Emission Vehicles/Funds.

15. Childhood Lead Poisoning - Clarification Of DENR Authority.

16. Radiation Protection Program Fee Amendments.

17. Amend Sanitary District Authority.

18. Well Construction Fund/Grants for Local Prgms.

19. Private Drinking Water Wells/Local Well Programs.

20. Clarify Animal Waste Technical Specialist Certification Requirements.

21. Community Conservation Assistance Program.

22. Amend Solid Waste Franchise Statutes.

23. Exempt Certain Greenhouses from Building Code.

24. Fertilizer Spreaders Exempt from Registration.

25. Land Disturbing Activities near Trout Streams.

Please contact George Givens, Jeff Hudson, Jennifer McGinnis, or Tim Dodge at (919) 733-2578 if you have any questions or comments.

EXHIBIT E

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 2005

U D

BILL DRAFT 2005-SYz-29 [v.3] (04/21)

(THIS IS A DRAFT AND IS NOT READY FOR INTRODUCTION)
5/11/2006 4:07:26 PM

Short Title: Environmental Technical Corrections 2006. (Public)

Sponsors:

Referred to:

A BILL TO BE ENTITLED

AN ACT TO MAKE CLARIFYING, CONFORMING, AND TECHNICAL AMENDMENTS TO VARIOUS LAWS RELATED TO THE ENVIRONMENT, ENVIRONMENTAL HEALTH, AND NATURAL RESOURCES, AS RECOMMENDED BY THE ENVIRONMENTAL REVIEW COMMISSION.

The General Assembly of North Carolina enacts:

SECTION 1. G.S. 113-174.2(c)(6)i. reads as rewritten:

"i. Resident ~~Elderly~~ Age 65 Lifetime CRFL. – $15.00. This license shall be issued only to an individual who is 65 years of age or older and who is a resident of the State."

SECTION 2. G.S. 113-351(c)(3)e. reads as rewritten:

"e. Resident ~~Elderly~~ Age 65 Lifetime Unified Sportsman/Coastal Recreational Fishing License. – $30.00. This license shall be issued only to an individual who is 65 years of age or older and who is a resident of the State."

SECTION 3. G.S. 143B-291(a)(1) reads as rewritten:

"(1) One member who is the ~~chairman~~ chair of the North Carolina State University Minerals Research Laboratory Advisory Committee, ex officio."

SECTION 4. G.S. 143B-291(g) reads as rewritten:

"(g) Staff. – All clerical and other services required by the Commission shall be supplied by the Secretary of ~~the Department.~~Environment and Natural Resources."

SECTION 5. G.S. 143B-292 reads as rewritten:

"**§ 143B-292. North Carolina Mining Commission – officers.**

The North Carolina Mining Commission shall have a ~~chairman~~ chair and a ~~vice-chairman~~vice-chair. The ~~chairman~~ chair shall be designated by the Governor from among the members of the Commission to serve as ~~chairman at his pleasure.~~chair at the

pleasure of the Governor. The ~~vice-chairman~~vice-chair shall be elected by and from the members of the Commission and shall serve for a term of two years or until the expiration of ~~his~~ the vice-chair's regularly appointed term."

SECTION 6. G.S. 143B-293 reads as rewritten:

"**§ 143B-293. North Carolina Mining Commission – meetings.**

The North Carolina Mining Commission shall meet at least semiannually and may hold special meetings at any time and place within the State at the call of the ~~chairman~~ chair or upon the written request of at least five members."

SECTION 7. G.S. 143B-296 reads as rewritten:

"**§ 143B-296. Soil and Water Conservation Commission – officers.**

The Soil and Water Conservation Commission shall have a ~~chairman~~ chair and a ~~vice-chairman.~~vice-chair. The ~~chairman~~ chair shall be designated by the Governor from among the members of the Commission to serve as ~~chairman~~ chair at the pleasure of the Governor. The ~~vice-chairman~~vice-chair shall be elected by and from the members of the Commission and shall serve for a term of two years or until the expiration of ~~his~~ the vice-chair's regularly appointed term."

SECTION 8. G.S. 143B-297 reads as rewritten:

"**§ 143B-297. Soil and Water Conservation Commission – meetings.**

The Soil and Water Conservation Commission shall meet at least quarterly and may hold special meetings at any time and place within the State at the call of the ~~chairman~~ chair or upon the written request of at least four members."

SECTION 9. G.S. 143B-299 reads as rewritten:

"**§ 143B-299. Sedimentation Control Commission – members; selection; compensation; meetings.**

(a) Creation; Membership. – There is hereby created in the Department of Environment and Natural Resources the North Carolina Sedimentation Control Commission, which is charged with the duty of developing and administering the sedimentation control program provided for in this Article. The Commission shall consist of the following members:

(1) A person to be nominated jointly by the boards of the North Carolina League of Municipalities and the North Carolina Association of County Commissioners;

(2) A person to be nominated by the Board of the North Carolina Home Builders Association;

(3) A person to be nominated by the Carolinas Branch, Associated General Contractors of America;

(4) The president, vice-president, or general counsel of a North Carolina public utility company;

(5) The Director of the North Carolina Water Resources Research Institute;

(6) A member of the State Mining Commission who shall be a representative of nongovernmental conservation interests, as required by G.S. 74-38(b);

(7) A member of the State Soil and Water Conservation Commission;

(8) A member of the Environmental Management Commission;
(9) A soil scientist from the faculty of North Carolina State University;
(10) Two persons who shall be representatives of nongovernmental conservation interests; and
(11) A professional engineer registered under the provisions of Chapter 89C of the General Statutes nominated by the Professional Engineers of North Carolina, Inc.

(b) Appointment. – The Commission members shall be appointed by the Governor. All Commission members, except the person ~~filling position number five, as specified above,~~ appointed under subdivision (5) of subsection (a) of this section, shall serve staggered terms ~~of office~~ of three years and until their successors are appointed and duly qualified. The person ~~filling position number five~~ appointed under subdivision (5) of subsection (a) of this section shall serve as a member of the Commission, subject to removal by the Governor as hereinafter specified in this section, so long as ~~he~~ the person continues as Director of the Water Resources Research Institute. The terms ~~of office~~ of members ~~filling positions two, four, seven, and eight~~ appointed under subdivisions (2), (4), (7), and (8) of subsection (a) of this section shall expire on 30 June of years evenly divisible by three. The terms ~~of office~~ of members ~~filling positions one, three, and ten~~ appointed under subdivisions (1), (3), and (10) of subsection (a) of this section shall expire on 30 June of years that follow by one year those years that are evenly divisible by three. The terms ~~of office~~ of members ~~filling positions six, nine, and eleven,~~ appointed under subdivisions (6), (9), and (11) of subsection (a) of this section shall expire on 30 June of years that precede by one year those years that are evenly divisible by three. Except for the person ~~filling position number five,~~ appointed under subdivision (5) of subsection (a) of this section, no member of the Commission shall serve more than two complete consecutive three-year terms. Any member appointed by the Governor to fill a vacancy occurring in any of the appointments shall be appointed for the remainder of the term of the member causing the vacancy. The Governor may at any time remove any member of the Commission for inefficiency, neglect of duty, malfeasance, misfeasance, ~~nonfeasance or, in the case of members filling positions five, six, seven, eight, nine, and eleven as specified above,~~ nonfeasance, or because they no longer possess the required qualifications for membership. ~~In each instance appointments to fill vacancies in the membership of the Commission shall be a person or persons with similar experience and qualifications in the same field required of the member being replaced.~~ The office of the North Carolina Sedimentation Control Commission is declared to be an office that may be held concurrently with any other elective or appointive office, under the authority of Article VI, Sec. 9, of the North Carolina Constitution.

(b1) ~~Chairman.~~Chair. – The Governor shall designate a member of the Commission to serve as ~~chairman.~~chair.

(c) Compensation. – The members of the Commission shall receive the usual and customary per diem allowed for the other members of boards and commissions of the State and as fixed in the Biennial Appropriation Act, and, in addition, the members of the Commission shall receive subsistence and travel expenses according to the

prevailing State practice and as allowed and fixed by statute for such purposes, which said travel expenses shall also be allowed while going to or from any place of meeting or when on official business for the Commission. The per diem payments made to each member of the Commission shall include necessary time spent in traveling to and from their places of residence within the State to any place of meeting or while traveling on official business for the Commission.

(d) Meetings of Commission. – The Commission shall meet at the call of the ~~chairman~~ chair and shall hold special meetings at the call of a majority of the members."

SECTION 10. G.S. 143B-300(c) reads as rewritten:

"(c) The Commission may by rule delegate any of its powers, other than the power to adopt rules, to the Secretary of Environment and Natural Resources or ~~his~~ the Secretary's designee."

SECTION 11. This act is effective when it becomes law.

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 2005

U D

BILL DRAFT 2005-SYz-27 [v.5] (03/26)

(THIS IS A DRAFT AND IS NOT READY FOR INTRODUCTION)
5/11/2006 3:45:31 PM

Short Title: Amend Environmental Laws 2006. (Public)

Sponsors:

Referred to:

A BILL TO BE ENTITLED

AN ACT TO AMEND VARIOUS ENVIRONMENTAL LAWS TO: (1) CLARIFY THE REQUIREMENT THAT MOTOR VEHICLES OPERATED ON A FEDERAL INSTALLATION IN AN EMISSIONS COUNTY ARE SUBJECT TO EMISSIONS INSPECTION REQUIREMENTS; (2) CLARIFY THE REQUIREMENT THAT LAND-DISTURBING ACTIVITY BE CONDUCTED IN ACCORDANCE WITH AN APPROVED PLAN; (3) AUTHORIZE THE ENVIRONMENTAL REVIEW COMMISSION AND THE JOINT LEGISLATIVE COMMISSION ON SEAFOOD AND AQUACULTURE TO CONTRACT FOR CONSULTANTS; (4) PROVIDE THAT A PERSON WHO INSTALLS, REPAIRS, OR PUMPS SEPTIC SYSTEMS MAY PURCHASE AND INSTALL APPROVED EFFLUENT FILTERS; AND (5) PROVIDE THAT STORMWATER CONTROL ORDINANCES THAT ARE ADOPTED BY CITIES MUST AT LEAST MEET ALL OF THE MINIMUM STATUTORY REQUIREMENTS, AS RECOMMENDED BY THE ENVIRONMENTAL REVIEW COMMISSION.

The General Assembly of North Carolina enacts:

SECTION 1. G.S. 20-183.2(b)(1) reads as rewritten:

"(1) It is subject to registration with the Division under Article 3 of this ~~Chapter.~~Chapter, except for motor vehicles operated on a federal installation as provided in sub-subdivision (e) of subdivision (5) of this subsection.

SECTION 2. G.S. 113A-57 is amended by adding a new subdivision to read:

"(5) The land-disturbing activity shall be conducted in accordance with the approved erosion and sedimentation control plan."

SECTION 3. G.S. 120-70.44 reads as rewritten:

"**§ 120-70.44. Additional powers.**

(a) The Environmental Review Commission, while in the discharge of official duties, may exercise all the powers provided for under the provisions of G.S. 120-19, and G.S. 120-19.1 through G.S. 120-19.4. The Environmental Review Commission may meet at any time upon the call of either cochairman, whether or not the General Assembly is in session. The Environmental Review Commission may meet in the Legislative Building or the Legislative Office Building upon the approval of the Legislative Services Commission.

(b) Notwithstanding any rule or resolution to the contrary, proposed legislation to implement any recommendation of the Environmental Review Commission regarding any study the Environmental Review Commission is authorized to undertake or any report authorized or required to be made by or to the Environmental Review Commission may be introduced and considered during any session of the General Assembly.

(c) The Commission may contract for consultants or hire employees in accordance with G.S. 120-32.02."

SECTION 4. G.S. 120-70.63 reads as rewritten:

"**§ 120-70.63. Additional powers.**

(a) The Commission, while in the discharge of official duties, may exercise all the powers of a joint committee of the General Assembly provided for under the provisions of G.S. 120-19, and G.S. 120-19.1 through G.S. 120-19.4. The Commission may meet at any time upon the call of either cochair, whether or not the General Assembly is in session. The Commission may meet in the Legislative Building or the Legislative Office Building upon the approval of the Legislative Services Commission.

(b) The Commission may contract for consultants or hire employees in accordance with G.S. 120-32.02."

SECTION 5. G.S. 130A-335.1(a) reads as rewritten:

"(a) The ~~manufacturer of each of, or the~~ person who manufactures, installs, repairs, or pumps any septic tank to be installed in this State as a part of a septic tank system that is designed to treat 3,000 gallons per day or less of sewage shall provide an effluent filter approved by the Department pursuant to the requirements of G.S. 130A-335, this section, and rules adopted by the Commission. Any person who installs, repairs, or pumps systems described in this section may purchase and install any approved filters on the systems. The person who installs the ~~septic tank system~~ effluent filter shall install the effluent filter as a part of the septic tank system in accordance with the specifications provided by the manufacturer of the effluent filter. An effluent filter shall:

(1) Be made of materials that are capable of withstanding the corrosives to which septic tank systems are normally subject.

(2) Prevent solid material larger than one-sixteenth of an inch, as measured along the shortest axis of the material, from entering the drainfield.

(3) Be designed and constructed to allow for routine maintenance.

(4) Be designed and constructed so as not to require maintenance more frequently than once in any three-year period under normally anticipated use."

SECTION 6. Part 8 of Article 19 of Chapter 160A of the General Statutes is amended by adding a new section to read:

"**§ 160A-459. Stormwater control.**

A city may adopt and enforce a stormwater control ordinance as authorized by Part 1 of Article 21 of Chapter 143 of the General Statutes. A stormwater control ordinance adopted pursuant to this section must at least meet all of the minimum requirements of Part 1 of Article 21 of Chapter 143 of the General Statutes."

SECTION 7. This act is effective when the act becomes law.

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 2005

U D

BILL DRAFT 2005-SYz-34 [v.3] (05/09)

(THIS IS A DRAFT AND IS NOT READY FOR INTRODUCTION)
5/11/2006 3:47:09 PM

Short Title: Amend Natural Resources Laws 2006. (Public)

Sponsors:

Referred to:

A BILL TO BE ENTITLED

AN ACT TO AMEND VARIOUS NATURAL RESOURCES LAWS TO: (1) CLARIFY THE DEFINITION OF AGRICULTURE; (2) MAKE CLARIFYING CHANGES TO FISHING LICENSE REQUIREMENTS; AND (3) PROHIBIT THE DISCLOSURE OF PERSONAL IDENTIFYING INFORMATION COLLECTED BY THE WILDLIFE RESOURCE COMMISSION FOR LICENSING PURPOSES EXCEPT UNDER CERTAIN CIRCUMSTANCES, AS RECOMMENDED BY THE ENVIRONMENTAL REVIEW COMMISSION.

The General Assembly of North Carolina enacts:

SECTION 1. G.S. 106-581.1(3) reads as rewritten:

"(3) Dairying and the raising, management, care, and training of livestock, including horses, bees, poultry, ~~deer, elk,~~ and other animals for individual and public use, consumption, and marketing."

SECTION 2. G.S. 113-271(d)(9) reads as rewritten:

"(9) Special Landholder and Guest Fishing License – $50.00. This license shall be issued only to the ~~owner or lessee~~landholder of private property bordering inland or joint fishing ~~waters, including public mountain trout waters, and entitles persons~~ water. This license shall entitle the landholder and guests of the landholder to fish from the shore or any pier or dock originating from the property without any additional fishing license. This license is applicable only to private property and private docks and piers and is not valid for any public property, pier, or dock nor for any private property, pier, or dock operated for any commercial purpose whatsoever. ~~The guest fishing~~This license shall not be in force unless displayed on the premises of the property and only entitles fishing without additional license to persons fishing from the licensed property and then only

when fishing within the private property lines. ~~The guest fishing~~This license is not transferable as to person or location. For purposes of this subsection, a guest is any individual invited by the landholder to fish from the property at no charge. A charge includes any fee, assessment, dues, rent, or other consideration which must be paid, whether directly or indirectly, in order to be allowed to fish from the property, regardless of the stated reason for such charge."

SECTION 3. G.S. 113-272.3(d) reads as rewritten:

"(d) In issuing lifetime ~~sportsman combination~~ licenses, the Wildlife Resources Commission is authorized to adopt rules to establish a personalized series for certain license types and to charge a five dollar ($5.00) administrative fee, to be deposited in the Wildlife Fund, to defray the cost of issuance of the personalized license."

SECTION 4. G.S. 113-351(c)(4)a. reads as rewritten:

"(4) Lifetime Unified Inland/Coastal Recreational Fishing Licenses. – Except as provided in sub-subdivisions b. and c. of this subdivision, a license issued under this subdivision is valid for the lifetime of the licensee. A license issued under this subdivision authorizes the licensee to fish with hook and line for all fish in all inland fishing waters and joint fishing waters, including public mountain trout waters, and to engage in recreational fishing in coastal fishing waters.

a. Resident Lifetime Unified Inland/Coastal Recreational Fishing License. – $450.00.

. . . ."

SECTION 5. G.S. 143B-289.52(h) is repealed.

SECTION 6. G.S. 143B-289.52 is amended by adding two new subsections to read:

"(i) Personal identifying information obtained by the Commission or Division from the Wildlife Resources Commission pursuant to G.S. 143-254.5(b), from an applicant for a license issued under G.S. 113-174.3 or G.S. 113-174.4, or from a person complying with a biological data sampling or survey program under G.S. 113-174.1 is confidential under G.S. 132-1.2 and shall only be disclosed as provided in this section. The Commission or Division may disclose personal identifying information to any officer, employee, or authorized representative of any federal, state, or local government agency if disclosure is necessary to carry out a proper function of the Commission, Division, or other agency. As used in this section, "personal identifying information" includes a person's mailing address, residence address, date of birth, telephone number, electronic mail address, driver license number, and social security number.

(j) The Commission may adopt rules to exempt individuals who participate in organized fishing events held in coastal or joint fishing waters from recreational fishing license requirements for the specified time and place of the event when the purpose of the event is consistent with the conservation objectives of the Commission."

SECTION 7. This act is effective when it becomes law.

EXHIBIT H

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 2005

U D

BILL DRAFT 2005-SYz-31 [v.3] (04/21)

(THIS IS A DRAFT AND IS NOT READY FOR INTRODUCTION)
5/11/2006 4:00:11 PM

Short Title: Environmental Reports Consolidation 2006. (Public)

Sponsors: .

Referred to:

A BILL TO BE ENTITLED

AN ACT TO AMEND OR REPEAL VARIOUS ENVIRONMENTAL REPORTING REQUIREMENTS, AS RECOMMENDED BY THE ENVIRONMENTAL REVIEW COMMISSION.

The General Assembly of North Carolina enacts:

SECTION 1. G.S. 113-206(f) reads as rewritten:

"(f) In evaluating claims registered pursuant to G.S. 113-205, the Secretary shall favor public ownership of submerged lands and public trust rights. The Secretary's action does not alter or affect in any way the rights of a claimant or the State.

~~To facilitate resolution of claims registered pursuant to G.S. 113-205, the Secretary, in cooperation with the Secretary of Administration and the Attorney General, shall establish a plan to resolve these claims by 31 December 2003. The Secretary shall notify the Secretary of Administration and the Attorney General of the resolution of each claim. In addition, on or before October 1 of each year, the Secretary shall submit a report to the Joint Legislative Commission on Governmental Operations stating the following:~~

~~(1) The number of claims registered pursuant to G.S. 113-205 that were resolved during the preceding year;~~

~~(2) The cost of resolving these claims;~~

~~(3) The number of unresolved claims; and~~

~~(4) Payments made to acquire claims by condemnation.~~"

SECTION 2. Section 11 of S.L. 2002-4 reads as rewritten:

"**SECTION 11.** The Environmental Management Commission shall study the desirability of requiring and the feasibility of obtaining reductions in emissions of oxides of nitrogen (NOx) and sulfur dioxide (SO2) beyond those required by G.S. 143-215.107D, as enacted by Section 1 of this act. The Environmental Management Commission shall consider the availability of emissions reduction

technologies, increased cost to consumers of electric power, reliability of electric power supply, actions to reduce emissions of oxides of nitrogen (NOx) and sulfur dioxide (SO2) taken by states and other entities whose emissions negatively impact air quality in North Carolina or whose failure to achieve comparable reductions would place the economy of North Carolina at a competitive disadvantage, and the effects that these reductions would have on public health, the environment, and natural resources, including visibility. In its conduct of this study, the Environmental Management Commission may consult with the Utilities Commission and the Public Staff. The Environmental Management Commission shall report its findings and recommendations to the General Assembly and the Environmental Review Commission annually beginning 1 September ~~2005.~~2007."

SECTION 3. G.S. 143-215.107C(c) is repealed.

SECTION 4. G.S. 143B-279.12(e) reads as rewritten:

"(e) No later than ~~October 1, 2004, and annually thereafter,~~1 March of each year, the Department of Environment and Natural Resources shall report to the ~~House of Representatives and the Senate Appropriations Subcommittees on Natural and Economic Resources, the~~ Fiscal Research ~~Division,~~Division and the Environmental Review Commission the number of environmental permits subject to this section that took more than 90 days to issue or deny, the types of permits those were, the reasons for the extended processing time of those permits, and how the time within which the permit was actually issued or denied compared with the projected time frame provided to the applicant by the Department as required by this section. Based on the data gathered under this subsection, the Department shall include in its annual report recommendations regarding permit time frames for all major permits issued by the Department."

SECTION 5. G.S. 147-12(b) reads as rewritten:

"(b) The Department of Transportation, the Department of Correction, the Department of Crime Control and Public Safety, the State Highway Patrol, the Wildlife Resources Commission, the Division of Parks and Recreation in the Department of Environment and Natural Resources, and the Division of Marine Fisheries in the Department of Environment and Natural Resources shall deliver to the Governor by February 1 ~~and August 1~~ of each year detailed information on the agency's litter enforcement, litter prevention, and litter removal efforts. The Administrative Office of the Courts shall deliver to the Governor by February 1 ~~and August 1~~ of each year detailed information on the enforcement of the littering laws of the State, including the number of charges and convictions under the littering laws of the State. The Governor shall gather the information submitted by the respective agencies and deliver a consolidated ~~semiannual~~ annual report on or before March 1 ~~and September 1~~ of each year to the Environmental Review Commission, the Joint Legislative Transportation Oversight Committee, and the House of Representatives and the Senate Appropriations Subcommittees on Natural and Economic Resources."

SECTION 6. G.S. 130A-295.02(m) reads as rewritten:

"(m) The Department shall report annually on or before 1 ~~September~~ October to the Environmental Review Commission on the implementation of the resident inspectors program."

SECTION 7. This act becomes effective when it becomes law.

EXHIBIT I

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 2005

U D

BILL DRAFT 2005-RIz-15 [v.3] (04/14)

(THIS IS A DRAFT AND IS NOT READY FOR INTRODUCTION)
5/11/2006 9:27:57 AM

Short Title: Delay CWMTF Amendments. (Public)

Sponsors:

Referred to:

A BILL TO BE ENTITLED

AN ACT TO DELAY THE EFFECTIVE DATE OF CHANGES APPLICABLE TO THE CLEAN WATER MANAGEMENT TRUST FUND CONCERNING THE ESTABLISHMENT OF UNIFORM CRITERIA FOR WASTEWATER, DRINKING WATER, AND STORMWATER GRANTS, AS RECOMMENDED BY THE ENVIRONMENTAL REVIEW COMMISSION.

The General Assembly of North Carolina enacts:

SECTION 1. Section 12 of S.L. 2005-454 reads as rewritten:

"**SECTION 12.** Part II of this act becomes effective 1 January 2007. ~~This~~ The remainder of this act becomes effective 1 January 2006."

SECTION 2. This act is effective when it becomes law.

GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2005

U D

BILL DRAFT 2005-SYz-25 [v.6] (04/25)

(THIS IS A DRAFT AND IS NOT READY FOR INTRODUCTION)
5/11/2006 4:01:30 PM

Short Title:	Extend Climate Change Commission.	(Public)
Sponsors:		
Referred to:		

A BILL TO BE ENTITLED

AN ACT TO EXTEND THE LEGISLATIVE COMMISSION ON GLOBAL CLIMATE CHANGE, AS RECOMMENDED BY THE ENVIRONMENTAL REVIEW COMMISSION.

The General Assembly of North Carolina enacts:

SECTION 1. Section 11 of S.L. 2005-442 reads as rewritten:

"**SECTION 11.** ~~Report.~~Reports. – The Commission shall submit an interim report to the General Assembly and the Environmental Review Commission no later than 15 January 2007 and may submit interim reports at other times at its discretion. The Commission shall submit a final report, including any findings and recommendations, ~~report its findings and recommendations~~ to the General Assembly and the Environmental Review Commission on or before ~~1 November 2006,~~15 April 2008, at which time the Commission shall terminate."

SECTION 2. This act is effective when it becomes law.

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 2005

U D

BILL DRAFT 2005-RIz-16 [v.3] (04/14)

(THIS IS A DRAFT AND IS NOT READY FOR INTRODUCTION)
5/15/2006 12:16:20 PM

Short Title: Fund Stream Mapping. (Public)

Sponsors: .

Referred to:

A BILL TO BE ENTITLED

AN ACT TO APPROPRIATE FUNDS TO IMPLEMENT THE RECOMMENDATIONS OF THE GEOGRAPHIC INFORMATION COORDINATING COUNCIL TO IMPROVE THE MAPPING AND DIGITAL REPRESENTATION OF SURFACE WATERS IN NORTH CAROLINA, AS RECOMMENDED BY THE ENVIRONMENTAL REVIEW COMMISSION.

Whereas, existing State, local, and federal maps of streams and surface waters are outdated, inadequate, inaccurate, and inconsistent; and

Whereas, State, local, and federal agencies, private developers, and nonprofit conservation organizations use maps of streams and surface waters on a daily basis to make environmental and economic decisions concerning the location of schools, highways, wastewater facilities, stormwater facilities, industries, businesses, homes, greenways, hazard mitigation projects, and stream and wetland mitigation projects; and

Whereas, State, local, federal, and private agencies and organizations must frequently send staff or consultants to the field to identify the location of streams and surface waters; and

Whereas, up-to-date and accurate maps of surface waters made available to government agencies and the public over the Internet on NC OneMap would increase the productivity of, and reduce costs for, the public and private sectors; and

Whereas, NC OneMap is currently serving data over the Internet for 54 local governments and more local governments desire to participate; and

Whereas, the General Assembly has invested over $50,000,000 to update and improve the mapping and digital representation of floodplains that can be utilized to improve the mapping and digital representation of surface waters; and

Whereas, in Section 33.1 of S.L. 2004-161, the General Assembly directed the Geographic Information Coordinating Council and the Department of Environment and Natural Resources to develop and recommend a plan to improve the mapping and

digital representation of surface waters in North Carolina to the General Assembly and the Environmental Review Commission; and

Whereas, the Geographic Information Coordinating Council established a Stream Mapping Working Group composed of State, local, and federal agencies to develop the plan; and

Whereas, the Stream Mapping Working Group determined user requirements, mapping specifications, implementation options, and developed a time line and a budget for stream mapping; and

Whereas, the Geographic Information Coordinating Council adopted the "Implementation Plan to Improve Mapping and Digital Representation of Surface Waters," at a cost of sixteen million two hundred thirty-six thousand five hundred dollars ($16,236,500) over five years; Now, therefore,

The General Assembly of North Carolina enacts:

SECTION 1. There is appropriated from the General Fund to the Department of Environment and Natural Resources the sum of sixteen million two hundred thirty-six thousand five hundred dollars ($16,236,500) for the 2006-2007 fiscal year to fund the Implementation Plan to Improve Mapping and Digital Representation of Surface Waters adopted by the Geographic Information Coordinating Council on 5 January 2005 and presented to the Environmental Review Commission on 13 January 2005.

SECTION 2. The Department of Environment and Natural Resources shall make the mapping and digital representation of surface waters available to other State agencies and the public as soon as practicable over the Internet on NC OneMap.

SECTION 3. The Department of Environment and Natural Resources shall seek funds from federal agencies, including, but not limited to, the Federal Emergency Management Agency, United States Army Corps of Engineers, United States Environmental Protection Agency, United States Geological Survey, and United States Department of Agriculture to help fund the Implementation Plan to Improve Mapping and Digital Representation of Surface Waters.

SECTION 4. This act becomes effective 1 July 2006.

EXHIBIT L

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 2005

U D

BILL DRAFT 2005-RIz-13 [v.2] (04/04)

(THIS IS A DRAFT AND IS NOT READY FOR INTRODUCTION)
5/10/2006 11:05:40 AM

Short Title: State Parks System Additions.	(Public)
Sponsors:	
Referred to:	

A BILL TO BE ENTITLED

AN ACT TO AUTHORIZE THE ADDITION OF MOUNTAIN BOG STATE NATURAL AREA AND SANDY RUN SAVANNAS STATE NATURAL AREA TO THE STATE PARKS SYSTEM, AS RECOMMENDED BY THE ENVIRONMENTAL REVIEW COMMISSION.

Whereas, Section 5 of Article XIV of the North Carolina Constitution states that it shall be a proper function of the State of North Carolina to acquire and preserve park, recreational, and scenic areas and, in every other appropriate way, to preserve as a part of the common heritage of this State its open lands and places of beauty; and

Whereas, the General Assembly enacted the State Parks Act in 1987, declaring that the State of North Carolina offers unique archaeological, geological, biological, scenic, and recreational resources, and that such resources are part of the heritage of the people of the State to be preserved and managed by those people for their use and for the use of their visitors and descendants; and

Whereas, mountain bogs are wetlands that support a variety of rare and unique species. Because of their location on small flat sites in the mountains, bogs are highly vulnerable to damage from clearing, grading, and development. Very few of North Carolina's mountain bogs remain intact, and they are one of the State's most endangered habitats; and

Whereas, Mountain Bog State Natural Area would be comprised of two mountain bogs, Sugar Mountain Bog and Pineola Bog.

Whereas, rare species found at one or both of the bogs include the bog turtle, bog rose, bog fern, cranberry, gray's lily, large purple-fringed orchid, purple-leaf willowherb, four-toed salamander, and Baltimore checkerspot; and

Whereas, the Mountain Bog site has been found to possess biological resources of statewide significance; and

Whereas, savannas are renowned for extraordinary plant diversity and high numbers of rare species. Savannas are an important component of the State's natural landscape, but are poorly represented in the existing state parks system; and

Whereas, the Sandy Run Savannas State Natural Area would be comprised of a cluster of nationally significant savannas along the border of Pender and Onslow counties; and

Whereas, the Sandy Run Savannas site is important as a military buffer, and is strategically located as a hub surrounded by Camp LeJeune, Holly Shelter Game Land, and Angola Bay Game Land; and

Whereas, the Sandy Run Savannas site contains rare species that include Venus flytrap, golden sedge, red-cockaded woodpecker, Cooley's meadowrue, yellow fringeless orchid, Carolina goldenrod, and rough-leaf loosestrife; and

Whereas, the Sandy Run Savannas site has been found to possess biological resources of statewide significance; Now, therefore,

The General Assembly of North Carolina enacts:

SECTION 1. The General Assembly authorizes the Department of Environment and Natural Resources to add Mountain Bog State Natural Area to the State Parks System as provided in G.S. 113-44.14(b).

SECTION 2. The General Assembly authorizes the Department of Environment and Natural Resources to add Sandy Run Savannas State Natural Area to the State Parks System as provided in G.S. 113-44.14(b).

SECTION 3. This act is effective when it becomes law.

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 2005

U D

BILL DRAFT 2005-RIfz-19 [v.4] (03/14)

(THIS IS A DRAFT AND IS NOT READY FOR INTRODUCTION)
5/15/2006 12:31:00 PM

Short Title: Tax Credits for Certain Real Prop. Donations. (Public)

Sponsors: .

Referred to:

A BILL TO BE ENTITLED

AN ACT TO RECODIFY THE CREDIT FOR CERTAIN REAL PROPERTY DONATIONS AND TO INCREASE THE CREDIT FOR CERTAIN PASS-THROUGH ENTITIES, AS RECOMMENDED BY THE ENVIRONMENTAL REVIEW COMMISSION.

The General Assembly of North Carolina enacts:

SECTION 1. Chapter 105 of the General Statutes is amended by adding a new Article to read:

"Article 3H

"Tax Credit for Certain Real Property Donations.

"**§ 105-129.70. Tax credit allowed.**

A person who makes a qualified donation of an interest in real property located in North Carolina during the taxable year that is useful for (i) public beach access or use, (ii) public access to public waters or trails, (iii) fish and wildlife conservation, or (iv) other similar land conservation purposes is allowed a credit equal to twenty-five percent (25%) of the fair market value of the donated property interest. To be eligible for this credit, the interest in property must be donated in perpetuity to and accepted by the State, a local government, or a body that is both organized to receive and administer lands for conservation purposes and qualified to receive charitable contributions under the Code. Lands required to be dedicated pursuant to local governmental regulation or ordinance and dedications made to increase building density levels permitted under a regulation or ordinance are not eligible for this credit. To support the credit allowed by this Article, the taxpayer must file with the tax return for the taxable year in which the credit is claimed a certification by the Department of Environment and Natural Resources that the property donated is suitable for one or more of the valid public benefits set forth in this section. The certification for a qualified donation made by a pass-through entity must be filed by the pass-through entity.

"**§ 105-129.71. Credit amount.**

(a) Corporations. – The aggregate amount of credit allowed to a corporation in a taxable year under this Article for one or more qualified donations, whether made directly or indirectly as owner of a pass-through entity, may not exceed five hundred thousand dollars ($500,000). That portion of a qualifying donation that is the basis for a credit allowed under this subsection is not eligible for deduction as a charitable contribution under G.S. 105-130.9 if it is claimed against income tax under Article 4 of this Chapter.

(b) Individuals. – The aggregate amount of credit allowed to an individual in a taxable year under this Article for one or more qualified donations, whether made directly or indirectly as owner of a pass-through entity, may not exceed two hundred fifty thousand dollars ($250,000). In the case of property owned by a married couple, if both spouses are required to file North Carolina income tax returns, the credit allowed by this section may be claimed only if the spouses file a joint return. If only one spouse is required to file a North Carolina income tax return, that spouse may claim the credit allowed by this Article on a separate return.

(c) Pass-Through Entities. – The aggregate amount of credit allowed to a pass-through entity in a taxable year under this section for one or more qualified donations, whether made directly or indirectly as owner of another pass-through entity, may not exceed five hundred thousand dollars ($500,000). Each individual who is an owner of a pass-through entity is allowed as a credit an amount equal to the owner's allocated share of the credit to which the pass-through entity is eligible under this subsection, not to exceed two hundred fifty thousand dollars ($250,000). Each corporation that is an owner of a pass-through entity is allowed as a credit an amount equal to the owner's allocated share of the credit to which the pass-through entity is eligible under this subsection, not to exceed five hundred thousand dollars ($500,000).

§ 105-129.72. Tax Election; Cap.

(a) Tax election. – The credit provided in this Article are allowed against the franchise tax levied in Article 3 of this Chapter, the income taxes levied in Article 4 of this Chapter, and the gross premiums tax levied in Article 8B of this Chapter. The taxpayer must elect the tax against which a credit will be claimed when filing the return on which the credit is claimed. This election is binding. Any carryforwards of a credit must be claimed against the same tax.

(b) Cap. – The credit allowed in this Article may not exceed the amount of tax against which it is claimed for the taxable year reduced by the sum of all credits allowed except payments of tax made by or on behalf of the taxpayer. This limitation applies to the cumulative amount of credit, including carryforwards, claimed by the taxpayer under this Article against each tax for the taxable year.

"**§ 105-129.73. Carryforward Election; Refund.**

A taxpayer may elect to carry forward any unused portion of this credit as follows:

(1) For the next succeeding five years or

(2) For the next succeeding two years, and after a credit has been carried forward for two years, the Secretary must refund to the taxpayer in the

next succeeding year an amount equal to fifty percent (50%) of the remaining unused amount of the credit.

"**§ 105-129.74. Marshland.**

In the case of marshland for which a claim has been filed pursuant to G.S. 113-205, the offer of donation must be made before December 31, 2003, to qualify for the credit allowed by this section.

"**§ 105-129.75. Reports.**

The Department of Revenue must report to the Revenue Laws Study Committee and the Fiscal Research Division of the General Assembly by May 1 of each year all of the following information for the 12-month period ending the preceding December 31:

(1) The number of taxpayers that claimed a credit allowed in this Article.

(2) The amount of each credit claimed.

(3) The total amount refunded in excess of tax liability.

(4) The total cost to the General Fund of the credits claimed."

SECTION 2. G.S. 105-130.34 is repealed.

SECTION 3. G.S. 105-151.12 is repealed.

SECTION 4. In order to pay for its costs of computer programming to implement this act, the Department of Revenue may withhold not more than fifty-five thousand dollars ($55,000) during the 2006-2007 fiscal year from individual income tax collections under Part 2 of Article 4 of Chapter 105 of the General Statutes.

SECTION 5. The title of Article 16 of Chapter 113A of the General Statutes reads as rewritten:

"Article 16.

"Conservation ~~Easements~~ Incentive Program."

SECTION 6. .S. 113A-231 reads as rewritten:

"**§ 113A-230. Legislative findings; intent.**

The General Assembly finds that a statewide network of protected natural areas, riparian buffers, and greenways can best be accomplished through a conservation ~~easements~~ incentive program. The General Assembly further finds that other public conservation and use programs, such as natural area protection, beach access, trail systems, historic landscape protection, and agricultural preservation, can benefit from increased conservation tools. In this Article, the General Assembly therefore intends to extend the ability of the Department of Environment and Natural Resources to achieve these purposes and to strengthen the capability of private nonprofit land trusts to participate in land and water conservation."

SECTION 7. G.S. 113A-231 reads as rewritten:

"**§ 113A-231. Program to accomplish conservation purposes.**

The Department of Environment and Natural Resources shall develop a nonregulatory program that uses conservation tax credits as a prominent tool to accomplish conservation purposes, including the maintenance of ecological systems. As a part of this program, the Department shall exercise its powers to protect real property and interests in real property: donated for tax credit under ~~G.S. 105-130.34 or G.S. 105-151.12;~~ G.S. 105-129.70; conserved with the use of other financial incentives;

or, conserved through nonregulatory programs. The Department shall call upon the Attorney General for legal assistance in developing and implementing the program."

SECTION 8. G.S. 113A-232(c) reads as rewritten:

"(c) Property Eligibility. – In order for real property or an interest in real property to be the subject of a grant under this Article, the real property or interest in real property must possess or have a high potential to possess ecological value, must be reasonably restorable, and must qualify for tax credits under ~~G.S. 105-130.34 or G.S. 105-151.12.~~ G.S. 105-129.70."

SECTION 9. G.S. 113A-232(c1) reads as rewritten:

"(c1) Grant Eligibility. – State conservation land management agencies, local government conservation land management agencies, and private nonprofit land trust organizations are eligible to receive grants from the Conservation Grant Fund. Private nonprofit land trust organizations must be qualified pursuant to ~~G.S. 105-130.34 and G.S. 105-151.12~~ G.S. 105-129.70and must be certified under section 501(c)(3) of the Internal Revenue Code."

SECTION 10. G.S. 113A-233 reads as rewritten:

"**§ 113A-233. Uses of a grant from the Conservation Grant Fund.**

(a) Allowable Uses. – A grant from the Conservation Grant Fund may be used only to pay for one or more of the following costs:

(1) Reimbursement for total or partial transaction costs for a donation of real property or an interest in real property from an individual or corporation satisfying either of the following:

a. Insufficient financial ability to pay all costs or insufficient taxable income to allow these costs to be included in the donated value.

b. Insufficient tax burdens to allow these costs to be offset by the value of tax credits under ~~G.S. 105-130.34 or G.S. 105-151.12~~ G.S. 105-129.70 or by charitable deductions.

(2) Management support, including initial baseline inventory and planning.

(3) Monitoring compliance with conservation easements, the related use of riparian buffers, natural areas, and greenways, and the presence of ecological integrity.

(4) Education on conservation, including information materials intended for landowners and education for staff and volunteers.

(5) Stewardship of land.

(6) Transaction costs for recipients, including legal expenses, closing and title costs, and unusual direct costs, such as overnight travel.

(7) Administrative costs for short-term growth or for building capacity.

(b) Prohibition. – The Fund shall not be used to pay the purchase price of real property or an interest in real property."

SECTION 11. G.S. 105-130.9 reads as rewritten:

"**§ 105-130.9. Contributions.**

Contributions shall be allowed as a deduction to the extent and in the manner provided as follows:

(1) Charitable contributions as defined in section 170(c) of the Code, exclusive of contributions allowed in subdivision (2) of this section, shall be allowed as a deduction to the extent provided herein. The amount allowed as a deduction hereunder shall be limited to an amount not in excess of five percent (5%) of the corporation's net income as computed without the benefit of this subdivision or subdivision (2) of this section. Provided, that a carryover of contributions shall not be allowed and that contributions made to North Carolina donees by corporations allocating a part of their total net income outside this State shall not be allowed under this subdivision, but shall be allowed under subdivision (3) of this section.

(2) Contributions by any corporation to the State of North Carolina, any of its institutions, instrumentalities, or agencies, any county of this State, its institutions, instrumentalities, or agencies, any municipality of this State, its institutions, instrumentalities, or agencies, and contributions or gifts by any corporation to educational institutions located within North Carolina, no part of the net earnings of which inures to the benefit of any private stockholders or dividend. For the purpose of this subdivision, the words "educational institution" shall mean only an educational institution which normally maintains a regular faculty and curriculum and normally has a regularly organized body of students in attendance at the place where the educational activities are carried on. The words "educational institution" shall be deemed to include all of such institution's departments, schools and colleges, a group of "educational institutions" and an organization (corporation, trust, foundation, association or other entity) organized and operated exclusively to receive, hold, invest and administer property and to make expenditures to or for the sole benefit of an "educational institution" or group of "educational institutions."

(3) Corporations allocating a part of their total net income outside North Carolina under the provisions of G.S. 105-130.4 shall deduct from total income allocable to North Carolina contributions made to North Carolina donees qualified under subdivisions (1) and (2) of this section or made through North Carolina offices or branches of other donees qualified under the above-mentioned subdivisions of this section; provided, such deduction for contributions made to North Carolina donees qualified under subdivision (1) of this section shall be limited in amount to five percent (5%) of the total income allocated to North Carolina as computed without the benefit of this deduction for contributions.

(4) The amount of a contribution for which the taxpayer claimed a tax credit pursuant to ~~G.S. 105-130.34~~ G.S. 105-129.70shall not be

eligible for a deduction under this section. The amount of the credit claimed with respect to the contribution is not, however, required to be added to income under G.S. 105-130.5(a)(10)."

SECTION 12. G.S. 105-277.3(d1) reads as rewritten:

"(d1) Exception for Easements on Qualified Conservation Lands Previously Appraised at Use Value. – Property that is appraised at its present-use value under G.S. 105-277.4(b) shall continue to qualify for appraisal, assessment, and taxation as provided in G.S. 105-277.2 through G.S. 105-277.7 as long as the property is subject to an enforceable conservation easement that would qualify for the conservation tax credit provided in ~~G.S. 105-130.34 and G.S. 105-151.12,~~ G.S.105-129.70 without regard to actual production or income requirements of this section. Notwithstanding G.S. 105-277.3(b) and (b1), subsequent transfer of the property does not extinguish its present-use value eligibility as long as the property remains subject to an enforceable conservation easement that qualifies for the conservation tax credit provided in ~~G.S. 105-130.34 and G.S. 105-151.12.~~ G.S.105-129.70.The exception provided in this subsection applies only to that part of the property that is subject to the easement."

SECTION 13. G.S. 113-77.9(d) reads as rewritten:

"(d) Acquisition. – The Department of Administration may, pursuant to G.S. 143-341, acquire by purchase, gift, or devise all lands selected by the Trustees for acquisition pursuant to this Article. Title to any land acquired pursuant to this Article shall be vested in the State. A State agency with management responsibility for land acquired pursuant to this Article may enter into a management agreement or lease with a county, city, town, or private nonprofit organization qualified under ~~G.S. 105-151.12 and G.S. 105-130.34~~ G.S.105-129.70 and certified under section 501(c)(3) of the Internal Revenue Code to aid in managing the land. A management agreement or lease shall be executed by the Department of Administration pursuant to G.S. 143-341."

SECTION 14. G.S. 113A-256(g) reads as rewritten:

"(g) Tax Credit Certification. – The Trustees shall develop guidelines to determine whether land donated for a tax credit under ~~G.S. 105-130.34 or G.S. 105-151.12~~ G.S.105-129.70 are suitable for one of the purposes under this Article and may be certified for a tax credit."

SECTION 15. G.S. 105-151.26 reads as rewritten:

"§ 105-151.26. Credit for charitable contributions by nonitemizers.

A taxpayer who elects the standard deduction under section 63 of the Code for federal tax purposes is allowed as a credit against the tax imposed by this Part an amount equal to seven percent (7%) of the taxpayer's excess charitable contributions. The taxpayer's excess charitable contributions are the amount by which the taxpayer's charitable contributions for the taxable year that would have been deductible under section 170 of the Code if the taxpayer had not elected the standard deduction exceed two percent (2%) of the taxpayer's adjusted gross income as calculated under the Code.

No credit shall be allowed under this section for amounts deducted from gross income in calculating taxable income under the Code or for contributions for which a credit was claimed under ~~G.S. 105-151.12~~ G.S.105-129.70 or G.S. 105-151.14. A nonresident or part-year resident who claims the credit allowed by this section shall

reduce the amount of the credit by multiplying it by the fraction calculated under G.S. 105-134.5(b) or (c), as appropriate. The credit allowed under this section may not exceed the amount of tax imposed by this Part for the taxable year reduced by the sum of all credits allowed, except payments of tax made by or on behalf of the taxpayer."

SECTION 16. Section 1 of this act is effective for credits claimed against income tax or gross premiums tax for taxable years beginning on or after January 1, 2006, and for credits claimed against franchise tax for taxable years beginning on or after January 1, 2007, and applies to property interests contributed on or after January 1, 2006. Sections 4 and 16 of this act are effective when this act becomes law. The remainder of this act is effective for taxable years beginning on or after January 1, 2006.

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 2005

U D

BILL DRAFT 2005-RIz-17 [v.4] (05/03)

(THIS IS A DRAFT AND IS NOT READY FOR INTRODUCTION)
5/15/2006 11:58:59 AM

Short Title: Mercury Switch Amendments. (Public)

Sponsors: .

Referred to:

A BILL TO BE ENTITLED

AN ACT TO AMEND THE STATUTES GOVERNING THE REMOVAL, COLLECTION, AND RECOVERY OF MERCURY SWITCHES FROM CERTAIN MOTOR VEHICLES, AS RECOMMENDED BY THE ENVIRONMENTAL REVIEW COMMISSION.

The General Assembly of North Carolina enacts:

SECTION 1. G.S. 130A-310.50 reads as rewritten:

"**§ 130A-310.50. Definitions.**

As used in this Part:

(1) "Capture rate" means the ~~annual~~ removal, collection, and recovery of mercury ~~switches~~ switches, as required by this Part, expressed as a ~~percentage~~ ratio of the number of switches removed, divided by the total number of mercury switches available for removal from end-of-life ~~vehicles.~~vehicles, minus the number of switches that were inaccessible due to the condition of the vehicle.

(1a) 'Destination facility' has the same meaning as in 40 Code of Federal Regulations § 273.9 (1 July 2006 Edition).

(2) "End-of-life vehicle" means a vehicle that is sold, given, or otherwise conveyed to a vehicle recycler or scrap metal recycling facility for the purpose of recycling.

(3) "Manufacturer" means a person, firm, association, partnership, corporation, governmental entity, organization, combination, or joint venture that is the last person in the production or assembly process of a new vehicle that utilizes mercury switches, or in the case of an imported vehicle, the importer or domestic distributor of the vehicle.

(4) "Mercury minimization plan" means a plan for removing, collecting, and recovering mercury switches from end-of-life vehicles that is

prepared as provided in G.S. 130A-310.52 and implemented as provided in G.S. 130A-310.53.

(5) "Mercury switch" means each mercury-containing capsule, commonly known as a "bullet", that is part of a convenience light switch assembly installed in a vehicle.

(6) "Scrap metal recycling facility" means a fixed location where machinery and equipment are used to process scrap metal into specific grades of scrap metal for sale and whose primary product is scrap iron, scrap steel, or nonferrous metallic scrap.

(6a) 'Universal waste' has the same meaning as in 40 Code of Federal Regulations § 273.9 (1 July 2006 Edition).

(6b) 'Universal waste handler' has the same meaning as in 40 Code of Federal Regulations § 273.9 (1 July 2006 Edition).

(7) "Vehicle" means any passenger automobile or passenger car, station wagon, truck, van, or sport utility vehicle with a gross vehicle weight rating of less than 12,000 pounds.

(8) "Vehicle recycler" means an individual or entity engaged in the business of acquiring, dismantling, or destroying six or more end-of-life vehicles in a calendar year for the primary purpose of resale of parts of the vehicle."

SECTION 2. G.S. 130A-310.52 reads as rewritten:

"**§ 130A-310.52. Mercury minimization plan.**

(a) The Department shall develop and administer a mercury minimization plan to annually achieve the goal of having ~~a~~ an annual capture rate of at least ninety percent (90%). In preparing the plan, the Department shall consult with manufacturers of vehicles, who shall participate in the development of the plan on an advisory basis. To the extent practicable, the mercury minimization plan shall utilize the currently available end-of-life vehicle recycling infrastructure. To the extent adequate, affordable, and environmentally sound end-of-life vehicle recycling infrastructure is unavailable, the plan shall provide for the development of this infrastructure. Nothing in this Part shall preclude the Department from approving a program sponsored by the manufacturers for the collection and disposal of mercury switches taken from vehicle recyclers and scrap metal recycling facilities.

(b) A plan developed under subsection (a) of this section shall include the following:

(1) A compilation of the make, model, and year of any vehicle that was sold or offered for sale by the vehicle manufacturer and contains one or more mercury switches and a description and the location of each mercury switch in the vehicle. A vehicle manufacturer shall report to the Department the information needed to make the compilation.

(2) A description of all safe and environmentally sound methods for removal of mercury switches from end-of-life vehicles. A vehicle manufacturer shall report to the Department the information needed to make the description.

(3) A presumption that if the manufacturer does not know or is uncertain as to whether or not a switch contains mercury, the switch does contain mercury.

(4) A system to mark end-of-life vehicles that are to be shredded or crushed to indicate the presence or absence of a mercury switch.

(5) Educational materials to assist a vehicle recycler or a scrap metal recycling facility in undertaking a safe and environmentally sound method for the removal of the mercury switches from end-of-life vehicles. The materials shall include information on hazards related to mercury and on the proper handling of ~~mercury.~~mercury switches by a vehicle recycler or scrap metal recycling facility during removal, collection, storage, and preparation for transport of the switches to a universal waste handler or destination facility subject to the requirements of 40 Code of Federal Regulations Part 273 (1 July 2006 Edition).

(6) A method for storage and ~~disposal~~ handling of the mercury ~~switches,~~ switches removed by vehicle recyclers and scrap metal recycling facilities in accordance with the rules adopted by the Commission concerning universal waste, including packaging and shipping of mercury switches to a universal waste handler or destination facility subject to the requirements of 40 Code of Federal Regulations Part 273 (1 July 2006 Edition).. ~~permitted recycling, storage, or disposal facilities. To the extent adequate, affordable, and environmentally sound mercury switch disposal technology is unavailable, a method for the temporary storage of mercury switches.~~"

SECTION 3. G.S. 130A-310.53 reads as rewritten:

"**§ 130A-310.53. Removal of mercury switches from end-of-life vehicles.**

(a) A vehicle recycler that conveys ownership of an end-of-life vehicle to a scrap metal recycling facility shall remove all mercury switches identified in the mercury minimization plan prior to delivery of the vehicle to the scrap metal recycling facility. If a mercury switch is inaccessible, the fact that the mercury switch remains in the vehicle shall be noted on the vehicle recycler's invoice.

(b) A scrap metal recycling facility that accepts an end-of-life vehicle that has not been flattened, crushed, baled, or shredded and that contains mercury switches shall remove the mercury switches before the end-of-life vehicle is flattened, crushed, baled, or shredded unless the mercury switch is inaccessible.

(c) A mercury switch is inaccessible if, due to the condition of the vehicle, the switch cannot be removed in accordance with the mercury minimization plan and removal of the switch would significantly increase the risk of a release of mercury into the environment.

(d) A vehicle recycler or scrap metal recycling facility that removes mercury switches pursuant to subsection (a) or (b) of this section ~~shall make quarterly reports to the Department on the following:~~shall, no later than 1 March, make an annual report to the Department on all of the following for the previous calendar year:

(1) The number of vehicles ~~that~~ it processed for ~~recycling.~~recycling that contained mercury switches and the total number of switches contained in those vehicles.

(2) The number of vehicles from which it removed a mercury switch by ~~make.~~make and the total number of switches removed from each make.

(3) The number of vehicles for which it could not remove the mercury switch because the switch was ~~inaccessible.~~inaccessible and the total number of inaccessible switches.

(4) The number of mercury switches sent to a universal waste handler or destination facility subject to the requirements of 40 Code of Federal Regulations Part 273 (1 July 2006 Edition).

(e) Mercury switches that are removed from end-of-life vehicles are considered ~~'universal waste' as defined in 40 Code of Federal Regulations § 273.9 (1 July 2004 Edition).~~ universal waste. Mercury switches that are removed from end-of-life vehicles shall be collected, transported, treated, stored, disposed of, and otherwise handled in accordance with rules adopted by the Commission governing universal waste and in compliance with the requirements of 40 Code of Federal Regulations Part 273 (1 July 2006 Edition)."

SECTION 4. G.S. 130A-310.54 reads as rewritten:

"**§ 130A-310.54. Funds to implement plan.**

(a) The Mercury Pollution Prevention Account is established in the Department. Revenue is credited to the Account from the certificate of title fee under G.S. 20-85.

(b) Revenue in the Mercury Pollution Prevention Account shall be used to reimburse the Department and others for costs incurred in implementing the mercury minimization plan. The reimbursable costs are:

(1) Five dollars ($5.00) for each mercury switch ~~removed~~ removed, managed in accordance with the rules adopted by the Commission concerning universal waste, and sent to a universal waste handler or destination facility subject to the requirements of 40 Code of Federal Regulations Part 273 (1 July 2006 Edition) by a vehicle recycler or scrap metal recycling facility pursuant to this ~~Article.~~ Article, including shipment through any manufacturer-sponsored collection program for mercury switches that has been approved by the Department.

(2) Costs incurred by the Department in administering the plan.

(c) ~~The Department shall reimburse vehicle recyclers and scrap metal recycling facilities based on the quarterly reports submitted under G.S. 130A-310.53. The Department may request any information needed to determine the accuracy of the reports.~~Reimbursements to vehicle recyclers and scrap metal recycling facilities shall be based on the number of mercury switches sent to other universal waste handlers or destination facilities.

(d) A vehicle recycler or scrap metal recycling facility shall maintain and submit documentation as required by the Department to substantiate the information included

in its annual reports. Supporting documentation for each annual report shall be kept for three years from the last day of the calendar year covered by the report."

SECTION 5. G.S. 130A-310.55 reads as rewritten:

"**§ 130A-310.55. Violations of Article; enforcement.**

(a) It is unlawful for a person to do any of the following:

(1) Knowingly flatten, crush, bale, shred, or otherwise alter the condition of a vehicle from which accessible mercury switches have not been removed, in any manner that would prevent or significantly hinder the removal of a mercury switch.

(2) Willfully fail to remove a mercury switch when the person is required to do so.

~~(3) Knowingly make a false report that a mercury switch has been removed from an end-of-life vehicle.~~

~~(4) Obtain a mercury switch from another source and falsely report that it was removed from a vehicle processed for recycling.~~

(b) Any person who violates subsection (a) of this section shall be guilty of a Class 1 misdemeanor and upon conviction shall be punished as provided in G.S. 14-3.

(c) It is unlawful for a person to do any of the following:

(1) Knowingly make a false report that a mercury switch has been removed from an end-of-life vehicle.

(2) Obtain a mercury switch from another source and falsely report that it was removed from a vehicle processed for recycling.

(d) Any person who violates subsection (c) of this section shall be guilty of a Class 2 misdemeanor and upon conviction shall be punished as provided in G.S. 130A-26.2.

(e) A violation of any provision of this Part, including subsections (a) and (c) of this section and any rules adopted by the Commission governing universal waste, may be enforced by an administrative or civil action ~~This Part may be enforced~~ as provided in Part 2 of Article 1 of this Chapter."

SECTION 6. G.S. 130A-310.57 reads as rewritten:

"**§ 130A-310.57. Report on plan.**

The Department shall publish an annual report on the mercury minimization plan on or before 1 November ~~1~~ based on its evaluation of annual reports submitted for the previous calendar year and any information provided from an approved manufacturer-sponsored collection program. The report shall include, at a minimum, all of the following:

(1) A detailed description and documentation of the capture rate achieved.

(2) In the event that ~~a~~ an annual capture rate of at least ninety percent (90%) is not ~~achieved,~~ achieved annually, a description of additional or alternative actions that may be implemented to improve the mercury minimization plan and its implementation.

(3) The number of mercury switches collected, the number of end-of-life vehicles containing mercury switches, the number of end-of-life

vehicles processed for recycling, and a description of how the mercury switches were managed.

(4) A statement that details the costs required to implement the mercury minimization plan."

SECTION 7. Section 3 of S.L. 2005-384 is rewritten to read:

"**SECTION 3.** The Commission for Health Services shall amend 15A NCAC 13A .0119 to adopt rules governing the management of waste mercury-containing ~~devices,~~ devices as universal waste, as defined in the Final Rule published on 5 August 2005 in the Federal Register, Volume 70, Number 150, Pages 45508 through 45522.~~Notice of Proposed Rulemaking published on 12 June 2002 in the Federal Register, Volume 67, Number 113, Pages 40507 through 40528, as universal waste.~~"

SECTION 8. This act becomes effective 1 January 2007. The first annual report required by G.S. 130A-310.53(d) is due 1 March 2008. The first annual report required by G.S. 130A-310.57 is due 1 November 2008. This act expires on 31 December 2017.

EXHIBIT O

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 2005

U D

BILL DRAFT 2005-RTfz-20 [v.3] (05/03)

(THIS IS A DRAFT AND IS NOT READY FOR INTRODUCTION)
5/15/2006 12:30:07 PM

Short Title: Underground Storage Tank Amendments 2006. (Public)

Sponsors: .

Referred to:

A BILL TO BE ENTITLED

AN ACT (1) TO PROVIDE FOR A TRANSITION TO RELIANCE ON PRIVATE INSURANCE AND SIMILAR MECHANISMS FOR THE DEMONSTRATION OF FINANCIAL RESPONSIBILITY REQUIRED UNDER FEDERAL LAW OF OWNERS AND OPERATORS OF COMMERCIAL PETROLEUM UNDERGROUND STORAGE TANKS, (2) TO IMPLEMENT THE TRANSITION TO PRIVATE INSURANCE BY MEANS OF A MARKET-BASED APPROACH THAT UTILIZES A PROGRESSIVE SCHEDULE OF INCREASES IN TANK FEES, (3) TO REDUCE THE INCIDENCE OF LEAKS BY REQUIRING SECONDARY CONTAINMENT FOR ALL COMPONENTS OF REGULATED PETROLEUM UNDERGROUND STORAGE TANK SYSTEMS, (4) TO PROVIDE FOR EXPEDITED ASSESSMENT AND CLEANUP OF RELEASES AND DISCHARGES FROM PETROLEUM UNDERGROUND STORAGE TANKS BY REQUIRING THE DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES TO ESTABLISH A PILOT PROGRAM TO EVALUATE THE USE OF SITE-SPECIFIC CLEANUP STANDARDS, (5) TO PROVIDE FOR VARIOUS STUDIES AND REPORTS, AND (6) TO MAKE OTHER IMPROVEMENTS TO THE UNDERGROUND STORAGE TANK CLEANUP PROGRAM, AS RECOMMENDED BY THE ENVIRONMENTAL REVIEW COMMISSION.

The General Assembly of North Carolina enacts:

SECTION 1. G.S. 143-215.94B reads as rewritten:

"**§ 143-215.94B. Commercial Leaking Petroleum Underground Storage Tank Cleanup Fund.**

(a) There is established under the control and direction of the Department the Commercial Leaking Petroleum Underground Storage Tank Cleanup Fund. This Commercial Fund shall be a nonreverting revolving fund consisting of any monies

appropriated for such purpose by the General Assembly or available to it from grants, other monies paid to it or recovered on behalf of the Commercial Fund, and fees paid pursuant to this Part.

(b) The Commercial Fund shall be used for the payment of the following costs up to an aggregate maximum of one million dollars ($1,000,000) per occurrence resulting from a discharge or release of a petroleum product from a commercial underground storage tank:

(1) For discharges or releases discovered or reported between 30 June 1988 and 31 December 1991 inclusive, the cleanup of environmental damage as required by G.S. 143-215.94E(a) in excess of fifty thousand dollars ($50,000) per occurrence.

(2) For discharges or releases discovered on or after 1 January 1992 and reported between 1 January 1992 and 31 December 1993 inclusive, the cleanup of environmental damage as required by G.S. 143-215.94E(a) in excess of twenty thousand dollars ($20,000) per occurrence.

(2a) For discharges or releases discovered and reported on or after 1 January 1994 and prior to 1 January 1995, the cleanup of environmental damage as required by G.S. 143-215.94E(a) in excess of twenty thousand dollars ($20,000) if the owner or operator (i) notifies the Department prior to 1 January 1994 of its intent to permanently close the tank in accordance with applicable regulations or to upgrade the tank to meet the requirements that existing underground storage tanks must meet by 22 December 1998, (ii) commences closure or upgrade of the tank prior to 1 July 1994, and (iii) completes closure or upgrade of the tank prior to 1 January 1995.

(3) For discharges or releases reported on or after 1 January ~~1994,~~1994 and prior to 1 January 2017, the cleanup of environmental damage as required by G.S. 143-215.94E(a) in excess of twenty thousand dollars ($20,000) if, prior to the discharge or release, the commercial underground storage tank from which the discharge or release occurred met the performance standards applicable to tanks installed after 22 December 1988 or met the requirements that existing underground storage tanks must meet by 22 December 1998.

(4) For discharges or releases reported on or after 1 January 1994 and prior to 1 January 2017 from a commercial underground storage tank that does not qualify under subdivision (2a) of this subsection or does not meet the standards in subdivision (3) of this subsection, sixty percent (60%) of the costs per occurrence of the cleanup of environmental damage as required by G.S. 143-215.94E(a) that exceeds twenty thousand dollars ($20,000) but is not more than one hundred fifty-seven thousand five hundred dollars ($157,500) and one hundred percent (100%) of the costs above this amount, up to the limits established in this section.

(5) Compensation to third parties for bodily injury and property damage in excess of one hundred thousand dollars ($100,000) per occurrence.

(6) Reimbursing the State for damages or other costs incurred as a result of a loan from the Loan Fund. The per occurrence limit does not apply to reimbursements to the State under this subdivision.

(7) Recordation of residual petroleum as required by G.S. 143B-279.11 if the Commercial Fund is responsible for the payment of costs under subdivisions (1) through (4) of this subsection.

(b1) In the event that two or more discharges or releases at any one facility, the first of which was discovered or reported on or after 30 June 1988, result in more than one plume of soil, surface water, or groundwater contamination, the Commercial Fund shall be used for the payment of the costs of the cleanup of environmental damage as required by G.S. 143-215.94E(a) in excess of the multiple discharge amount up to the applicable aggregate maximum specified in subsections (b) and (b2) of this section. The multiple discharge amount shall be calculated as follows:

(1) Each discharge or release shall be considered separately as if it were the only discharge or release, and the cost for which the owner or operator is responsible under subdivisions (1), (2), (2a), or (3) of subsection (b) of this section, whichever are applicable, shall be determined for each discharge or release. For each discharge or release for which subdivision (4) of subsection (b) of this section is applicable, the cost for which the owner or operator is responsible, for the purpose of this subsection, shall be seventy-five thousand dollars ($75,000). For purposes of this subsection, two or more discharges or releases that result in a single plume of soil, surface water, or groundwater contamination shall be considered as a single discharge or release.

(2) The multiple discharge amount shall be the lesser of:

a. The sum of all the costs determined as set out in subdivision (1) of this subsection; or

b. The product of the highest of the costs determined as set out in subdivision (1) of this subsection multiplied by one and one-half (1 1/2).

(b2) In the event that the aggregate costs per occurrence described in subsection (b) or (b1) of this section exceed one million dollars ~~($1,000,000),~~ ($1,000,000) for a discharge or release that is reported prior to 1 January 2017, the Commercial Fund shall be used for the payment of eighty percent (80%) of the costs in excess of one million dollars ($1,000,000) up to a maximum of one million five hundred thousand dollars ($1,500,000). The Department shall not pay or reimburse costs under this subsection unless the owner, operator, or landowner eligible for reimbursement under G.S. 143-215.94E(b1) submits proof that the owner, operator, or landowner eligible for reimbursement under G.S. 143-215.94E(b1) has paid at least twenty percent (20%) of the costs for which reimbursement is sought.

(b3) For purposes of subsections (b) and (b1) of this section, the cleanup of environmental damage includes connection of a third party to a public water system if

the Department determines that connection of the third party to a public water system is a cost-effective measure, when compared to other available measures, to reduce risk to human health or the environment. A payment or reimbursement under this subsection is subject to the requirements and limitations of this section. This subsection shall not be construed to limit any right or remedy available to a third party under any other provision of law. This subsection shall not be construed to require a third party to connect to a public water system. Except as provided by this subsection, connection to a public water system does not constitute cleanup under Part 2 of this Article, G.S. 143-215.94E, G.S. 143-215.94V, any other applicable statute, or at common law.

(b4) The Commercial Fund shall pay any claim made after 1 September 2001 for compensation to third parties pursuant to subdivision (5) of subsection (b) of this section only if the owner, operator, or other party responsible for the discharge or release has complied with the requirements of G.S. 143B-279.9 and G.S. 143B-279.11, unless compliance is prohibited by another provision of law.

(c) The Commercial Fund is to be available on an occurrence basis, without regard to number of occurrences associated with tanks owned or operated by the same owner or operator.

(d) The Commercial Fund shall not be used for:

(1) Costs incurred as a result of a discharge or release from an aboveground tank, aboveground pipe or fitting not connected to an underground storage tank, or vehicle.

(2) The removal or replacement of any tank, pipe, fitting or related equipment.

(3) Costs incurred as a result of a discharge or release of petroleum from a transmission pipeline.

(4) Costs intended to be paid by the Noncommercial Fund.

(5) Costs associated with the administration of any underground storage tank program other than the program administered pursuant to this Part.

(6) Costs paid or reimbursed by or from any source other than the Commercial Fund, including but not limited to, any payment or reimbursement made under a contract of insurance.

(7) Costs incurred as a result of the cleanup of environmental damage to groundwater to a more protective standard than the risk-based standard required by the Department unless the cleanup of environmental damage to groundwater to a more protective standard is necessary to resolve a claim for compensation by a third party for property damage.

(8) Costs in excess of those required to achieve the most cost-effective cleanup.

(9) Costs incurred as a result of a discharge or release from an underground storage tank first placed in service on or after 1 January 2007 if either of the following apply:

a. The facility of which the tank is a component is first placed in service on or after 1 January 2007.

b. The underground storage tank is a component of a facility at which all underground storage tanks are replaced on or after 1 January 2007.

(e) The Commercial Fund shall be treated as a special trust fund and shall be credited with interest by the State Treasurer pursuant to G.S. 147-69.2 and G.S. 147-69.3.

(f) During each fiscal year, the Department may use up to two million five hundred thousand dollars ($2,500,000) of the funds in the Commercial Fund for performance-based cleanups as provided in this subsection. The Department may also use any funds that are available from any other source and that are specifically intended to be used for performance-based cleanups as provided in this section. Each performance-based cleanup shall comply with the requirements of this Part and any other provisions of law that govern the cleanup of environmental damage resulting from the discharge or release of a petroleum product from a commercial underground storage tank. The Department or any owner, operator, or landowner may contract for performance-based cleanups with environmental services firms that the Department has determined to be qualified to satisfactorily complete the work associated with a cleanup. Before the award of the contract, the environmental services firms shall secure a surety or performance bond equal to the price of the firm's services under the contract and shall demonstrate having secured the surety or performance bond to the satisfaction of the Department. The surety shall be liable on the bond obligation when the environmental services firms fail to perform as specified in the contract. A performance-based contract shall provide that cleanup will be completed within the time and for the cost stated in the contract. The Department or any owner, operator, or landowner shall select environmental services firms for performance-based cleanup through a competitive bidding process. The Commission shall adopt rules governing the competitive bidding process and any other rules necessary to implement this subsection. The rules shall establish qualifications for environmental services firms and for individuals and firms that provide engineering services as part of a contract to satisfactorily complete work associated with cleanup."

SECTION 2. G.S. 143-215.94C reads as rewritten:

"**§ 143-215.94C. Commercial leaking petroleum underground storage tank cleanup fees.**

(a) ~~For purposes of this subsection, each compartment of a commercial underground storage tank that is designed to independently contain a petroleum product is a separate petroleum commercial underground storage tank.~~ The owner or operator of a commercial petroleum underground storage tank facility shall pay to the Secretary for deposit into the Commercial Fund an annual operating ~~fee according to the following schedule:~~permit fee. In addition to the operating permit fee, an owner or operator of a commercial petroleum underground storage tank facility who demonstrates financial responsibility as required by G.S. 143-215.94H on the basis of eligibility for the payment of any of the costs described in subsections (b) or (b1) of G.S. 143-215.94B from the Commercial Fund shall pay to the Secretary for deposit into the Commercial Fund an annual financial responsibility fee. The operating permit fee and the financial

responsibility fee shall be paid together as one annual comprehensive fee. The annual comprehensive fee shall be determined from the following schedule. For purposes of this subsection, each compartment of a commercial underground storage tank that is designed to independently contain a petroleum product is a separate petroleum commercial underground storage tank.

Year	Operating Permit Fee Per Tank	Financial Responsibility Fee Per Tank	
		Tanks of 3,500 gallons capacity or less	Tanks greater than 3,500 gallons capacity
2007	$72.00	$228.00	$384.00
2008	$72.00	$228.00	$384.00
2009	$72.00	$252.00	$396.00
2010	$72.00	$312.00	$420.00
2011	$72.00	$468.00	$468.00
2012	$72.00	$588.00	$588.00
2013	$72.00	$732.00	$732.00
2014	$72.00	$912.00	$912.00
2015	$72.00	$1,152.00	$1,152.00
2016	$72.00	$1,512.00	$1,512.00
2017+	$72.00	Not available	Not available

~~(1) For each petroleum commercial underground storage tank of 3,500 gallons or less capacity - two hundred dollars ($200.00).~~

~~(2) For each petroleum commercial underground storage tank of more than 3,500 gallon capacity - three hundred dollars ($300.00).~~

(a1) Once an owner or operator of a commercial petroleum underground storage tank facility elects to demonstrate financial responsibility as required by G.S. 143-215.94H without reliance on the Commercial Fund, the owner or operator must continue to demonstrate financial responsibility as required by G.S. 143-215.94H without reliance on the Commercial Fund.

(b) The annual ~~operating~~ comprehensive fee shall be determined on a calendar year basis. For petroleum commercial underground storage tanks in use on 1 January and remaining in use on or after 1 December of that year, the annual ~~operating~~ comprehensive fee due for that year shall be as specified in subsection (a) of this section. For a petroleum commercial underground storage tank that is first placed in service in any year, the operating permit fee due for that year shall not be prorated. For a petroleum commercial underground storage tank that is first placed in ~~use~~ service in any year, the ~~annual operating~~financial responsibility fee due for that year shall be determined by multiplying one-twelfth (1/12) of the amount specified in subsection (a) of this section by the number of months remaining in the calendar year. For a petroleum commercial underground storage tank that is permanently removed from use in any year, the ~~annual operating~~financial responsibility fee due for that year shall be determined by multiplying one-twelfth (1/12) of the amount specified in subsection (a) of this section by the number of months in the calendar year preceding the permanent removal from use. In calculating the pro rata ~~annual operating~~financial responsibility fee for a tank that is first placed in ~~use~~ service or permanently removed during a calendar

year under the preceding two sentences, a partial month shall count as a month, except that where a tank is permanently removed and replaced by another tank, the total of the ~~annual operating~~financial responsibility fee for the tank that is removed and the replacement tank shall not exceed the ~~annual operating~~financial responsibility fee for the replacement tank. The annual ~~operating~~ comprehensive fee shall be due and payable on the first day of the month in accordance with a staggered schedule established by the Department. The Department shall implement a staggered schedule to the end that the total amount of fees to be collected by the Department is approximately the same each quarter. A person who owns or operates more than one petroleum commercial underground storage tank may request that the fee for all tanks be due at the same time. The fee for all commercial underground storage tanks located at the same facility shall be due at the same time. A person who owns or operates 12 or more commercial petroleum storage tanks may request that the total of all fees be paid in four equal payments to be due on the first day of each calendar quarter, provided that the fee for all commercial underground storage tanks located at the same facility shall be due at the same time.

(c) Beginning no later than sixty days before the first due date of the annual ~~operating~~ comprehensive fee imposed by this section, any person who deposits a petroleum product in a commercial underground storage tank that would be subject to the annual ~~operating~~ comprehensive fee shall, at least once in each calendar year during which such deposit of a petroleum product is made, notify the owner or operator of the duty to pay the annual ~~operating~~ comprehensive fee. The requirement to notify pursuant to this subsection does not constitute a duty owed by the person depositing a petroleum product in a commercial underground storage tank to the owner or operator and the person depositing a petroleum product in an underground storage tank shall not incur any liability to the owner or operator for failure to give notice of the duty to pay the ~~operating~~ annual comprehensive fee.

(d) Repealed by Session Laws 1991, c. 538, s. 3.1.

(e) An owner or operator of a commercial underground storage tank who fails to pay an annual ~~operating~~ comprehensive fee due under this section within 30 days of the date that the fee is due shall pay, in addition to the fee, a late penalty of five dollars ($5.00) per day per commercial underground storage tank, up to a maximum equal to the annual ~~operating~~ comprehensive fee due. The Department may waive a late penalty in whole or in part if:

(1) The late penalty was incurred because of the late payment or nonpayment of an annual ~~operating~~ comprehensive fee by a previous owner or operator.

(2) The late penalty was incurred because of a billing error for which the Department is responsible.

(3) Where the late penalty was incurred because the annual ~~operating~~ comprehensive fee was not paid by the owner or operator due to inadvertence or accident.

(4) Where payment of the late penalty will prevent the owner or operator from complying with any substantive law, rule, or regulation

applicable to underground storage tanks and intended to prevent or mitigate discharges or releases or to facilitate the early detection of discharges or releases."

SECTION 3.(a) G.S. 143-215.94E is amended by adding two new subsections to read:

"(j) An owner, operator, or landowner shall request that the Department determine whether any of the costs of assessment and cleanup of a discharge or release from a petroleum underground storage tank are eligible to be paid or reimbursed from either the Commercial Fund or the Noncommercial Fund within one year after completion of any task that is eligible to be paid or reimbursed under G.S. 143-215.94B(b), 143-215.94B(b1), or 143-215.94D(b1).

(k) An owner, operator, or landowner shall request payment or reimbursement from the Commercial Fund or the Noncommercial Fund for the cost of a task within one year after the completion of the task. The Department shall deny any request for payment or reimbursement of the cost of any task that would otherwise be eligible to be paid or reimbursed if the request is not received within 12 months after the later of the date on which the:

(1) Department determines that the cost is eligible to be paid or reimbursed.

(2) Task is completed."

SECTION 3.(b) Notwithstanding G.S. 143-215.94E(k), as enacted by subsection (a) of this section, an owner, operator, or landowner shall request payment or reimbursement of the cost of any task completed prior to 1 January 2007 that is eligible to be paid or reimbursed from the Commercial Fund or the Noncommercial Fund no later than 1 January 2008. The Department shall deny any request for payment or reimbursement of the cost of any task to which this subsection applies that is made after 1 January 2008.

SECTION 4. G.S. 143-215.94G is amended by adding four new subsections to read:

"(g) If the Department paid or reimbursed costs that are not authorized to be paid or reimbursed under G.S. 143-215.94B or G.S. 143-215.94D as a result of a misrepresentation by an agent who acted on behalf of an owner, operator, or landowner, the Department shall first seek reimbursement, pursuant to subdivision (1) of subsection (d) of this section, from the agent of monies paid to or retained by the agent.

(h) The Department shall take administrative action to recover costs or bring a civil action pursuant to subdivision (1) of subsection (d) of this section to seek reimbursement of costs in accordance with the time limits set out in this subsection.

(1) The Department shall take administrative action to recover costs or bring a civil action to seek reimbursement of costs that are not authorized to be paid from the Commercial Fund under subdivisions (1), (2), (3), or (9) of G.S. 143-215.94B(d) or from the Noncommercial Fund under subdivisions (1), (2), or (3) of G.S. 143-215.94D(d) within five years after payment.

(2) The Department shall take administrative action to recover costs or bring a civil action to seek reimbursement of costs other than those described in subdivision (1) of this subsection within three years after payment.

(3) Notwithstanding the time limits set out in subdivisions (1) and (2) of this subsection, the Department may take administrative action to recover costs or bring a civil action to seek reimbursement of costs paid as a result of fraud or misrepresentation at any time.

(i) An administrative action or civil action that is not commenced within the time allowed by subsection (h) of this section is barred.

(j) Except with the consent of the claimant, the Department may not withhold payment or reimbursement of costs that are authorized to be paid from the Commercial Fund or the Noncommercial Fund in order to recover any other costs that are in dispute unless the Department is authorized to withhold payment by a final decision of the Commission pursuant to G.S. 150B-36 or an order or final decision of a court."

SECTION 5. G.S. 143-215.94H reads as rewritten:

"**§ 143-215.94H. Financial responsibility.**

(a) The Department shall require each owner and operator of a petroleum underground storage tank who is required to demonstrate financial responsibility under rules promulgated by the United States Environmental Protection Agency pursuant to 42 U.S.C. § 6991b(d) to maintain evidence of financial responsibility ~~of not less than~~ that is the lesser of:

(1) The full amount of the financial responsibility that an owner or operator is required to demonstrate under rules promulgated by the United States Environmental Protection Agency pursuant to 42 U.S.C. § 6991b(d).

(2) The amounts required to be paid for by the owner or operator pursuant to G.S. 143-215.94E(b) per occurrence for costs described in G.S. 143-215.94B(b) and ~~G.S. 143-215.94D(b1).~~ G.S. 143-215.94B(b1) if costs are eligible to be paid under those subsections.

(b) Financial responsibility may be established in accordance with rules adopted by the Commission which shall provide that financial responsibility may be established by either insurance, guarantee, surety bond, letter of credit, qualification as a self-insurer, or any combination thereof. The compliance date schedule for demonstrating financial responsibility shall conform to the schedule adopted by the Environmental Protection Agency."

SECTION 6. G.S. 143-215.94T reads as rewritten:

"**§ 143-215.94T. Adoption and implementation of regulatory program.**

(a) The Commission shall adopt, and the Department shall implement and enforce, rules relating to underground storage tanks as provided by G.S. 143-215.3(a)(15) and G.S. 143B-282(2)h. These rules shall include standards and requirements applicable to both existing and new underground storage tanks and tank systems, may include different standards and requirements based on tank capacity, tank

location, tank age, and other relevant factors, and shall include, at a minimum, standards and requirements for:

(1) Design, construction, and installation, including monitoring systems.
(2) Notification to the Department, inspection, and registration.
(3) Recordation of tank location.
(4) Modification, retrofitting, and upgrading.
(5) General operating requirements.
(6) Release detection.
(7) Release reporting, investigation, and confirmation.
(8) Corrective action.
(9) Repair.
(10) Closure.
(11) Financial responsibility.
(12) Tank tightness testing procedures and certification of persons who conduct tank tightness tests.
(13) Secondary containment for ~~nontank~~ all components of petroleum underground storage tank systems.

(b) Rules adopted pursuant to subsection (a) of this section that apply only to commercial underground storage tanks shall not apply to any:

(1) Farm or residential underground storage tank of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes.
(2) Underground storage tank of 1,100 gallons or less capacity used for storing heating oil for consumptive use on the premises where stored.
(3) Underground storage tank of more than 1,100 gallon capacity used for storing heating oil for consumptive use on the premises where stored by four or fewer households.

(c) Rules adopted pursuant to subdivision (13) of subsection (a) of this section shall require secondary containment for all ~~nontank~~ components of underground storage tank systems, ~~including all piping and~~ including, but not limited to, tanks, piping, fittings, pump heads, and dispensers. Secondary containment requirements shall include standards for double wall ~~piping~~ tanks, piping, and fittings and for sump containment for pump heads and dispensers. The rules shall provide for ~~monthly~~ release detection monitoring of double wall interstices and sump containments. The rules shall apply to any underground storage tank system that is installed on or after the date on which the rules become effective and to the replacement of any ~~nontank~~ component of an underground storage tank system on or after that date."

SECTION 7. The Environmental Management Commission shall adopt rules to require and set standards for secondary containment for all components of underground storage tank systems pursuant to G.S. 143-215.94T, as amended by Section 4 of this act. The rules shall apply to any underground storage tank system that is installed on or after 1 January 2007 and to the replacement of any component of an underground storage tank system on or after 1 January 2007. To the extent that the rules that are required to be adopted by this section are not effective on or after 1 January 2007, the provisions of 40 Code of Federal Regulations § 280.42(b)(1) through

§ 280.42(b)(4) (1 July 2004 Edition) shall govern any component of an underground storage tank system that is installed on or after 1 January 2007 and to the replacement of any component of an underground storage tank system on or after 1 January 2007.

SECTION 8. G.S. 143-215.94U reads as rewritten:

"**§ 143-215.94U. Registration of petroleum commercial underground storage tanks; operation of petroleum underground storage tanks; operating permit required.**

(a) The owner or operator of each petroleum commercial underground storage tank shall annually obtain an operating permit from the Department for the facility at which the tank is located. The Department shall issue an operating permit only if the owner or ~~operator:~~operator has done all of the following:

(1) ~~Has notified~~Notified the Department of the existence of all tanks as required by 40 Code of Federal Regulations § 280.22 (1 July 1994 Edition) or 42 U.S.C. § 6991a, if applicable, at the ~~facility;~~facility.

(2) ~~Has paid~~Paid all fees required under G.S. 143-215.94C for all commercial petroleum underground storage tanks located at the ~~facility;~~facility.

(3) Complies with applicable release detection, spill and overfill protection, and corrosion protection requirements set out in rules adopted pursuant to this Chapter, notifies the Department of the method or combination of methods of leak detection, spill and overfill protection, and corrosion protection in use, and certifies to the Department that all applicable release detection, spill and overfill protection, and corrosion protection requirements are being met for all petroleum underground storage tanks located at the ~~facility;~~facility.

(4) If applicable, complies with the Stage I vapor control requirements set out in 15A North Carolina Administrative Code 2D.0928, effective 1 March 1991, notifies the Department of the method or combination of methods of vapor control in use, and certifies to the Department that all Stage I vapor control requirements are being met for all petroleum underground storage tanks located at the ~~facility; and~~facility.

(5) ~~Has substantially~~Substantially complied with the air quality, groundwater quality, and underground storage tank standards applicable to any activity in which the applicant has previously engaged and has been in substantial compliance with federal and State laws, regulations, and rules for the protection of the environment. In determining substantial compliance, the compliance history of the owner or operator and any parent, subsidiary, or other affiliate of the owner, operator, or parent may be considered.

(6) Demonstrated financial responsibility as required by G.S. 143-215.94H.

(b) The operating permit shall be issued at the time the commercial underground storage annual ~~tank operating~~ comprehensive fee required under G.S. 143-215.94C(a) is paid and shall be valid from the first day of the month in which the fee is due through

the last day of the last month for which the fee is paid in accordance with the schedule established by the Department under G.S. 143-215.94C(b).

(c) No person shall place a petroleum product, and no owner or operator shall cause a petroleum product to be placed, into an underground storage tank at a facility for which the owner or operator does not hold a currently valid operating permit.

(d) The Department shall issue an operating permit certificate for each facility that meets the requirements of subsection (a) of this section. The operating permit certificate shall identify the number of tanks at the facility and shall conspicuously display the date on which the permit expires. Except for the owner or operator, no person shall be liable under subsection (c) of this section if an unexpired operating permit certificate is displayed at the facility, unless the person knows or has reason to know that the owner or operator does not hold a currently valid operating permit for the facility.

(e) The Department may revoke an operating permit only if the owner or operator fails to continuously meet the requirements set out in subdivisions (1) through (4) of subsection (a) of this section. If the Department revokes an operating permit, the owner or operator of the facility for which the operating permit was issued shall immediately surrender the operating permit certificate to the Department, unless the revocation is stayed pursuant to G.S. 150B-33. An owner or operator may challenge a decision by the Department to deny or revoke an operating permit by filing a contested case under Article 3 of Chapter 150B of the General Statutes. The Secretary shall make the final agency decision regarding the revocation of a permit under this section."

SECTION 9.(a) The definitions set out in G.S. 143-215.94A apply to this section. As used in this section, "Department" means the Department of Environment and Natural Resources and, with respect to any power or duty assigned to the Environmental Management Commission under Article 21A of Chapter 143 of the General Statutes, includes the Environmental Management Commission. As used in this section, "site-specific cleanup standards" means standards developed using the methodology described in the Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites adopted by the American Society for Testing and Materials (ASTM) as E1739-95(2002).

SECTION 9.(b) The Department shall establish a pilot program to evaluate the use of site-specific cleanup standards for the cleanup of discharges or releases of petroleum from underground storage tanks as an alternative to the use of the risk-based assessment and corrective action standards set out in 15A NCAC 2L.0115. The purpose of the pilot program is to determine the extent to which the use of site-specific standards would provide effective protection of public health, safety, and the environment in a cost-effective manner and at a lower overall cost as compared with the use of the risk-based standards set out in 15A NCAC 2L.0115. The pilot program shall apply only to discharges or releases that are classified as intermediate risk under 15A NCAC 2L.0115(d). The pilot program shall evaluate the use of site-specific standards in the cleanup of contamination that results from a discharge or release of petroleum from: (i) an underground storage tank; and (ii) an underground storage tank that is commingled

with petroleum contamination from a source of contamination other than an underground storage tank, as provided in G.S. 143-215.94V(h).

SECTION 9.(c) Participation in the pilot program shall be at the election of the owner, operator, or landowner. To participate in the pilot program, an owner, operator, or landowner shall perform a site-specific risk assessment and submit the assessment to the Department. If the Department determines that the use of site-specific cleanup standards will provide effective protection of public health, safety, and the environment, the Department shall set site-specific soil and groundwater cleanup standards for the discharge or release. These site-specific standards shall apply in lieu of the risk-based assessment and corrective action standards set out in 15A NCAC 2L.0115.

SECTION 9.(d) If soil and groundwater contamination from a discharge or release is no greater than the site-specific soil and groundwater cleanup standards set by the Department, the Department shall notify an owner, operator, or landowner that no cleanup, further cleanup, or further action will be required. If soil and groundwater contamination from a discharge or release is greater than the site-specific soil and groundwater cleanup standards set by the Department, the owner, operator, or landowner shall submit a corrective action plan to achieve the standards. The Department may require the owner, operator, or landowner to evaluate the impact of the site-specific cleanup standards on public health, safety, and the environment through use of an appropriate model. The Department shall not set site-specific soil and groundwater cleanup standards for the discharge or release that allow for contamination in excess of unrestricted use standards, as defined in G.S. 143B-279.9, on any real property that is not subject to land-use restrictions under G.S. 143B-279.9 and recordation under G.S. 143B-279.11.

SECTION 9.(e) Except as provided in this section, the provisions of Part 2A and Part 2B of Article 21A of Chapter 143 of the General Statutes apply to this section.

SECTION 9.(f) The Department shall annually report to the Environmental Review Commission on the number of site-specific risk assessments submitted to the Department under the pilot program, the disposition of those submissions, and, for any submissions for which site-specific soil and groundwater cleanup standards are not set, the basis for the decision not to set site-specific cleanup standards. The report shall include a comparison of assessment and corrective action of discharges or releases under the pilot program to assessment and corrective action of intermediate risk discharges or releases pursuant to the risk-based assessment and corrective action standards set out in 15A NCAC 2L.0115. The comparison shall include all of the following:

(1) The costs associated with investigation, assessment, initial response, abatement, analysis of risk, and development and implementation of a corrective action plan.

(2) The immediate and long-term impacts on public health, safety, and the environment.

(3) The need for and use of land-use restrictions as part of the corrective action plan.

(4) The extent to which corrective action addresses vapor intrusion.

SECTION 9.(g) The Department shall submit the first report required by subsection (f) of this section on or before 1 September 2007. The Department shall include in the report due on or before 1 September 2011 any recommendations, including legislative proposals, based on the findings of the pilot program.

SECTION 10.(a) The definitions set out in subsection (a) of Section 7 of this act apply to this section. It is the policy of the State that a discharge or release be reclassified as low-risk if, based on site-specific cleanup standards, investigation, assessment, initial response, abatement, risk-based corrective action, or other corrective action, the Department determines that the discharge or release poses no significant risk to human health or the environment. An owner, operator, or landowner may request that a discharge or release be reclassified to a lower risk classification. If the Department denies a request to reclassify a discharge or release to a lower risk classification, the owner, operator, or landowner may file a petition for a contested case hearing as provided in Article 3 of Chapter 150B of the General Statutes.

SECTION 10.(b) The Department shall report on or before 1 September of each year to the Environmental Review Commission on the number of sites for which reclassification was requested based on site-specific information and the disposition of each request. The Department shall submit the first report required by this section on or before 1 September 2007.

SECTION 11. The Department of Environment and Natural Resources shall establish a process to provide informal notice of any proposed policy change or rule interpretation that is not a rule, as defined in G.S. 150B-2, to interested parties. Except in a situation that requires immediate action, the Department shall receive and consider oral and written comment from interested parties before the Department implements the proposed policy change or rule interpretation. Except in a situation that requires immediate action, the Department shall provide written notice of a policy change or rule interpretation to interested parties at least 30 days prior to its implementation.

SECTION 12. The Department of Insurance, in consultation with the Petroleum Underground Storage Tank Funds Council and the Department of Environment and Natural Resources, shall provide guidance and technical assistance for the formation of an insurance pool pursuant to G.S. 143-215.94I to any responsible entity that requests assistance.

SECTION 13. Section 8 of S.L. 2001-442 reads as rewritten:

"**SECTION 8.** Sections 1 through 5 of this act become effective 1 October 2001. Sections 6, 7, and 8 of this act are effective when this act becomes law. Sections 1, 2, 3, 4, 5, and 7 of this act expire 1 October ~~2006.~~2007."

SECTION 14. This act shall not be construed to amend Section 11.4 of S.L. 2003-284 as modified by subsection (b) of Section 30.10 of S.L. 2004-124. The designation of a portion of the commercial leaking petroleum underground storage tank cleanup fees due under G.S. 143-215.94C(a), as amended by Section 2 of this act, as an annual operating permit fee shall not be construed to alter the amount available to the Department of Environment and Natural Resources from the Commercial Fund for the

administration of Parts 2A and 2B of Article 21A of Chapter 143 of the General Statutes.

SECTION 15. Sections 1, 4, 5, 6, 7, 11, 12, 13, and 15 of this act are effective when it becomes law. Sections 2, 8, and 14 of this act become effective 1 January 2007. Section 3 of this act becomes effective 1 January 2007 and applies to determinations of eligibility and requests for payments made on or after that date. Sections 9 and 10 of this act are effective when it becomes law and expire 1 September 2012.

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 2005

U D

BILL DRAFT 2005-RTz-21 [v.1] (05/03)

(THIS IS A DRAFT AND IS NOT READY FOR INTRODUCTION)
5/14/2006 8:51:39 PM

Short Title: Underground Storage Tank Prgm. Funds. (Public)

Sponsors:

Referred to:

DRAFT
FOR REVIEW ONLY

A BILL TO BE ENTITLED

AN ACT TO APPROPRIATE FUNDS TO THE COMMERCIAL LEAKING PETROLEUM UNDERGROUND STORAGE TANK CLEANUP FUND TO EXPEDITE THE ASSESSMENT AND CLEANUP OF DISCHARGES AND RELEASES FROM PETROLEUM UNDERGROUND STORAGE TANKS AND TO FACILITATE THE TRANSITION TO RELIANCE ON PRIVATE INSURANCE, AND TO APPROPRIATE FUNDS TO THE DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES TO COVER INCREASED PROGRAM OPERATING COSTS AND THE COSTS OF ANY LEGISLATIVE SALARY INCREASE FOR PERSONNEL WHO ADMINISTER THE PROGRAM, AS RECOMMENDED BY THE ENVIRONMENTAL REVIEW COMMISSION.

The General Assembly of North Carolina enacts:

SECTION 1. There is appropriated from the General Fund to the Commercial Leaking Petroleum Underground Storage Tank Cleanup Fund the sum of fifteen million dollars ($15,000,000) for the 2006-2007 fiscal year to be used as provided in Part 2A and 2B of Article 21A of Chapter 143 of the General Statutes. It is the intent of the General Assembly that the appropriation made by this subsection be a continuing appropriation through the 2016-2017 fiscal year.

SECTION 2.(a) There is appropriated from the Commercial Leaking Petroleum Underground Storage Tank Cleanup Fund to the Department of Environment and Natural Resources up to one hundred thousand dollars ($100,000) for the 2006-2007 fiscal year as needed to cover increased program operating costs and the cost of any legislative salary increase for personnel who administer the underground storage tank program under Parts 2A and 2B of Article 21A of Chapter 143 of the General Statutes.

SECTION 2.(b) There is appropriated from the Noncommercial Leaking Petroleum Underground Storage Tank Cleanup Fund to the Department of Environment

and Natural Resources up to one hundred thousand dollars ($100,000) for the 2006-2007 fiscal year as needed to cover increased program operating costs and the cost of any legislative salary increase for personnel who administer the underground storage tank program under Parts 2A and 2B of Article 21A of Chapter 143 of the General Statutes.

SECTION 2.(c) It is the intent of the General Assembly that funds appropriated under this section are recurring funds and that these funds are in addition to funds appropriated under subsection 11.4(b) of S. L. 2003-284 and subsection 30.10(b) of S.L. 2004-124.

SECTION 3. This act becomes effective 1 July 2006.

DRAFT
FOR REVIEW ONLY

EXHIBIT Q

GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2005

U D

BILL DRAFT 2005-RTz-19 [v.7] (05/03)



(THIS IS A DRAFT AND IS NOT READY FOR INTRODUCTION)
5/15/2006 12:13:03 PM

Short Title: Stormwater Management 2006.	(Public)
Sponsors: .	
Referred to:	

AN ACT TO PROVIDE FOR THE IMPLEMENTATION OF FEDERAL PHASE II STORMWATER MANAGEMENT REQUIREMENTS AND TO PROTECT WATER QUALITY, AS RECOMMENDED BY THE ENVIRONMENTAL REVIEW COMMISSION.

The General Assembly of North Carolina enacts:

SECTION 1.(a) Disapproval of Certain Rules. – Pursuant to G.S. 150B-21.3 and S.L. 2003-229, the following rules, as adopted by the Environmental Management Commission and approved by the Rules Review Commission on 17 November 2005, are disapproved:

15A NCAC 2H.1014 (Stormwater Management for Urbanizing Areas)
15A NCAC 2H.1015 (Urbanizing Area Definitions)
15A NCAC 2H.1016 (Urbanizing County Designations)
15A NCAC 2H.1017 (Application Schedule and Required Contents)
15A NCAC 2H.1018 (Post-Construction Model Practices)
15A NCAC 2H.1019 (Exceptions)
15A NCAC 2H.0126 (Stormwater Discharges)
15A NCAC 2H.0150 (Definitions)
15A NCAC 2H.0151 (Public Entity Designations)
15A NCAC 2H.0152 (Petitions)
15A NCAC 2H.0153 (Application Schedule and Required Contents)
15A NCAC 2H.0154 (Implementation Schedule)
15A NCAC 2H.0155 (Post-Construction Model Practices)
15A NCAC 2H.0156 (Exceptions)

SECTION 1.(b) Certain Rules Not Disapproved. – Notwithstanding subsection (a) of this section, the following rules, as adopted by the Environmental Management Commission and approved by the Rules Review Commission on 17 November 2005, are not disapproved. These rules become effective 1 July 2006 and

shall be implemented in conjunction with the provisions of this act. References in these rules to any rule that is disapproved pursuant this section shall be deemed to refer to the relevant provisions of this act and shall not be construed to give effect to the disapproved rule. To the extent that any provision of these rules is inconsistent with the provisions of this act, the provisions of this act control.

15A NCAC 2H.1014 (Stormwater Management for Urbanizing Areas)
15A NCAC 2H.1017 (Application Schedule and Required Contents)
15A NCAC 2H.0126 (Stormwater Discharges)
15A NCAC 2H.0153 (Application Schedule and Required Contents)

SECTION 1.(c) Sunset of 2004 Phase II Stormwater Management Legislation. – Section 15 of S.L. 2004-163 reads as rewritten:

"**SECTION 15.** This act is effective when it becomes law and expires ~~1 October 2011.~~1 July 2006."

SECTION 2. Definitions. – The following definitions apply to this act and its implementation:

(1) The definitions set out in 40 Code of Federal Regulations § 122.2 (Definitions) and § 122.26(b) (Storm Water Discharges) (1 July 2003 Edition).
(2) The definitions set out in G.S. 143-212 and G.S. 143-213.
(3) The definitions set out in 15A NCAC 2H .0103 (Definitions of Terms).
(4) The definitions set out in 15A NCAC 2H .1002 (Definitions), except for the definition of "Built-upon area", which is defined below.
(5) "1-year, 24-hour storm" means 24-hour rainfall of an intensity expected to be equaled or exceeded, on average, once in 12 months and with a duration of 24 hours.
(6) "BMP" means Best Management Practice.
(7) "Built-upon area" means that portion of a development project that is covered by impervious or partially impervious surface including, but not limited to, buildings; pavement and gravel areas such as roads, parking lots, and paths; and recreation facilities such as tennis courts. "Built-upon area" does not include a wooden slatted deck, the water area of a swimming pool, or pervious or partially pervious paving material to the extent that the paving material absorbs water or allows water to infiltrate through the paving material.
(8) "Division" means the Division of Water Quality in the Department.
(9) "New Development" means any project that increases the amount of built-upon area and for which a building permit, phased development plan approval, or site-specific development plan has been obtained on or after the date on which the requirements of this act becomes applicable to area in which the project is located. The applicable date depends on which public entity implements the requirements in the project area. If the Department implements the requirements, the date is the effective date of this act. If a public entity implements the

requirements through delegation, the date is the date on which the delegation becomes effective. If a public entity implements these requirements pursuant to a permit issued by the Department, the date is the date on which the public entity implementing ordinance or regulations become effective.

(10) "Planning jurisdiction" means the territorial jurisdiction within which a municipality exercises the powers authorized by Article 19 of Chapter 160A of the General Statutes, or a county may exercise the powers authorized by Article 18 of Chapter 153A of the General Statutes.

(11) "Public entity" means the United States; the State; a city, village, township, county, school district, public college or university, or single-purpose governmental agency; or any other governing body that is created by federal or State law.

(12) "Redevelopment" means any rebuilding activity other than a rebuilding activity that results in no net increase in built-upon area and provides equal or greater stormwater control than the previous development.

(13) "Regulated entity" means any public entity that must obtain a Phase II National Pollutant Discharge Elimination System (NPDES) permit for stormwater management for its municipal separate storm sewer system (MS4).

(14) "Sensitive receiving waters" means any of the following:

a. Waters that are classified as high quality, outstanding resource, shellfish, trout, or nutrient-sensitive waters in accordance with subsections (d) and (e) of 15A NCAC 2B .0101 (Procedures for Assignment of Water Quality Standards – General Procedures).

b. Waters that are occupied by or designated as critical habitat for aquatic animal species that are listed as threatened or endangered by the United States Fish and Wildlife Service or the National Marine Fisheries Service under the provisions of the Endangered Species Act of 1973 (Pub. L. No. 93-205; 87 Stat. 884; 16 U.S.C. §§ 1531, et seq.), as amended.

c. Waters for which the designated use, as described by the classification system set out in subsections (c), (d), and (e) of 15A NCAC 2B .0101 (Procedures for Assignment of Water Quality Standards – General Procedures), have been determined to be impaired in accordance with the requirements of subsection (d) of 33 U.S.C. § 1313.

(15) "Significant contributor of pollutants" means a municipal separate storm sewer system (MS4) or a discharge that contributes to the pollutant loading of a water body or that destabilizes the physical structure of a water body such that the contribution to pollutant loading or the destabilization may reasonably be expected to adversely affect the quality and uses of the water body. Uses of a water body shall be

determined pursuant to 15A NCAC 2B .0211 through 15A NCAC 2B .0222 (Classifications and Water Quality Standards Applicable to Surface Waters and Wetlands of North Carolina) and 15A NCAC 2B .0300, et seq. (Assignment of Stream Classifications).

(16) "Total maximum daily load (TMDL) implementation plan" means a written, quantitative plan and analysis for attaining and maintaining water quality standards in all seasons for a specific water body and pollutant.

SECTION 3.(a) New Development and Redevelopment in Unincorporated Areas of Counties. –

(a) New development or redevelopment located in the unincorporated area of a county shall comply with the standards set forth in Section 7 of this act beginning 1 July 2007 if the new development or redevelopment is located in:

(1) An area that is designated as an urbanized area under the 1990 or 2000 census by the Bureau of the Census.

(2) The unincorporated area of a county outside of a municipality designated as an urbanized area under the 1990 or 2000 census by the Bureau of the Census that:

a. Extends one mile beyond the corporate limits of a municipality with a population of less than 10,000 individuals.

b. Extends two miles beyond the corporate limits of a municipality with a population of 10,000 or more individuals but less than 25,000 individuals.

c. Extends three miles beyond the corporate limits of a municipality with a population of 25,000 or more individuals.

(3) An area delineated pursuant to subsection (b) of this section.

(4) A county that contains an area that is designated as an urbanized area under the 1990 or 2000 census by the Bureau of the Census in which the unduplicated sum of: (i) the area that is designated as an urbanized area under the 1990 or 2000 census by the Bureau of the Census; (ii) the area described in sub-subdivision b. of this subdivision; (iii) the area delineated pursuant to subsection (b) of this section; (iv) the jurisdiction of a regulated entity designated pursuant to Section 4 of this act; (v) the area that is regulated by a Phase II National Pollutant Discharge Elimination System (NPDES) permit for stormwater management required pursuant to Section 5 of this act; and (vi) areas in the county that are subject to any of the stormwater management programs administered by the Division equals or exceeds fifty percent (50%) of the total geographic area of the county, unless the county has an actual population growth rate of less than the State population growth rate for the previous 10 years. For purposes of this subdivision, the stormwater programs administered by the Division are:

a. Water Supply Watershed (WS-I) – 15A NCAC 2B.0212.

b. Water Supply Watershed (WS-II) – 15A NCAC 2B.0214.

c. Water Supply Watershed (WS-III) – 15A NCAC 2B.0215.
d. Water Supply Watershed (WS-IV) – 15A NCAC 2B.0216.
e. High Quality Waters (HQW) – 15A NCAC 2H.1006.
f. Outstanding Resource Waters (ORW) – 15A NCAC 2H.1007.
g. The Coastal Stormwater Program 15A NCAC 2H.1005.
h. The Neuse River Nutrient Sensitive Waters (NSW) Stormwater Management Program – 15A NCAC 2B.0235.
i. The Tar-Pamlico River Nutrient Sensitive (NSW) Stormwater Management Program – 15A NCAC 2B.0258.
j. Other Environmental Management Commission Nutrient Sensitive Waters (NSW) Classifications – 15A NCAC 2B.0223.

(5) A county that contains an area that is designated as an urbanized area under the 1990 or 2000 census by the Bureau of the Census that has an actual population growth rate that exceeds 1.3 times the State population growth rate for the previous 10 years or that has a projected population growth rate that exceeds 1.3 times the projected State population growth rate for the next 10 years.

(b) Delineation process. – The Commission shall delineate regulated coverage areas as provided in this subdivision.

(1) Schedule. – The Commission shall implement the delineation process in accordance with the schedule for review and revision of basinwide water quality management plans as provided in G.S. 143-215.8B(c).

(2) Potential candidate coverage areas. – A potential candidate coverage area is the unincorporated area of a county that is outside a municipality designated as a regulated entity pursuant to subdivisions (2) and (3) of Section 4 of this act that:
a. Extends one mile beyond the corporate limits of a municipality with a population of less than 10,000 individuals.
b. Extends two miles beyond the corporate limits of a municipality with a population of 10,000 or more individuals but less than 25,000 individuals.
c. Extends three miles beyond the corporate limits of a municipality with a population of 25,000 or more individuals.

(3) Identification of candidate coverage areas. – The Commission shall identify an area within a potential candidate coverage area described in sub-subdivision b. of this subdivision as a candidate coverage area if the discharge of stormwater within or from the unincorporated area has the potential to adversely impact water quality. An adverse impact on water quality includes any activity that violates water quality standards, including, but not limited to, any activity that impairs designated uses or that has a significant biological or habitat impact.

(4) Notice and comment on candidacy. – The Commission shall notify each public entity that is located in whole or in part in a candidate coverage area. After notification of each public entity, the Commission

shall publish a map of the unincorporated areas within the river basin that have been identified as candidates for delineation as regulated coverage areas. The Commission shall accept public comment on the proposed delineation of a candidate coverage area as a regulated coverage area for a period of not less than 30 days.

(5) Delineation of regulated coverage areas. – After review of public comment, the Commission shall delineate regulated coverage areas. The Commission shall delineate a candidate coverage area as a regulated coverage area only if the Commission determines that the discharge of stormwater within or from the candidate coverage area either:

a. Adversely impacts water quality.

b. Results in a significant contribution of pollutants to sensitive receiving waters, taking into account the effectiveness of other applicable water quality protection programs. To determine the effectiveness of other applicable water quality protection programs, the Commission shall consider the water quality of the receiving waters and whether the waters support the uses set out in subsections (c), (d), and (e) of 15A NCAC 2B .0101 (Procedures for Assignment of Water Quality Standards – General Procedures) and the specific classification of the waters set out in 15A NCAC 2B .0300, et seq. (Assignment of Stream Classifications).

(6) Notice of delineation. – The Commission shall provide written notice to each public entity that is located in whole or in part in a candidate coverage area of its delineation determination. The notice shall state the basis for the determination.

(c) Except as provided in this subdivision and Section 8 of this act, the Commission shall administer and enforce the standards for new development and redevelopment in the regulated coverage areas. To the extent that the new development or redevelopment is located in a municipal planning jurisdiction, the municipality shall administer and enforce the standards. A public entity may request that the Commission delegate administration and enforcement of the stormwater management program to the public entity as provided in Section 8 of this act.

SECTION 3.(b) New Development and Redevelopment in Non-Phase II Incorporated Areas in Certain Counties. – New development or redevelopment located in the incorporated areas of a county described in subdivisions (4) and (5) of subsection (a) of this section, that are not designated as an urbanized area under the 1990 or 2000 census by the Bureau of the Census, shall comply with the standards set forth in Section 7 of this act beginning 1 July 2007. The Commission shall administer and enforce the standards for new development and redevelopment unless the public entity requests that the Commission delegate administration and enforcement of the stormwater management program to the public entity as provided in Section 8 of this act.

SECTION 4. Designation of Regulated Entities. – A public entity that owns or operates a municipal separate storm sewer system (MS4) may be designated as a regulated entity through federal designation, through a State designation process, or under a total maximum daily load (TMDL) implementation plan as provided in this section.

(1) Federal designation. – A public entity that owns or operates a municipal separate storm sewer system (MS4) may be designated as a regulated entity pursuant to 40 Code of Federal Regulations § 122.32 (1 July 2003 Edition).

(2) State designation process. – The Commission shall designate a public entity that owns or operates a municipal separate storm sewer system (MS4) as a regulated entity as provided in this subdivision.

a. Designation schedule. – The Commission shall implement the designation process in accordance with the schedule for review and revision of basinwide water quality management plans as provided in G.S. 143-215.8B(c).

b. Identification of candidate regulated entities. – The Commission shall identify a public entity as a candidate for designation as a regulated entity if the municipal separate storm sewer system (MS4) either:

1. Discharges stormwater that has the potential to adversely impact water quality. An adverse impact on water quality includes any activity that causes or contributes to a violation of water quality standards, including, but not limited to, any activity that impairs designated uses or that has a significant biological or habitat impact.

2. Serves a public entity that has not been designated pursuant to subdivision (1) of this section and that has either a population of more than 10,000 or more than 4,000 housing units and either a population density of 1,000 people per square mile or more or more than 400 housing units per square mile.

c. Notice and comment on candidacy. – The Commission shall notify each public entity identified as a candidate for designation as a regulated entity. After notification of each public entity, the Commission shall publish a list of all public entities within a river basin that have been identified as candidates for designation. The Commission shall accept public comment on the proposed designation of a public entity as a regulated entity for a period of not less than 30 days.

d. Designation of regulated entities. – After review of the public comment, the Commission shall make a determination on designation for each of the candidate public entities. The Commission shall designate a candidate public entity that owns

or operates a municipal separate storm sewer system (MS4) as a regulated public entity only if the Commission determines either that:

1. The public entity has an actual population growth rate that exceeds 1.3 times the State population growth rate for the previous 10 years.
2. The public entity has a projected population growth rate that exceeds 1.3 times the projected State population growth rate for the next 10 years.
3. The public entity has an actual population increase that exceeds fifteen percent (15%) of its previous population for the previous two years.
4. The municipal separate storm sewer system (MS4) discharges stormwater that adversely impacts water quality.
5. The municipal separate storm sewer system (MS4) discharges stormwater that results in a significant contribution of pollutants to receiving waters, taking into account the effectiveness of other applicable water quality protection programs. To determine the effectiveness of other applicable water quality protection programs, the Commission shall consider the water quality of the receiving waters and whether the waters support the uses set out in subsections (c), (d), and (e) of 15A NCAC 2B .0101 (Procedures for Assignment of Water Quality Standards – General Procedures) and the specific classification of the waters set out in 15A NCAC 2B .0300, et seq. (Assignment of Stream Classifications).

e. Notice of designation. – The Commission shall provide written notice to each public entity of its designation determination. For a public entity designated as a regulated entity, the notice shall state the basis for the designation and the date on which an application for a Phase II National Pollutant Discharge Elimination System (NPDES) permit for stormwater management must be submitted to the Commission.

f. Application schedule. – A public entity that has been designated as a regulated entity pursuant to this subdivision must submit its application for a Phase II National Pollutant Discharge Elimination System (NPDES) permit for stormwater management within 18 months of the date of notification.

(3) Designation under a total maximum daily load (TMDL) implementation plan. – The Commission shall designate an owner or operator of a small municipal separate storm sewer system (MS4) as a regulated entity if the municipal separate storm sewer system (MS4) is

specifically listed by name as a source of pollutants for urban stormwater in a total maximum daily load (TMDL) implementation plan developed in accordance with subsections (d) and (e) of 33 U.S.C. § 1313. The Commission shall provide written notice to each public entity of its designation determination. For a public entity designated as a regulated entity, the notice shall state the basis for the designation and the date on which an application for a Phase II National Pollutant Discharge Elimination System (NPDES) permit for stormwater management must be submitted to the Commission. A public entity that has been designated as a regulated entity pursuant to this subdivision must submit its application for a Phase II National Pollutant Discharge Elimination System (NPDES) permit for stormwater management within 18 months of the date of notification.

SECTION 5. Petition Process. – A petition may be submitted to the Commission to request that an owner or operator of a municipal separate storm sewer system (MS4) or a person who discharges stormwater be required to obtain a Phase II National Pollutant Discharge Elimination System (NPDES) permit for stormwater management as follows:

(1) Connected discharge petition. – An owner or operator of a permitted municipal separate storm sewer system (MS4) may submit a petition to the Commission to request that a person who discharges into the permitted municipal separate storm sewer system (MS4) be required to obtain a separate Phase II National Pollutant Discharge Elimination System (NPDES) permit for stormwater management. The Commission shall grant the petition and require the person to obtain a separate Phase II National Pollutant Discharge Elimination System (NPDES) permit for stormwater management if the petitioner shows that the person's discharge flows or will flow into the permitted municipal separate storm sewer system (MS4).

(2) Adverse impact petition. – Any person may submit a petition to the Commission to request that an owner or operator of a municipal separate storm sewer system (MS4) or a person who discharges stormwater be required to obtain a Phase II National Pollutant Discharge Elimination System (NPDES) permit for stormwater management.

a. Petition review. – The Commission shall grant the petition and require the owner or operator of the municipal separate storm sewer system (MS4) or the person who discharges stormwater to obtain a Phase II National Pollutant Discharge Elimination System (NPDES) permit for stormwater management if the petitioner shows any of the following:

1. The municipal separate storm sewer system (MS4) or the discharge discharges or has the potential to discharge stormwater to sensitive receiving waters in an area with:

(i) an actual population growth rate that exceeds 1.3 times the State population growth rate for the previous 10 years; (ii) a projected population growth rate that exceeds 1.3 times the projected State population growth rate for the next 10 years; or (iii) an actual population increase that exceeds fifteen percent (15%) of its previous population for the previous two years.

2. The municipal separate storm sewer system (MS4) or the discharge provides a significant contribution of pollutants to sensitive receiving waters.

3. The municipal separate storm sewer system (MS4) or the discharge is specifically listed by name as a source of pollutants for urban stormwater in a total maximum daily load (TMDL) implementation plan developed in accordance with subsections (d) and (e) of 33 U.S.C. § 1313.

b. Types of evidence for required showing. – Petitioners may make the required showing by providing to the Commission the following information:

1. Monitoring data that includes, at a minimum, representative sampling of the municipal separate storm sewer system (MS4) or discharge and information describing how the sampling is representative. The petitioner must notify the owner or operator of the municipal separate storm sewer system (MS4) or the person who discharges stormwater of its intent to conduct monitoring activities prior to conducting those activities.

2. Scientific or technical literature that supports the sampling methods.

3. Study and technical information on land uses in the drainage area and the characteristics of stormwater runoff from these land uses.

4. A map that delineates the drainage area of the petitioned entity; the location of sampling stations; the location of the stormwater outfalls in the adjacent area of the sampling locations; general features, including, but not limited to, surface waters, major roads, and political boundaries; and areas of concern regarding water quality.

5. For stormwater discharges to impaired waters, documentation that the receiving waters are impaired or degraded and monitoring data that demonstrates that the municipal separate storm sewer system (MS4) or

discharge contributes pollutants for which the waters are impaired or degraded.

6. For stormwater discharges to nonimpaired waters, monitoring data that demonstrates that the owner or operator of the municipal separate storm sewer system (MS4) or the person who discharges stormwater is a significant contributor of pollutants to the receiving waters.

c. Water quality protection program offset. – If the petitioner makes the required showing, the Commission shall review the effectiveness of any existing water quality protection programs that may offset the need to obtain a Phase II National Pollutant Discharge Elimination System (NPDES) permit for stormwater management. To determine the effectiveness of other applicable water quality protection programs, the Commission shall consider the water quality of the receiving waters and whether the waters support the uses set out in subsections (c), (d), and (e) of 15A NCAC 2B .0101 (Procedures for Assignment of Water Quality Standards – General Procedures) and the specific classification of the waters set out in 15A NCAC 2B .0300, et seq. (Assignment of Stream Classifications). The Commission may deny the petition if it finds that existing water quality protection programs are adequate to address stormwater impacts on sensitive receiving waters and to insure compliance with a TMDL implementation plan.

(3) Petition administration. – The Commission shall process petitions in the following manner:

a. The Commission shall only accept petitions submitted on Department forms.

b. A separate petition must be filed for each municipal separate storm sewer system (MS4) or discharge.

c. The Commission shall evaluate only complete petitions. The Commission shall make a determination on the completeness of a petition within 90 days of receipt of the petition, or it shall be deemed complete. If the Commission requests additional information, the petitioner may submit additional information; and the Commission will determine, within 90 days of receipt of the additional information, whether the information completes the petition.

d. The petitioner shall provide a copy of the petition and a copy of any subsequent additional information submitted to the Commission to the chief administrative officer of the municipal separate storm sewer system (MS4) or the person in control of the discharge within 48 hours of each submittal.

e. The Commission shall post all petitions on the Division Web site and maintain copies available for inspection at the Division's office. The Commission shall accept and consider public comment for at least 30 days from the date of posting.

f. The Commission may hold a public hearing on a petition and shall hold a public hearing on a petition if it receives a written request for a public hearing within the public comment period, and the Commission determines that there is a significant public interest in holding a public hearing. The Commission's determination to hold a public hearing shall be made no less than 15 days after the close of the public comment period. The Commission shall schedule the hearing to be held within 45 days of the close of the initial public comment period and shall accept and consider additional public comment through the date of the hearing.

g. An additional petition for the same municipal separate storm sewer system (MS4) or discharge received during the public comment period shall be considered as comment on the original petition. An additional petition for the same municipal separate storm sewer system (MS4) or discharge received after the public comment period ends and before the final determination is made shall be considered incomplete and held pending a final determination on the original petition.

1. If the Commission determines that the owner or operator of the municipal separate storm sewer system (MS4) or the person who discharges stormwater is required to obtain a Phase II National Pollutant Discharge Elimination System (NPDES) permit for stormwater management, any petitions for that municipal separate storm sewer system (MS4) or discharge that were held shall be considered in the development of the Phase II National Pollutant Discharge Elimination System (NPDES) permit for stormwater management.

2. If the Commission determines that the owner or operator of the municipal separate storm sewer system (MS4) or the person who discharges stormwater is not required to obtain a Phase II National Pollutant Discharge Elimination System (NPDES) permit for stormwater management, an additional petition for the municipal separate storm sewer system (MS4) or discharge must present new information or demonstrate that conditions have changed in order to be considered. If new information is not provided, the petition shall be returned as substantially incomplete.

h. The Commission shall evaluate a petition within 180 days of the date on which it is determined to be complete. If the Commission determines that the owner or operator of the municipal separate storm sewer system (MS4) or the person who discharges stormwater is required to obtain a Phase II National Pollutant Discharge Elimination System (NPDES) permit for stormwater management, the Commission shall notify the owner or operator of the municipal separate storm sewer system (MS4) or the person who discharges stormwater within 30 days of the requirement to obtain the permit. The owner or operator of the municipal separate storm sewer system (MS4) or the person who discharges stormwater must submit its application for a Phase II National Pollutant Discharge Elimination System (NPDES) permit for stormwater management within 18 months of the date of notification.

SECTION 6. Permit Standards. – To obtain a Phase II National Pollutant Discharge Elimination System (NPDES) permit for stormwater management, an applicant shall develop, implement, and enforce a stormwater management plan approved by the Commission that satisfies the six minimum control measures required by 40 Code of Federal Regulations § 122.34(b) (1 July 2003 Edition). The evaluation of the post-construction stormwater management measures required by 40 Code of Federal Regulations § 122.34(b)(5) (1 July 2003 Edition) shall be conducted as provided in Section 7 of this act.

SECTION 7. Post-Construction Model Practices. –

(a) Permittees, delegated programs, and regulated entities must require stormwater controls appropriate to a project's level of density as follows:

(1) Post-Construction Model Practices for Low Density Projects. – A low density project contains no more than 12 percent built-upon area if the project is within one-half mile of and draining to Class SA waters or no more than 24 percent built-upon area if the project is located elsewhere. Low density projects must use vegetated conveyances to the maximum extent practicable to transport stormwater runoff from the development. On-site stormwater treatment devices such as infiltration areas, bioretention areas, and level spreaders may also be used as added controls for stormwater runoff.

(2) Post-Construction Model Practices for High Density Projects. – A high density project exceeds the low density thresholds of 12 percent built-upon area if the project is within one-half mile of and draining to Class SA waters or 24 percent built-upon area if the project is located elsewhere. High density projects must use structural stormwater management systems that will control and treat runoff from the first one inch of rain unless the project is in a county that is subject to the Coastal Area Management Act of 1974, in which case the project must use structural stormwater management systems that will control and

treat runoff from the first one and one-half inches of rain. The structural stormwater management system must also meet the following design standards:

a. Draw down the treatment volume no faster than 48 hours, but no slower than 120 hours.

b. Discharge the storage volume at a rate equal or less than the pre-development discharge rate for the one-year, 24-hour storm.

c. Remove an 85% average annual amount of Total Suspended Solids.

d. Meet the General Engineering Design Criteria set out in 15A NCAC 02H .1008(c).

(b) Permittees, delegated programs, and regulated entities must require built-upon areas to be located at least 30 feet landward of all perennial and intermittent surface waters. For purposes of this section, a surface water shall be present if the feature is shown on either the most recent version of the soil survey map prepared by the Natural Resources Conservation Service of the United States Department of Agriculture or the most recent version of the 1:24,000 scale (7.5 minute) quadrangle topographic maps prepared by the United States Geologic Survey (USGS). Relief from this requirement may be allowed when surface waters are not present in accordance with the provisions of 15A NCAC 02B .0233(3)(a). In addition, an exception to this requirement may be pursued in accordance with subsection (a) of Section 9 of this act.

(c) Permittes, delegated program, and regulated entities must implement or require a fecal coliform reduction program that controls, to the maximum extent practicable, the sources of fecal coliform. At a minimum, the program shall include the development and implementation of an oversight program to ensure proper operation and maintenance of on-site wastewater treatment systems for domestic wastewater. For municipalities, this program may be coordinated with local county health departments.

(d) Permittes, delegated programs and regulated entities must impose or require recorded deed restrictions and protective covenants that ensure development activities will maintain the project consistent with approved plans.

(e) Permittes, delegated programs, and regulated entities must implement or require an operation and maintenance plan that ensures the adequate long-term operation of the structural BMPs required by the program. The operation and maintenance plan must require the owner of each structural BMP to submit a maintenance inspection report on each structural BMP annually to the local program.

(f) Permittes, delegated programs, and regulated entities may allow cluster development on a project-by-project basis only if the project meets all of the following criteria:

(1) Overall density of the project meets the low density thresholds of no more than 12 percent built-upon area for projects within one half mile of and draining to Class SA waters and no more than 24 percent built-upon area for all other projects.

(2) Built-upon areas, by design and location, minimize stormwater runoff impact to the receiving waters, minimize concentrated stormwater

flow, maximize the use of sheet flow through vegetated areas, and maximize the length of flow through vegetated areas.

(3) Development areas that have density that is greater than the overall project area density are located in upland areas and, to the maximum extent practicable, away from surface waters and drainageways.

(4) Areas other than built-upon areas within the project must remain undeveloped. The undeveloped area may be conveyed to a property owners association, a local government, or a conservation organization for preservation as a park or greenway. The undeveloped area may also be placed in a permanent conservation or farmland preservation easement. A maintenance agreement for the undeveloped area must be filed with the property deed.

(5) The project transports stormwater through vegetated conveyances to the maximum extent practicable.

(g) For areas draining to Class SA waters, permittees, delegated programs, and regulated entities must:

(1) Use BMPs that result in the highest degree of fecal coliform die off and controls to the maximum extent practicable sources of fecal coliform while still incorporating the stormwater controls required by the project's density level.

(2) Implement a program to control the sources of fecal coliform to the maximum extent practicable, including a pet waste management component, which may be achieved by revising an existing litter ordinance, and an on-site domestic wastewater treatment systems component to ensure proper operation and maintenance of such systems, which may be coordinated with local county health departments.

(3) Prohibit new points of stormwater discharge to Class SA waters and prohibit both increases in the volume of stormwater flow through conveyances and increases in capacity of conveyances in existing stormwater conveyance systems that drain to Class SA waters. Any modification or redesign of a stormwater conveyance system within the contributing drainage basin must not increase the net amount or rate of stormwater discharge through existing outfalls to Class SA waters. Diffuse flow of stormwater at a non-erosive velocity to a vegetated buffer or other natural area capable of providing effective infiltration of the runoff from the one-year, 24-hour storm shall not be considered a direct point of stormwater discharge. Consideration shall be given to soil type, slope, vegetation, and existing hydrology when evaluating infiltration effectiveness.

(h) For areas draining to Trout Waters, permittees, delegated programs, and regulated entities must:

(1) Use BMPs that avoid a sustained increase in the receiving water temperature, while still incorporating the stormwater controls required for the project's density level.

(2) Allow on-site stormwater treatment devices such as infiltration areas, bioretention areas, and level spreaders as added controls.

(i) For areas draining to Nutrient Sensitive Waters, permittees, delegated programs, and regulated entities must:

(1) Use BMPs that reduce nutrient loading, while still incorporating the stormwater controls required for the project's density level. In areas where the Department has approved a Nutrient Sensitive Water Urban Stormwater Management Program, the provisions of that program fulfill the nutrient loading reduction requirement. Nutrient Sensitive Water Urban Stormwater Management Program requirements are found in 15A NCAC 02B .0200.

(2) Implement a nutrient application management program for both inorganic fertilizer and organic nutrients to reduce nutrients entering waters of the State.

SECTION 8. Delegation. – A public entity that does not administer a Phase II National Pollutant Discharge Elimination System (NPDES) permit for stormwater management throughout the entirety of its planning jurisdiction and whose planning jurisdiction includes a regulated coverage area under Section 3 of this act may submit a stormwater management program for its regulated coverage area or a portion of its regulated coverage area to the Commission for approval pursuant to G.S. 143-214.7(c). An ordinance or regulation adopted by a public entity shall at least meet and may exceed the minimum requirements of this act and the six minimum control measures required by 40 Code of Federal Regulations § 122.34(b) (1 July 2003 Edition). Two or more public entities are authorized to establish a joint program and to enter into any agreements that are necessary for the proper administration and enforcement of the program. The resolution, memorandum of agreement, or other document that establishes any joint program must be duly recorded in the minutes of the governing body of each public entity participating in the program, and a certified copy of each resolution must be filed with the Commission. The Commission shall review each proposed program submitted to it to determine whether the submission is complete. Within 90 days after the receipt of a complete submission, the Commission shall notify the public entity submitting the program that it has been approved, approved with modifications, or disapproved. The Commission shall only approve a program upon determining that its standards equal or exceed those of this act and the six minimum control measures required by 40 Code of Federal Regulations § 122.34(b) (1 July 2003 Edition). If the Commission determines that any public entity is failing to administer or enforce an approved stormwater management program, it shall notify the public entity in writing and shall specify the deficiencies of administration and enforcement. If the public entity has not taken corrective action within 30 days of receipt of notification from the Commission, the Commission shall assume administration and enforcement of the

program until such time as the public entity indicates its willingness and ability to resume administration and enforcement of the program.

SECTION 9.(a) Exceptions. – The Department or an appropriate local authority, pursuant to Article 18 of G.S. 153A or Article 19 of G.S. 160A, may grant exceptions from the 30-foot landward location of built-upon area requirement as well as the deed restrictions and protective covenants requirement as follows:

(1) An exception may be granted if the application meets all the following criteria:

a. Unnecessary hardships would result from strict application of the act.

b. The hardships result from conditions that are peculiar to the property, such as the location, size, or topography of the property.

c. The hardships did not result from actions taken by the petitioner.

d. The requested exception is consistent with the spirit, purpose, and intent of this act; will protect water quality; will secure public safety and welfare; and will preserve substantial justice. Merely proving that the exception would permit a greater profit from the property shall not be considered adequate justification for an exception.

(2) Notwithstanding subdivision (1) of this section, exceptions shall be granted in any of the following instances:

a. When there is a lack of practical alternatives for a road crossing, railroad crossing, bridge, airport facility, or utility crossing as long as it is located, designed, constructed, and maintained to minimize disturbance, provide maximum nutrient removal, protect against erosion and sedimentation, have the least adverse effects on aquatic life and habitat, and protect water quality to the maximum extent practicable through the use of BMPs.

b. When there is a lack of practical alternatives for a stormwater management facility; a stormwater management pond; or a utility, including but not limited to, water, sewer or gas, construction and maintenance corridor; as long as it is located 15 feet landward of all perennial and intermittent surface waters and as long as it is located, designed, constructed, and maintained to minimize disturbance, provide maximum nutrient removal, protect against erosion and sedimentation, have the least adverse effects on aquatic life and habitat, and protect water quality to the maximum extent practicable through the use of BMPs.

c. A lack of practical alternatives may be shown by demonstrating that, considering the potential for a reduction in size,

configuration or density of the proposed activity and all alternative designs, the basic project purpose cannot be practically accomplished in a manner which would avoid or result in less adverse impact to surface waters.

(3) Reasonable and appropriate conditions and safeguards may be imposed upon any exception granted.

(4) Local authorities must document the exception procedure and submit an annual report to the Department on all exception proceedings.

(5) Appeals of the Department's exception decisions must be filed with the Office of Administrative Hearings, under G.S. 150B-23. Appeals of a local authority's exception decisions must be made to the appropriate Board of Adjustment or other appropriate local governing body, under G.S. 160A-388 or G.S. 153A-345.

SECTION 9.(b) Exemption. – A municipality with a population of less than 1,000, including a municipality designated by the 1990 or 2000 census, is not required to obtain a Phase II National Pollutant Discharge Elimination System (NPDES) permit for stormwater management unless the municipality is shown to be contributing to an impairment of State waters, as determined under the requirements of 33 U.S.C. § 1313(d).

SECTION 10. Implementation Schedule. – The requirements of this act shall be implemented as follows:

(1) Public education and outreach minimum measures shall be implemented no later than 12 months from date of permit issuance.

(2) A regulated entity must implement its post-construction program no later than 24 months from the date the permit is issued

(3) The Department shall include permit conditions that establish schedules for implementation of each minimum measure of the regulated entity's stormwater management program based on the submitted application so that the regulated entity fully implements its permitted program within five years from permit issuance.

SECTION 11. Federal and State Development or Redevelopment Projects. – A federal or State agency may apply to the Commission for a Phase I or Phase II National Pollutant Discharge Elimination System (NPDES) permit for stormwater management that applies to all of the activities of the agency or that applies to a particular development or redevelopment project. The Commission shall have exclusive jurisdiction to establish stormwater management requirements with respect to a particular project that is not under the jurisdiction of a federal or State agency that holds a Phase I or Phase II National Pollutant Discharge Elimination System (NPDES) permit for stormwater management that applies to all of the activities of the agency or that applies to the particular development or redevelopment project. If a federal or State agency does not hold a Phase I or Phase II National Pollutant Discharge Elimination System (NPDES) permit for stormwater management that applies to the particular development or redevelopment project, then the project is subject to the stormwater management requirements of this act as implemented by the Commission or by a local

government. The provisions of G.S. 153A-347 and G.S. 160A-392 apply to the implementation of this act.

SECTION 12. General Permit. – The Commission shall develop and issue a Phase II National Pollutant Discharge Elimination System (NPDES) general permit for stormwater management. The general permit requirements for post-construction stormwater management measures required by 40 Code of Federal Regulations § 122.34(b)(5) (1 July 2003 Edition) shall require a permittee to meet the standards set out in Section 7 of this act but shall not impose any requirement on the permittee that exceeds the standards set out in Section 7 of this act. After the Commission has issued a Phase II National Pollutant Discharge Elimination System (NPDES) general permit for stormwater management, a public entity that has applied for a permit may submit a notice of intent to be covered under the general permit to the Commission. The Commission shall treat an application for a permit as an application for an individual permit unless the applicant submits a notice of intent to be covered under a general permit under this section.

SECTION 13. Additional Rule-Making. – The Environmental Management Commission may adopt rules to replace the rules that are disapproved as provided in subsection (a) of Section 1 of this act. If the Commission adopts rules pursuant to this section, the rules shall be substantively identical to the provisions of Sections 2 through 11 of this act. The Commission may amend the rules referenced in subsection (b) of Section 1 of this act to provide a complete and consistent regulatory scheme. If the Commission amends rules pursuant to this section, the amended rules shall be substantively identical to the rules referenced is subsection (b) of Section 1 of this act. The Commission may reorganize or renumber any of the rules to which this section applies as its discretion. Rules adopted pursuant to this section are not subject to G.S. 150B-21.9 through G.S. 150B-21.14. Rules adopted pursuant to this section shall become effective as provided in G.S. 150B-21.3(b1) as though 10 or more written objections had been received as provided by G.S. 150B-21.3(b2).

SECTION 14.(a) County Stormwater Control Ordinances. – Article 23 of Chapter 153A is amended by adding a new section to read:

"**§ 153A-453. Stormwater control.**

A county may adopt and enforce a stormwater control ordinance as authorized by Part 1 of Article 21 of Chapter 143 of the General Statutes or by any other provision of law. A stormwater control ordinance adopted pursuant to this section must at least meet all of the minimum requirements of Part 1 of Article 21 of Chapter 143 of the General Statutes or other provision of law."

SECTION 14.(b) City Stormwater Control Ordinances. – Part 8 of Article 19 of Chapter 160A is amended by adding a new section to read:

"**§ 160A-459. Stormwater control.**

A city may adopt and enforce a stormwater control ordinance as authorized by Part 1 of Article 21 of Chapter 143 of the General Statutes or by any other provision of law. A stormwater control ordinance adopted pursuant to this section must at least meet all of the minimum requirements of Part 1 of Article 21 of Chapter 143 of the General Statutes or other provision of law."

SECTION 15. Construction of Act. –

(1) Nothing in this act shall be construed to limit, expand, or otherwise alter the authority of the Environmental Management Commission or any unit of local government to adopt stormwater management requirements that exceed the requirements of this act.

(2) The exclusions from the requirement to obtain a Phase II National Pollutant Discharge Elimination System (NPDES) permit set out in 40 Code of Federal Regulations § 122.3 (1 July 2003 Edition), including the exclusions for certain nonpoint source agricultural and silvicultural activities, apply to the provisions of this act.

(3) This act shall not be construed to affect any delegation of any power or duty by the Commission to the Department or subunit of the Department.

(4) This act shall not be construed to affect any vested right to development under any provision of statutory or common law.

SECTION 16. Certain Provisions of Act not Codified; Set Out as Note. – Except for Sections 17.(a) and 17.(b) of this act, notwithstanding G.S. 164-10, the Revisor of Statutes shall not codify any of the provisions of this act. The Revisor of Statutes shall set out the text of this act as a note to G.S. 143-214.7 and may make notes concerning this act to other sections of the General Statutes as the Revisor of Statutes deems appropriate.

SECTION 17. Effective Date. – This act becomes effective 1 July 2006. Sections 2 through 11 of this act expire when permanent rules to replace those sections have become effective as provided by Section 13 of this act.

EXHIBIT R

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 2005

U D

BILL DRAFT 2005-SYz-40 [v.1] (05/09)

(THIS IS A DRAFT AND IS NOT READY FOR INTRODUCTION)
5/11/2006 3:39:48 PM

Short Title: Low Emission Vehicles/Funds. (Public)

Sponsors: .

Referred to:

A BILL TO BE ENTITLED

AN ACT TO IMPROVE AIR QUALITY IN THE STATE BY PROVIDING FOR THE SALE OF LOW EMISSION VEHICLES, AS RECOMMENDED BY THE ENVIRONMENTAL REVIEW COMMISSION.

The General Assembly of North Carolina enacts:

SECTION 1. Article 21B of the General Statutes is amended by adding a new section to read:

"**§ 143-215.107E. Low-Emission Vehicles.**

(a) Definitions. – As used in this section:

(1) 'Consumer' means the purchaser, other than for purposes of resale, or lessee from a commercial lender, lessor, or from a manufacturer or dealer, of a vehicle, and any other person entitled by the terms of an express warranty to enforce the obligations of that warranty.

(2) 'Dealer' means any person engaged in the business of selling, offering to sell, soliciting or advertising the sale of new vehicles who holds a valid sales and service agreement, franchise or contract, granted by the manufacturer or distributor for the retail sale of said manufacturer's or distributor's new vehicles.

(3) 'Emergency vehicle' means any authorized vehicle publicly owned and operated that is used by a peace officer, used for fighting fires or responding to emergency fire calls, used by emergency medical technicians or paramedics, used for towing or servicing other vehicles, or used for repairing damaged lighting or electrical equipment.

(4) 'Emission control label' means a paper, plastic, metal or other permanent material, welded, riveted or otherwise permanently attached to an area within the engine compartment or to the engine, in such a

way that it will be visible to the average person after installation of the engine in all new vehicles certified for sale in this State.

(5) 'Fleet average emission' means a vehicle manufacturer's average vehicle emissions of all non methane organic gases from all new vehicles delivered for sale or lease in this State in any model year.

(6) 'Light-duty truck' means any 2010 or subsequent model year vehicle rated at 8,500 pounds gross vehicle weight or less, and any other 2010 or subsequent model year vehicle, rated at 6,000 pounds gross vehicle weight or less, that is designed primarily for purposes of transportation of property or is a derivative of such a vehicle, or is available with special features enabling off-street or off-highway operation and use.

(7) 'LEV-II' means the California 'LEV II' exhaust emission standards for passenger cars, light-duty trucks and medium-duty vehicles codified in Title 13 of the California Code of Regulations, (13 May 2005 Edition).

(8) 'Manufacturer' means any person or corporation, resident or nonresident, who manufactures or assembles or imports or distributes new motor vehicles that are sold in this State.

(9) 'Medium-duty vehicle' means any 2010 or subsequent model year vehicle rated at 8,501 or more pounds but less than 14,000 pounds gross vehicle weight.

(10) 'Model year' means a vehicle manufacturer's annual production period that includes 1 January of a calendar year or, if the manufacturer has no annual production period, the calendar year. In case of any vehicle manufactured in two or more stages, the time of manufacture shall be the date of completion of the chassis.

(11) 'New vehicle' means any vehicle with 7,500 miles or fewer on its odometer.

(12) 'Passenger car' means any 2010 or subsequent model year vehicle designed primarily for transportation of persons and having a design capacity of twelve persons or less.

(13) 'PZEV credit' means partial zero emission vehicle credit.

(14) 'Recall' means:

a. The issuance of a notice directly to consumers that vehicles in their possession or control should be corrected.

b. Efforts to actively locate and correct vehicles in the possession or control of consumers.

(15) 'Smog index label' means a decal securely affixed by the manufacturer to a window of all passenger cars and light-duty trucks that discloses the smog index for the vehicle in accordance with LEV-II standards.

(16) 'Vehicle' means a motor vehicle.

(17) 'ZEV credit' means zero emission vehicle credit.

(b) LEV-II vehicles. – No person, including a manufacturer or dealer, shall deliver for sale or lease, offer for sale or lease, sell or lease, import, acquire, receive,

purchase, or rent a new vehicle that is a passenger car or light-duty truck in this State unless the vehicle meets the following LEV-II standards and criteria:

(1) Exhaust emissions standards.
(2) Emission control label and smog index label requirements.
(3) Evaporative emissions standards.
(4) Refueling emissions standards.
(5) Malfunction and diagnostic system requirements.
(6) Assembly-line testing procedure requirements.
(7) Specifications for fill pipes and openings of vehicle fuel tanks.
(8) Warranty requirements.
(9) Recall requirements.

(c) Exempt vehicles. – This section shall not apply to any of the following new vehicles:

(1) An emergency vehicle.
(2) A vehicle with a right-hand drive configuration that is not available in a model that complies with LEV-II standards, purchased by a rural route postal carrier and used primarily for work.
(3) A vehicle designed exclusively for off-highway use.

(d) Exempt transactions. – This section shall not apply to any of the following types of vehicle transactions:

(1) A transfer by court decree.
(2) A transfer by inheritance.
(3) A purchase by a nonresident prior to establishing residency in this State.
(4) A purchase for the purpose of being wrecked or dismantled.
(5) A purchase that will be registered out of the State.
(6) A purchase by a licensed dealer from another licensed dealer.

(e) Fleet requirements. – Each manufacturer shall meet the following fleet requirements for new vehicles delivered for sale or lease in this State.

(1) Compliance with medium-duty vehicle phase-in requirements.
(2) Compliance with the Zero Emission Vehicle sales requirement, including the earning and banking of ZEV and PZEV credits."

SECTION 2. Article 3 of Chapter 20 of the General Statutes is amended by adding a new section to read:

"**§ 20-54.2. Title and registration of low-emission motor vehicles; exemptions; penalties.**

(a) The Division shall refuse issuance of a certificate of title or registration or any transfer of registration of a motor vehicle that is subject to but does not comply with the provisions of G.S. 143-215.107E.

(b) The Governor may, in consultation with the Secretary of Transportation and the Secretary of Environment and Natural Resources, exempt certain motor vehicles from the provisions of G.S. 143-215.107E.

(1) Exemptions established under this subsection shall be limited to motor vehicles that would be exempted from the low-emission vehicle program established under the laws of the State of California.

(2) Any motor vehicle exempted under this subsection shall be permanently exempt from the provisions of G.S. 143-215.107E. The Division shall note the exemption on the title of the motor vehicle.

(c) The Department, in consultation with the Department of Environment and Natural Resources, shall adopt rules to prohibit the transfer of motor vehicles or motor vehicle engines that are not in compliance with G.S. 143-215.107E if the rules are necessary to achieve equivalence with the low-emission vehicle program established under the laws of the State of California.

(d) A person shall not transfer or attempt to transfer a motor vehicle or motor vehicle engine that is subject to but does not comply with G.S. 143-215.107E.

(e) A person may not procure or attempt to procure through fraud or misrepresentation the title or registration of a motor vehicle that is subject to but does not comply with G.S. 143-215.107E.

(f) The enforcement and penalty provisions of this Article shall apply to a violation of this section and the rules adopted pursuant to this section.

(g) Each transfer and each attempted transfer of a motor vehicle or motor vehicle engine that does not comply with G.S. 143-215.107E shall constitute a separate violation.

(h) As used in this section, 'transfer' means to acquire, purchase, sell, or lease."

SECTION 3. The Environmental Management Commission shall adopt rules to establish motor vehicle emissions standards and compliance requirements that are equivalent to those applicable under laws of the State of California pursuant to G.S. 143-215.107E(e), as enacted by Section 1 of this act. To minimize the administrative impact of the low-emission vehicle program and to minimize the impact of motor vehicle emissions generated out of this State on the air quality of this State, the Commission:

(1) May adopt rules to incorporate regulations issued by the California Air Resources Board, and other applicable rules, procedures, and certification data by reference.

(2) May work in cooperation and enter into contracts or agreements with the State of California, other states that have implemented a low-emission vehicle program that is equivalent to the low-emission vehicle program established by this act, and the District of Columbia to administer certification, in-use compliance, recall, and warranty requirements for the low-emission vehicle program under this act.

(3) Shall work in conjunction with other states and the District of Columbia to promote and facilitate the regional adoption of low-emission vehicle programs that is equivalent to the low-emission vehicle program established by this act.

SECTION 4. This act is effective when it becomes law.

EXHIBIT S

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 2005

U D

BILL DRAFT 2005-SYz-39 [v.1] (05/09)

(THIS IS A DRAFT AND IS NOT READY FOR INTRODUCTION)
5/15/2006 2:08:14 PM

Short Title: Child Lead Poisoning/DENR Authority. (Public)

Sponsors: .

Referred to:

A BILL TO BE ENTITLED

AN ACT TO CLARIFY THE AUTHORITY OF THE DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES AND THE SECRETARY OF ENVIRONMENT AND NATURAL RESOURCES TO CARRY OUT CERTAIN RESPONSIBILITIES RELATED TO THE PREVENTION AND CONTROL OF LEAD POISONING IN CHILDREN, AS RECOMMENDED BY THE ENVIRONMENTAL REVIEW COMMISSION.

The General Assembly of North Carolina enacts:

SECTION 1. G.S. 130A-4(c) reads as rewritten:

"(c) The Secretary of Environment and Natural Resources shall administer and enforce the provisions of Part 4 of Article 5 and Articles 8, 9, 10, 11, and 12 of this Chapter and the rules of the Commission."

SECTION 2. G.S. 130A-12 reads as rewritten:

"**§ 130A-12. Confidentiality of records.**

All records containing privileged patient medical ~~information or~~information, information protected under 45 ~~C.F.R.~~ Code of Federal Regulations Parts 160 and ~~164~~ 164, and information collected under the authority of Part 4 of Article 5 of this Chapter that are in the possession of the Department of Health and Human Services, the Department of Environment and Natural Resources, or local health departments shall be confidential and shall not be public records pursuant to G.S. 132-1. Information contained in the records may be disclosed only when disclosure is authorized or required by State or federal law. Notwithstanding G.S. 8-53 or G.S. 130A-143, the information contained in the records may be disclosed for purposes of treatment, payment, or health care operations. For purposes of this section, the terms "treatment," "payment," and "health care operations" have the meanings given those terms in 45 ~~C.F.R.~~Code of Federal Regulations § 164.501."

SECTION 3. G.S. 130A-17(b) reads as rewritten:

"(b) The Secretary of Environment and Natural Resources and a local health director shall have the same rights enumerated in subsection (a) of this section to enforce the provisions of Part 4 of Article 5 and Articles 8, 9, 10, 11, and 12 of this Chapter."

SECTION 4. G.S. 130A-18(b) reads as rewritten:

"(b) The Secretary of Environment and Natural Resources and a local health director shall have the same rights enumerated in subsection (a) of this section to enforce the provisions of Part 4 of Article 5 and Articles 8, 9, 10, 11, and 12 of this Chapter."

SECTION 5. G.S. 130A-19(b) reads as rewritten:

"(b) The Secretary of Environment and Natural Resources and a local health director shall have the same rights enumerated in subsection (a) of this section to enforce the provisions of Part 4 of Article 5 and Articles 8, 9, 10, 11, and 12 of this Chapter."

SECTION 6. G.S. 130A-20(b) reads as rewritten:

"(b) The Secretary of Environment and Natural Resources and a local health director shall have the same rights enumerated in subsection (a) of this section to enforce the provisions of Part 4 of Article 5 and Articles 8, 9, 10, 11, and 12 of this Chapter."

SECTION 7. This act is effective when it becomes law.

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 2005

U D

BILL DRAFT 2005-SYfz-37 [v.3] (05/09)

(THIS IS A DRAFT AND IS NOT READY FOR INTRODUCTION)
5/11/2006 3:50:29 PM

Short Title: Radiation Protection Program Fee Amendments. (Public)

Sponsors: .

Referred to:

A BILL TO BE ENTITLED

AN ACT TO AUTHORIZE THE DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES TO CHARGE AND COLLECT FEES TO ENSURE HOMELAND SECURITY IN NORTH CAROLINA AND TO ENSURE THAT RADIOACTIVE MATERIAL AND CERTAIN OTHER TYPES OF RADIATION RECEIVE ADEQUATE REGULATORY OVERSIGHT AND MONITORING, AS RECOMMENDED BY THE ENVIRONMENTAL REVIEW COMMISSION.

The General Assembly of North Carolina enacts:

SECTION 1. G.S. 104E-19(a) reads as rewritten:

"(a) In order to meet the anticipated costs of administering the educational and training programs in G.S. ~~104E-11(c),~~104E-11(c); of enforcing and carrying out the inspection provisions in G.S. 104E-7(a)(7) and G.S. ~~104E-11(a), and~~ 104E-11(a); of administering the licensing ~~program in~~ and registration provisions under G.S. 104E-7(a)(2), G.S. 104E-7(a)(4), G.S. 104E-7(a)(6), and G.S. ~~104E-10.3,~~ 104E-10.3; of reviewing submissions as provided under G.S. 104E-9(a)(3); of collecting information as provided under G.S. 104E-9(a)(4); of responding to emergencies and incidents as provided under G.S. 104E-9(a)(5); and of developing and maintaining a statewide environmental radiation program for monitoring radioactivity as provided under G.S. 104E-9(a)(6), the Department ~~is authorized to~~ may charge and collect ~~such~~ reasonable fees as it may by rule establish."

SECTION 2. G.S. 104E-9(a)(5) reads as rewritten:

"(5) To respond to any emergency ~~which~~ or incident that involves possible or actual release of radioactive material; ~~and~~ to respond to any emergency or incident that involves possible or actual unexpected exposures to sources of radiation; to perform investigations of situations that involve, are alleged to involve, or could potentially involve, sources of radiation that could negatively impact the public

health and safety; to perform or supervise decontamination and otherwise protect the public health and safety in any manner deemed ~~necessary.~~ necessary; and to charge responsible parties for any costs incurred by the State in carrying out this response, investigation, decontamination, or other actions necessary to protect public health and safety. This section does not in any way alter or change the provisions of Chapter 166 of the North Carolina General Statutes concerning response during an emergency by the Department of Military and Veterans Affairs or its successor. This section does not apply to fixed nuclear facilities in North Carolina that produce nuclear fuel or electricity subject to the provisions of a license issued by the United States Nuclear Regulatory Commission."

SECTION 3. G.S. 104E-9(a)(8) reads as rewritten:

"(8) To establish annual fees for activities under this Chapter based on actual administrative costs to be applied to training, enforcement, licensure and registration, certification, ~~and inspection~~ inspection, and collection of information related to the sources of radiation pursuant to the provisions of this Chapter and to charge and collect fees from operators and users of low-level radioactive waste facilities pursuant to the provisions of this Chapter."

SECTION 4. G.S. 104E-16(a)(1) reads as rewritten:

"(1) ~~Emergency response~~ Response to and decontamination of radiation ~~accidents~~ emergencies and incidents as provided in G.S. 104E-9(a)(5), or".

SECTION 5. This act becomes effective July 1, 2006.

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 2005

U D

BILL DRAFT 2005-RIz-14 [v.3] (04/14)

(THIS IS A DRAFT AND IS NOT READY FOR INTRODUCTION)
5/11/2006 9:33:29 AM

Short Title: Amend Sanitary District Authority.	(Public)
Sponsors:	
Referred to:	

A BILL TO BE ENTITLED

AN ACT TO AMEND THE AUTHORITY OF SANITARY DISTRICTS TO REQUIRE CONNECTIONS TO WATER AND SEWER SYSTEMS, AS RECOMMENDED BY THE ENVIRONMENTAL REVIEW COMMISSION.

The General Assembly of North Carolina enacts:

SECTION 1. G.S. 130A-55 reads as rewritten:

"A sanitary district board shall be a body politic and corporate and may sue and be sued in matters relating to the sanitary district. Notwithstanding any limitation in the petition under G.S. 130A-48, but subject to the provisions of G.S. 130A-55(17)e, each sanitary district may exercise all of the powers granted to sanitary districts by this Article. In addition, the sanitary district board shall have the following powers:

...

(16) To adopt rules for the promotion and protection of the public health and for these purposes to possess the following powers:

a. ~~To require any person owning, occupying or controlling improved real property within the district to connect with either or both the water or sewage systems of the district when the local health director, having jurisdiction over the property, determines that the health of the people residing within the district will be endangered by a failure to connect.~~ To require the owners of developed property on which there are situated one or more residential dwelling units or commercial establishments located within the jurisdiction of the district and within a reasonable distance of any waterline or sewer collection line owned, leased as lessee, or operated by the district to connect the property with the waterline, sewer connection line, or both and fix charges for the connections.

The power granted by this subdivision may be exercised by a district only to the extent that the service, whether water, sewer, or a combination thereof, to be provided by the district is not then being provided to the improved property by any other political subdivision or by a public utility regulated by the North Carolina Utilities Commission pursuant to Chapter 62 of the General Statutes. In the case of improved property that would qualify for the issuance of a building permit for the construction of one or more residential dwelling units or commercial establishments and where the district has installed water or sewer lines or a combination thereof directly available to the property, the district may require payment of a periodic availability charge, not to exceed the minimum periodic service charge for properties that are connected.

..."

SECTION 2. This act becomes effective September 1, 2006.

EXHIBIT V

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 2005

U D

BILL DRAFT 2005-SYz-33 [v.3] (05/09)

(THIS IS A DRAFT AND IS NOT READY FOR INTRODUCTION)
5/15/2006 1:45:40 PM

Short Title: Well Construction Fund/Grants for Local Prgms. (Public)

Sponsors: .

Referred to:

A BILL TO BE ENTITLED

AN ACT TO PROVIDE THAT FUNDS IN THE WELL CONSTRUCTION FUND MAY BE USED TO PROVIDE GRANTS TO LOCAL GOVERNMENTS TO ESTABLISH LOCAL WELL CONSTRUCTION PROGRAMS, AS RECOMMENDED BY THE ENVIRONMENTAL REVIEW COMMISSION.

The General Assembly of North Carolina enacts:

SECTION 1. G.S. 87-98.9(b) reads as rewritten:

"(b) Fund. – The Well Construction Fund is created as a nonreverting account within the Department. All fees collected pursuant to this Article shall be credited to the Fund. The Fund shall be used for the costs of administering this Article. The Fund may also be used to provide grants to local governments for the development of local well programs pursuant to G.S. 87-96(c). The Department shall establish application forms and criteria for the grants."

SECTION 2. This act becomes effective July 1, 2006.

EXHIBIT W



GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2005

U D

BILL DRAFT 2005-SYz-41 [v.2] (05/09)

(THIS IS A DRAFT AND IS NOT READY FOR INTRODUCTION)
5/15/2006 3:25:37 PM

Short Title: Private Drinking Water Wells/Local Well Prgms. (Public)

Sponsors: .

Referred to:

A BILL TO BE ENTITLED

AN ACT TO PROTECT PUBLIC HEALTH AND WATER QUALITY FOR RESIDENTS OF THE STATE THAT RECEIVE DRINKING WATER FROM PRIVATE WELLS BY PROVIDING FOR THE AUTHORIZATION OF LOCAL WELL TESTING PROGRAMS; TO REQUIRE NOTIFICATION OF GROUNDWATER CONTAMINATION TO RESIDENTS AND WELL USERS THAT LIVE OR WORK NEAR A CONTAMINATED WELL; TO ESTABLISH A GROUNDWATER QUALITY DATABASE; TO ESTABLISH AN EMERGENCY DRINKING WATER FUND; AND TO APPROPRIATE FUNDS, AS RECOMMENDED BY THE ENVIRONMENTAL REVIEW COMMISSION.

The General Assembly of North Carolina enacts:

SECTION 1. Chapter 130A of the General Statutes is amended by adding a new Article to read:

"Article 10A.
"Private Drinking Water Wells.

"**§ 130A-330.1. Purpose.**

The purpose of this Article is to ensure the safety and quality of potable water delivered from private drinking water wells in the State.

"**§ 130A-330.2. Definitions.**

The following definitions shall apply throughout this Article:

(1) 'Certified laboratory' means a facility that has received interim or final certification by either the United States Environmental Protection Agency or the Department for performing bacteriological, chemical, or other analyses on water.

(2) 'Contaminant' means any physical, chemical, biological, or radiological substance or matter in water.

(3) 'Fund' means the Emergency Drinking Water Fund established by G.S. 130A-330.5.
(4) 'Groundwater standards' means water quality standards for groundwater adopted by the Environmental Management Commission pursuant to G.S. 143-214.1.
(5) 'Local well testing program' means a program established by a city, county, or regional office of the Department for the purpose of protecting public health from groundwater contamination.
(6) 'Private well' means a drinking water well that has less than 15 service connections or that does not regularly serve 25 or more individuals.
(7) 'Resident' means a person or group of persons residing in the same dwelling unit or working at the same business at which drinking water is supplied from a private well.
(8) 'Water test' means a test of drinking water conducted in accordance with G.S. 130A-330.3 and rules adopted by the Commission pursuant to this Article.
(9) 'Well user' means a person or group of persons residing in the same dwelling unit or working at the same business at which drinking water is supplied from a private well.

"**§ 130A-330.3. Water test procedures.**

(a) The Commission shall establish criteria and procedures for the testing of water provided from a private well to determine whether the well provides water that complies with groundwater standards. The criteria and procedures shall include an analysis for at least the following contaminants:
(1) Bacteria (total coliform).
(2) Nitrates.
(3) Heavy metals.
(4) Volatile organic compounds.

(b) The Commission may authorize testing for additional contaminants in areas of the State where additional contaminants may pose a threat to public health.

(c) A water test conducted pursuant to this Article shall be completed by a certified laboratory.

(d) The Commission shall develop a standard report form that certified laboratories shall use to report the results of a water test conducted pursuant to this Article.

"**§ 130A-330.4. Local well testing programs.**

(a) The Department shall develop a program to provide grants to cover the costs of testing of private wells in the vicinity of known groundwater contamination incidents. The Department shall approve all grants authorized under this section.

(b) The Department shall consider for grant assistance any local well testing program that meets all of the following criteria:
(1) The local well testing program shall identify a set of groundwater contamination incidents that it determines pose a threat to public health, based on the toxicity of contaminants, the known concentration

and geographic extent of contamination, the contaminant's propensity to migrate, and the number of drinking water wells estimated to be in the area.

(2) The local well testing program shall notify, to the extent practicable, all residents within a 1,500-foot radius of the known boundaries of each groundwater contamination incident identified in subdivision (1) of this subsection. The notification shall be issued in both English and Spanish and shall include all of the following information:

a. The location of the groundwater contamination incident.

b. The name and potential health effect of each contaminant known to be present at the groundwater contamination incident at levels in excess of groundwater standards.

c. Instructions explaining how the resident can voluntarily seek testing of private well water by the local well testing program.

d. Contact information for the local well testing program and the closest office of the Department.

(3) The local well testing program shall offer free testing of private wells to well users conducted pursuant to subdivision (2) of this subsection. The test shall be conducted in accordance with the water test procedures established in G.S. 130A-330.3.

(4) A certified laboratory shall submit results of the water test to the local well testing program no later than 15 days after completion of any analysis. A certified laboratory shall electronically submit the results of a water test conducted pursuant to this Article to the Department no later than 30 days after completion of the analysis.

(6) The local well testing program shall provide the following information to each user whose well is tested under this section:

a. The location of the well from which the sample was collected.

b. The name, groundwater standard, and level of each contaminant for which the well was tested.

c. The potential health effects of each contaminant detected in the water sample.

d. If any contamination is found in excess of groundwater standards, instructions for how the resident can seek alternative drinking water supplies or treatment of contaminated water from the Department on a temporary or permanent basis pursuant to G.S. 130A-330.5.

e. Contact information for the local health department and the closest office of the Department.

f. Any other information required by the rules of the Commission.

(c) Eligible projects shall be funded according to provisions established by the Department. No individual grant may exceed fifty thousand dollars ($50,000).

"**§ 130A-330.5. Emergency Drinking Water Fund.**

There is established under the control and direction of the Department the Emergency Drinking Water Fund. The Fund shall be a nonreverting, interest-bearing fund consisting of monies appropriated to the Fund by the General Assembly and investment interest credited to the Fund. The Fund may be used to pay for local well testing programs pursuant to G.S. 130A-330.4 and for the provision of alternative drinking water supplies for parties affected by groundwater contamination on a temporary or permanent basis. The Department shall disburse monies from the Fund based on financial need and on the risk to public health posed by groundwater contamination.

"**§ 130A-330.6. Annual report.**

The Department, in consultation with the Commission and county health departments, shall report no later than 1 November of each year to the Environmental Review Commission, the House and Senate Appropriations Subcommittees on Natural and Economic Resources, and the Fiscal Research Division on the implementation of this Article. The report shall include the purpose and amount of all expenditures from the Fund during the prior fiscal year, a discussion of the benefits and deficiencies realized as a result of the Article, and may also include recommendations for any legislative action."

SECTION 2. Article 21 of Chapter 143 of the General Statutes is amended by adding a new part to read:

"Part 11. Groundwater Quality Database.

"**§ 143-215.74J. Database established.**

The Department shall establish a Groundwater Quality Database as a resource center and repository for the results of groundwater quality monitoring conducted and submitted pursuant to programs administered by the Department under Articles 9, 10, and 10A of Chapter 130A and Articles 21 and 21A of Chapter 143 of the General Statutes. The Department shall:

(1) Collect, maintain, and make available the information contained in the Database in a manner that is accessible to State agencies, local governments, and the general public.

(2) Assess the quality and reliability of the data and organize the Database in a usable format. The Database shall include geographic information sufficient to locate: (i) groundwater wells; (ii) natural and anthropogenic occurrences of contaminants at levels in excess of groundwater standards; and (iii) proximity of contamination to surface waters of the State. The information shall be available by latitude, longitude, depth, and contaminant levels.

(3) Prescribe the format for submission of information and ensure quality control for all data collected or submitted.

"**§ 143-215.74K. Annual report.**

The Department shall report no later than 1 November of each year to the Environmental Review Commission on the status of groundwater quality in the State. The report shall include information on the status of the Groundwater Quality Database, groundwater monitoring efforts conducted by the Department, and trends in

groundwater quality, movement, and quantity. The report may also include issues related to groundwater quality, deficiencies in groundwater quality information, and recommendations, if any, to improve the Department's understanding of the quality, movement, and quantity of groundwater resources in the State."

SECTION 3. There is appropriated from the General Fund to the Emergency Drinking Water Fund established by G.S. 130A-330.5, as enacted by Section 1 of this act, the sum of nine hundred and sixty thousand dollars ($960,000) for the 2006-2007 fiscal year.

SECTION 4. It is the intent of the General Assembly that the funds appropriated by this act shall be recurring funds.

SECTION 5. Nothing in this act shall be construed to limit or preempt the authority of a local health department or local board of health to make or cause to be made an inspection or test of a private well as may be necessary to ensure the health and safety of residents of the State.

SECTION 6. The first report required pursuant to G.S. 130A-330.6, as enacted by Section 1 of this act, is due on or before 1 November 2007. The first report required pursuant to G.S. 143-215.74K, as enacted by Section 2 of this act, is due on or before 1 November 2007.

SECTION 7. Sections 1 and 2 of this act become effective 1 January 2007. Section 3 of this act becomes effective 1 July 2006. The remaining sections of this act are effective when the act becomes law.

EXHIBIT X

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 2005

U D

BILL DRAFT 2005-SYz-28 [v.3] (04/01)

(THIS IS A DRAFT AND IS NOT READY FOR INTRODUCTION)
5/11/2006 4:04:03 PM

Short Title: Clarify Animal Waste Tech Specialist Cert Rqs. (Public)

Sponsors: .

Referred to:

A BILL TO BE ENTITLED

AN ACT TO PROVIDE THAT ANIMAL WASTE MANAGEMENT SYSTEMS TECHNICAL SPECIALISTS ARE NOT REQUIRED TO BE PROFESSIONAL ENGINEERS, AS RECOMMENDED BY THE ENVIRONMENTAL REVIEW COMMISSION.

The General Assembly of North Carolina enacts:

SECTION 1. G.S. 139-4(d)(11) reads as rewritten:

"(11) To develop and implement a program for the ~~approval~~ certification of water quality and animal waste management systems technical specialists. The Commission shall not require a person to be a licensed professional engineer under Chapter 89C of the General Statutes in order to be certified as an animal waste management systems technical specialist."

SECTION 2. G.S. 89C-25 reads as rewritten:

"**§ 89C-25. Limitations on application of Chapter.**

This Chapter shall not be construed to prevent or affect:

...

(11) The development of plans for the closure of lagoons that are components of animal waste management systems in accordance with the requirements of the practice standards of the Natural Resources Conservation Service of the United States Department of Agriculture, so long as the design or installation of a spillway is not needed. As used in this subdivision, 'lagoon' has the same meaning as in G.S. 106-802 and 'animal waste management system' has the same meaning as in G.S. 143-215.10B.

(12) The development of plans for the application of animal waste to crop and pasturelands as required under G.S. 143-215.10C.

(13) Any practice related to animal waste management systems subject to Part 1A of Article 21 of Chapter 143 of the General Statutes when the practice does not involve the structure of an animal waste management system and the practice is conducted by an animal waste management systems technical specialist certified by the Soil and Water Conservation Commission under G.S. 139-4."

SECTION 3. This act is effective when it becomes law.

EXHIBIT Y

GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2005

U D

BILL DRAFT 2005-SYz-38 [v.3] (05/09)

(THIS IS A DRAFT AND IS NOT READY FOR INTRODUCTION)
5/15/2006 11:57:26 AM

Short Title: Community Conservation Assistance Program. (Public)

Sponsors: .

Referred to:

A BILL TO BE ENTITLED

AN ACT TO ESTABLISH THE COMMUNITY CONSERVATION ASSISTANCE PROGRAM IN THE DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, AS RECOMMENDED BY THE ENVIRONMENTAL REVIEW COMMISSION.

The General Assembly of North Carolina enacts:

SECTION 1. Article 21 of Chapter 143 of the General Statutes is amended by adding a new Part to read:

"Part 11. Community Conservation Assistance Program.

"**§ 143-215.74M. Community Conservation Assistance Program.**

(a) Program Established. – There is established the Community Conservation Assistance Program. The Program shall be implemented and supervised by the Soil and Water Conservation Commission.

(b) Purposes. – The purpose of the Program shall be to reduce the input of nonpoint source pollution into the waters of the State. The Program shall be subject to the following requirements and limitations:

(1) Subject to subdivision (5) of this subsection, priority designations for inclusions in the Program for State funding shall be established by the Soil and Water Conservation Commission. The Soil and Water Conservation Commission shall allocate the cost share and technical assistance funds under the program.

(2) Areas shall be included in the Program as the funds are appropriated and the technical assistance becomes available from the local Soil and Water Conservation District.

(3) Funding may be provided to assist community conservation practices approved by the Soil and Water Conservation Commission.

(4) State funding shall be limited to seventy-five percent (75%) of the average cost for each practice with the assisted applicant providing twenty-five percent (25%) of the cost, which may include in-kind support of the practice, with a maximum of seventy-five thousand dollars ($75,000) per year to each applicant.

(5) Priority designation for inclusion in the Program for State funding shall be given to projects that improve water quality. To be eligible for cost share funds under this subdivision, a project shall be evaluated before funding is awarded and after the project is completed to determine the impact on water quality.

(6) Participation in the Program shall be voluntary.

(c) Availability of Funds. – State funds for the Program shall remain available until expended.

(d) Advisory Committee. – The Program shall be reviewed, prior to implementation, by the Community Conservation Assistance Program Advisory Committee. The Advisory Committee shall meet quarterly to review the progress of the Program. The Advisory Committee shall consist of the following members:

(1) The Director of the Division of Soil and Water Conservation or the Director's designee, who shall serve as the Chair of the Advisory Committee.

(2) The President of the North Carolina Association of Soil and Water Conservation Districts or the President's designee.

(3) The Director of the Cooperative Extension Service at North Carolina State University or the Director's designee.

(4) The Executive Director of the North Carolina Association of County Commissioner's or the Executive Director's designee.

(5) The Executive Director of the North Carolina League of Municipalities or the Executive Director's designee.

(6) The State Conservationist of the Natural Resources Conservation Service of the United States Department of Agriculture or the State Conservationist's designee.

(7) The Executive Director of the Wildlife Resources Commission or the Executive Director's designee.

(8) The President of the North Carolina Conservation District Employee's Association or the President's designee.

(9) The President of the North Carolina Association of Resource Conservation and Development Councils or the President's designee.

(10) The Director of the Division of Water Quality or the Director's designee.

(11) The Director of the Division of Forest Resources or the Director's designee.

(12) The Director of the Division of Land Resources or the Director's designee.

(13) The Director of the Division of Coastal Management or the Director's designee.

(14) The Director of the Division of Water Resources or the Director's designee.

(15) The President of the Carolinas Land Improvement Contractors Association or the President's designee.

(e) Report. – The Soil and Water Conservation Commission shall report no later than 31 January of each year to the Environmental Review Commission and the Fiscal Research Division. The report shall include a summary of projects that received State funding pursuant to the Program, the results of the evaluation conducted pursuant to subdivision (5) of subsection (b) of this section, findings regarding the effectiveness of each project to accomplish its primary purpose, and any recommendations to assure that State funding is used in the most cost-effective manner and accomplishes the greatest improvement in water quality."

SECTION 2. The Community Conservation Assistance Program Advisory Committee shall review the program prior to expenditure of any funds from the Program. The Advisory Committee shall report on the findings of its program review to the Speaker of the House of Representatives, the President Pro Tempore of the Senate, the Chairs of the Appropriations Committees of the Senate and the House of Representatives, the Director of the Fiscal Research Division of the Legislative Services Office, and the Environmental Review Commission no later than 31 March 2007.

SECTION 3. The first report required pursuant to G.S. 143-215.74M(e), as enacted by Section 1 of this act, is due on or before 31 January 2008.

SECTION 4. This act is effective when it becomes law.

GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2005

U D

BILL DRAFT 2005-RIz-18 [v.3] (01/24)

(THIS IS A DRAFT AND IS NOT READY FOR INTRODUCTION)
5/15/2006 12:14:26 PM

Short Title: Amend Solid Waste Franchise Statutes.	(Public)
Sponsors: .	
Referred to:	

A BILL TO BE ENTITLED

AN ACT TO AMEND THE STATUTES GOVERNING SOLID WASTE FRANCHISE AGREEMENTS IN ORDER TO ENSURE THAT SANITARY LANDFILL FRANCHISES ARE AWARDED AND RENEWED ONLY AFTER ADEQUATE PUBLIC NOTICE OF THE LOCATION OF A PROPOSED SITE AND AFTER PUBLIC PARTICIPATION IN THE DECISION TO AWARD THE FRANCHISE; TO CLARIFY THAT LOCAL GOVERNMENTS, MAY, BUT ARE NOT REQUIRED TO, AWARD SOLID WASTE FRANCHISES; AND, TO ENSURE THAT SOLID WASTE FRANCHISES ARE CONSISTENT WITH LOCAL SOLID WASTE MANAGEMENT PLANS AND ARE SUBJECT TO LOCAL GOVERNMENT OVERSIGHT AND REGULATION OF RATES AND FEES, AS RECOMMENDED BY THE ENVIRONMENTAL REVIEW COMMISSION.

The General Assembly of North Carolina enacts:

SECTION 1. G.S. 130A-294(b1)(2) reads as rewritten:

"(2) Within 10 days after receiving an application for a permit, for the renewal of a permit, or for a substantial amendment to a permit for a sanitary landfill, the Department shall notify the clerk of the board of commissioners of the county or counties in which the sanitary landfill is proposed to be located or is located and, if the sanitary landfill is proposed to be located or is located within a city, the clerk of the governing board of the city, that the application has been filed and shall file a copy of the application with the clerk. Prior to the award or renewal of a franchise for construction or operation of a sanitary landfill or the entry of any host agreement or other contract providing for issuance of a franchise for a sanitary landfill, ~~the issuance of a permit, the renewal of a permit, or a substantial amendment to a~~

~~permit,~~ the board of commissioners of the county or counties in which the sanitary landfill is proposed to be located or is located or, if the sanitary landfill is proposed to be located or is located in a city, the governing board of the city shall conduct a public ~~hearing when sufficient public interest exists.~~ hearing. The board of commissioners of the county or counties in which the sanitary landfill is proposed to be located or is located or, if the sanitary landfill is proposed to be located or is located in a city, the governing board of the city shall provide ~~adequate notice~~at least 30 days' notice to the public of the public ~~hearing~~ hearing. The notice shall include the proposed location of any proposed solid waste facilities governed by the proposed franchise or permit, and shall specify the procedure to be followed at the public hearing. At the time public notice of the public hearing is given the applicant for a franchise shall provide a copy of a conceptual facility plan for development of the sanitary landfill to the governing board. The applicant shall also provide a copy of the plan to the public library closest to the proposed landfill site to be made available for inspection and copying by the public. The notice of public hearing shall state where the facility plan may be reviewed and copied by the public. The conceptual facility plan shall include the boundaries of the proposed facility, proposed development of the site in five-year operational phases, the boundaries of the area, final elevations and capacity of all waste disposal units, and shall show the location of soil borrow areas, leachate facilities, and all other facilities and infrastructure, including ingress and egress to the facility. The conceptual facility plan shall also include a description of environmental controls, the types of waste to be disposed of at the facility, the area and population to be served by the landfill, the amount of waste to be received per day in tons, the total waste disposal capacity of the landfill in tons, the projected useful life of the landfill, and a description of any other waste management activities to be conducted at the facility."

SECTION 2. G.S. 130A-294(b1)(3) reads as rewritten:

"(3) An applicant for a new permit, the renewal of a permit, or a substantial amendment to a permit for a sanitary landfill shall obtain, prior to applying for a permit, a franchise for the operation of the sanitary landfill from each local government having jurisdiction over any part of the land on which the sanitary landfill and its appurtenances are located or to be located. A local government ~~shall~~ may adopt a franchise ordinance under G.S. 153A-136 or G.S. 160A-319 prior to the submittal by an applicant of an application for a new permit, the renewal of a permit, or a substantial amendment to a permit for a sanitary landfill. A franchise granted for a sanitary landfill shall include:

a. A statement of the population to be served, including a description of the geographic area.
b. A description of the volume and characteristics of the waste stream.
c. A projection on the useful life of the landfill.
d. An explanation of how the franchise will be consistent with the jurisdiction's solid waste management plan required under G.S. 130A-309.09A, including provisions for waste reduction, reuse, and recycling.
e. The procedures to be followed for governmental oversight and regulation of the fees and rates to be charged by facilities subject to the franchise.
f. An exact description of the boundaries of the proposed site for the landfill and its appurtenances for which the franchise is issued and the number of acres the site covers."

SECTION 3. This act is effective when it becomes law and applies to applications for franchise awards or renewals pending on or after that date.

GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2005

U D

BILL DRAFT 2005-RFz-19 [v.6] (04/04)

(THIS IS A DRAFT AND IS NOT READY FOR INTRODUCTION)
5/15/2006 1:59:00 PM

Short Title: Exempt Certain Greenhouses from Bldg Code. (Public)

Sponsors: .

Referred to:

A BILL TO BE ENTITLED

AN ACT TO CLARIFY THE EXEMPTION FOR GREENHOUSES FROM THE BUILDING CODE WHEN THEY ARE BUILT IN ACCORDANCE WITH THE NATIONAL GREENHOUSE MANUFACTURERS ASSOCIATION STRUCTURAL DESIGN MANUAL AND USED FOR GROWING PLANTS, AND NOT USED FOR RETAIL SALES PURPOSES, AS RECOMMENDED BY THE ENVIRONMENTAL REVIEW COMMISSION.

The General Assembly of North Carolina enacts:

SECTION 1. G.S. 143-138(b) reads as rewritten:

"(b) **(Effective July 1, 2006)** Contents of the Code. – The North Carolina State Building Code, as adopted by the Building Code Council, may include reasonable and suitable classifications of buildings and structures, both as to use and occupancy; general building restrictions as to location, height, and floor areas; rules for the lighting and ventilation of buildings and structures; requirements concerning means of egress from buildings and structures; requirements concerning means of ingress in buildings and structures; rules governing construction and precautions to be taken during construction; rules as to permissible materials, loads, and stresses; rules governing chimneys, heating appliances, elevators, and other facilities connected with the buildings and structures; rules governing plumbing, heating, air conditioning for the purpose of comfort cooling by the lowering of temperature, and electrical systems; and such other reasonable rules pertaining to the construction of buildings and structures and the installation of particular facilities therein as may be found reasonably necessary for the protection of the occupants of the building or structure, its neighbors, and members of the public at large.

In addition, the Code may regulate activities and conditions in buildings, structures, and premises that pose dangers of fire, explosion, or related hazards. Such fire prevention code provisions shall be considered the minimum standards necessary to

preserve and protect public health and safety, subject to approval by the Council of more stringent provisions proposed by a municipality or county as provided in G.S. 143-138(e). These provisions may include regulations requiring the installation of either battery-operated or electrical smoke detectors in every dwelling unit used as rental property, regardless of the date of construction of the rental property. For dwelling units used as rental property constructed prior to 1975, smoke detectors shall have an Underwriters' Laboratories, Inc., listing or other equivalent national testing laboratory approval, and shall be installed in accordance with either the standard of the National Fire Protection Association or the minimum protection designated in the manufacturer's instructions, which the property owner shall retain or provide as proof of compliance.

The Code may contain provisions regulating every type of building or structure, wherever it might be situated in the State.

Provided further, that nothing in this Article shall be construed to make any building rules applicable to farm buildings located outside the building-rules jurisdiction of any municipality. For purposes of this Article, "farm building" shall include greenhouses. As used in this subsection, "greenhouse" shall mean a structure used for growing plants. Greenhouses located within the building-rules jurisdiction of any municipality shall not be subject to any building rules provided that (i) the greenhouse is built in accordance with the National Greenhouse Manufacturers Association Structural Design manual, and (ii) the greenhouse is not used for retail sales.

Provided further, that no building permit shall be required under the Code or any local variance thereof approved under subsection (e) for any construction, installation, repair, replacement, or alteration costing five thousand dollars ($5,000) or less in any single family residence or farm building unless the work involves: the addition, repair, or replacement of load bearing structures; the addition (excluding replacement of same size and capacity) or change in the design of plumbing; the addition, replacement or change in the design of heating, air conditioning, or electrical wiring, devices, appliances, or equipment, the use of materials not permitted by the North Carolina Uniform Residential Building Code; or the addition (excluding replacement of like grade of fire resistance) of roofing.

Provided further, that no building permit shall be required under such Code from any State agency for the construction of any building or structure, the total cost of which is less than twenty thousand dollars ($20,000), except public or institutional buildings.

For the information of users thereof, the Code shall include as appendices

(1) Any rules governing boilers adopted by the Board of Boiler and Pressure Vessels Rules,

(2) Any rules relating to the safe operation of elevators adopted by the Commissioner of Labor, and

(3) Any rules relating to sanitation adopted by the Commission for Health Services which the Building Code Council believes pertinent.

In addition, the Code may include references to such other rules of special types, such as those of the Medical Care Commission and the Department of Public Instruction as may be useful to persons using the Code. No rule issued by any agency other than the

Building Code Council shall be construed as a part of the Code, nor supersede that Code, it being intended that they be presented with the Code for information only.

Nothing in this Article shall extend to or be construed as being applicable to the regulation of the design, construction, location, installation, or operation of (1) equipment for storing, handling, transporting, and utilizing liquefied petroleum gases for fuel purposes or anhydrous ammonia or other liquid fertilizers, except for liquefied petroleum gas from the outlet of the first stage pressure regulator to and including each liquefied petroleum gas utilization device within a building or structure covered by the Code, or (2) equipment or facilities, other than buildings, of a public utility, as defined in G.S. 62-3, or an electric or telephone membership corporation, including without limitation poles, towers, and other structures supporting electric or communication lines.

In addition, the Code may contain rules concerning minimum efficiency requirements for replacement water heaters, which shall consider reasonable availability from manufacturers to meet installation space requirements.

No State, county, or local building code or regulation shall prohibit the use of special locking mechanisms for seclusion rooms in the public schools approved under G.S. 115C-391.1(e)(1)e., provided that the special locking mechanism shall be constructed so that it will engage only when a key, knob, handle, button, or other similar device is being held in position by a person, and provided further that, if the mechanism is electrically or electronically controlled, it automatically disengages when the building's fire alarm is activated. Upon release of the locking mechanism by a supervising adult, the door must be able to be opened readily."

SECTION 2. This act is effective when it becomes law.

EXHIBIT BB

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 2005

U D

BILL DRAFT 2005-RFfz-16 [v.5] (04/18)

(THIS IS A DRAFT AND IS NOT READY FOR INTRODUCTION)
5/15/2006 2:04:53 PM

Short Title: Fertilizer Spreaders/Registration Exemption. (Public)

Sponsors: .

Referred to:

A BILL TO BE ENTITLED

AN ACT TO EXEMPT FERTILIZER SPREADER VEHICLES FROM THE REQUIREMENTS OF REGISTRATION AND CERTIFICATE OF TITLE, AS RECOMMENDED BY THE ENVIRONMENTAL REVIEW COMMISSION.

The General Assembly of North Carolina enacts:

SECTION 1. G.S. 20-51 reads as rewritten:

"**§ 20-51. Exempt from registration.**

The following shall be exempt from the requirement of registration and certificate of title:

...

(5a) Fertilizer spreader vehicles, including those operated on a for-hire basis, when used by a farmer, his tenant, agent, or employee in transporting fertilizer from place to place on the same farm, or from one farm to another. This exemption shall extend also to fertilizer spreader vehicles while on any trip within a radius of 10 miles from the point of loading, provided that the vehicle does not exceed a speed of 35 miles per hour.

...."

SECTION 2. This act becomes effective 1 October 2006.

EXHIBIT CC

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 2005

U D

BILL DRAFT 2005-SBz-29 [v.2] (05/03)



(THIS IS A DRAFT AND IS NOT READY FOR INTRODUCTION)
5/15/2006 10:47:44 AM

Short Title: Land Disturbing Activities Near Trout Waters. (Public)

Sponsors: .

Referred to:

A BILL TO BE ENTITLED

AN ACT TO AMEND THE LAWS GOVERNING LAND-DISTURBING ACTIVITIES NEAR TROUT WATERS, AS RECOMMENDED BY THE ENVIRONMENTAL REVIEW COMMISSION.

The General Assembly of North Carolina enacts:

SECTION 1. G.S. 113A-57(1) reads as rewritten:

"(1) No land-disturbing activity during periods of construction or improvement to land shall be permitted in proximity to a lake or natural ~~watercourse~~ watercourse.~~unless a buffer zone is provided along the margin of the watercourse~~

a. Waters other than those classified as trout waters by the Environmental Management Commission shall have a buffer zone of sufficient width to confine visible siltation within the twenty-five percent (25%) of the buffer zone nearest the land-disturbing activity.

b. Waters that have been classified as trout waters by the Environmental Management Commission shall have an undisturbed buffer zone 25 feet wide or of sufficient width to maintain the ecological functions provided by the buffer zone and confine visible siltation within the twenty-five percent (25%) of the buffer zone nearest the land-disturbing activity, whichever is greater. ~~Provided, however, that the~~

c. The Sedimentation Control Commission may ~~approve~~ approve, or approve with modifications, plans ~~which~~ that include land-disturbing activity within the buffer zone along trout waters ~~when the duration of said disturbance would be~~

~~temporary and the extent of said disturbance would be minimal.~~if any of the following criteria are met:

1. The land-disturbing activity is planned so as to result in temporary and minimal impacts from erosion and sedimentation. A plan meets this criteria if the applicant demonstrates that the land-disturbing activity disturbs less than ten percent (10%) of the total length of the buffer zone within the tract to be disturbed, disturbs no more than 100 linear feet in each 1,000 linear feet of buffer zone, meets all other provisions of this Article and rules adopted pursuant to this Article, and provides temporary ground cover that controls erosion and sedimentation to at least the same extent as pre-disturbance conditions as soon as practicable, but no more than 21 days after completing the disturbance.
2. The land-disturbing activity exceeds the level of disturbance described in sub-sub-subdivision 1. of this sub-subdivision and is associated with a road that will be a part of the State highway system; a water line; wastewater or other utility infrastructure; a stormwater control structure; or a temporary erosion and sedimentation control device. Impacts to the buffer shall be approved under this sub-sub-subdivision only if the Department finds that the impacts to the buffer cannot reasonably be avoided, impacts have been minimized to the extent practicable, and the area affected by construction activity is restored. An erosion and sedimentation control plan meets the avoidance, minimization, and restoration criteria in this sub-sub-subdivision if the erosion and sedimentation control plan meets all other provisions of this Article and rules adopted pursuant to this Article and demonstrates all of the following:
   I. The basic project purpose cannot be practically accomplished in a manner that would better avoid erosion and sedimentation impacts to the trout buffer or stream.
   II. The land disturbing activity cannot be practically reduced in size or density, reconfigured, or redesigned to minimize the temporary and permanent erosion and sedimentation impacts to the trout buffer or stream.

III. The plan incorporates all reasonable means and measures to restore the trout buffer or stream upon completion of construction.

3. The land-disturbing activity is part of a stream restoration activity that is designed to improve water quality, aquatic habitat, or habitat along the bank. Stream restoration activities include mitigation projects approved through a State or federal water quality permit or funded by a State or federal program in an effort to improve water quality.

d. ~~This subdivision~~Sub-subdivision c. of this subdivision shall not apply to a land-disturbing activity in connection with the construction of facilities to be located on, over, or under a lake or natural watercourse."

SECTION 2. This act is effective when it becomes law and applies to land disturbing activities that commence on or after this date.

EXHIBIT DD

GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2005

U D

BILL DRAFT 2005-SBfz-28 [v.3] (05/03)

(THIS IS A DRAFT AND IS NOT READY FOR INTRODUCTION)
5/15/2006 3:28:51 PM

Short Title: Limit Nutrient Offset Payments. (Public)

Sponsors: .

Referred to:

A BILL TO BE ENTITLED

AN ACT TO SET THE PER POUND FACTOR USED BY THE ENVIRONMENTAL MANAGEMENT COMMISSION TO CALCULATE NUTRIENT OFFSET PAYMENTS, AS RECOMMENDED BY THE ENVIRONMENTAL REVIEW COMMISSION.

The General Assembly of North Carolina enacts:

SECTION 1. G.S. 143-215.3D(e) is amended by adding a new subdivision to read:

"(8) Per Pound Factor for Nutrient Offset Payments. – The per pound factor used by the Environmental Management Commission to establish a nutrient offset payment pursuant to this Article or rules adopted pursuant to this Article shall be thirty-five dollars ($35.00) per pound of nitrogen and per tenth of a pound of phosphorous."

SECTION 2. This act is effective when it becomes law and applies to all nutrient offset payments, including those set out in 15A NCAC 2B.0240, as adopted by the Environmental Management Commission on January 12, 2006.

EXHIBIT EE



GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2005

U D

BILL DRAFT 2005-SBz-27 [v.6] (04/27)

(THIS IS A DRAFT AND IS NOT READY FOR INTRODUCTION)
5/15/2006 3:30:16 PM

Short Title: Amend Interbasin Transfer Laws. (Public)

Sponsors: .

Referred to:

A BILL TO BE ENTITLED

AN ACT TO AMEND THE STATUTE GOVERNING THE REGULATION OF INTERBASIN TRANSFERS, AS RECOMMENDED BY THE ENVIRONMENTAL REVIEW COMMISSION.

The General Assembly of North Carolina enacts:

SECTION 1. G.S. 143-215.22G is amended by adding a new subdivision to read:

"(1a) "Safe yield" means the amount of water that can be continuously withdrawn from a source water body without adverse effects to water quality and aquatic habitat during 7Q10 conditions, as defined in G.S. 130A-295.01."

SECTION 2. G.S. 143-215.22I reads as rewritten:

"**§ 143-215.22I. Regulation of surface water transfers.**

(a) No person, without first securing a certificate from the Commission, may:

(1) Initiate a transfer of 2,000,000 gallons of water or more per day from one river basin to another.

(2) Increase the amount of an existing transfer of water from one river basin to another by twenty-five percent (25%) or more above the average daily amount transferred during the year ending July 1, 1993, if the total transfer including the increase is 2,000,000 gallons or more per day.

(3) Increase an existing transfer of water from one river basin to another above the amount approved by the Commission in a certificate issued under G.S. 162A-7 prior to July 1, 1993.

(b) Notwithstanding the provisions of subsection (a) of this section, a certificate shall not be required to transfer water from one river basin to another up to the full

capacity of a facility to transfer water from one basin to another if the facility was existing or under construction on July 1, 1993.

(c) An applicant for a certificate shall petition the Commission for the certificate. The petition shall be in writing and shall include the following:

(1) A description of the facilities to be used to transfer the water, including the location and capacity of water intakes, pumps, pipelines, and other facilities.

(2) A description of the proposed uses of the water to be transferred.

(3) ~~The~~ To assure the efficient use of the water and the avoidance of waste, the water conservation measures ~~to be~~ used by the applicant at the time of application and any additional water conservation measures that will be implemented by the applicant if the certificate is granted. ~~to assure efficient use of the water and avoidance of waste.~~

(4) The applicant's water supply plan and 25-year population projections, as appropriate.

(5) An itemized report detailing the source, volume, and maximum permitted capacity of all existing water withdrawals and interbasin transfers from the source river basin.

(6) A determination of whether the proposed interbasin transfer and existing, permitted, and other proposed withdrawals are within the safe yield of the source water body.

(7) A letter of support from each downstream public water supplier, including each water supplier in downstream states, that make withdrawals from the source water body stating that the proposed interbasin transfer will not negatively affect existing water users and is consistent with local water supply plans.

(8) The most recent information available from the Division of Water Quality of the Department concerning the water quality of the source river basin and the receiving river basin.

(9) The most recent information available from the Wildlife Resources Commission concerning aquatic habitat for rare, threatened, and endangered species in the source river basin and the receiving river basin.

~~(4)~~(10) Any other information deemed necessary by the Commission for review of the proposed water transfer.

(d) Upon receipt of the petition, the Commission shall hold a public hearing on the proposed transfer after giving at least 30 days' written notice of the hearing as follows:

(1) By publishing notice in the North Carolina Register.

(2) By publishing notice in a newspaper of general circulation in the ~~area~~ areas of the river basin that withdraw water from the source water body downstream from the point of the proposed withdrawal.

(3) By giving notice by first-class mail to each of the following:

a. A person who has registered under this Part a water withdrawal or transfer from the same river basin where the water for the proposed transfer would be withdrawn.

b. A person who secured a certificate under this Part for a water transfer from the same river basin where the water for the proposed transfer would be withdrawn.

c. A person holding a National Pollutant Discharge Elimination System (NPDES) wastewater discharge permit exceeding 100,000 gallons per day for a discharge located downstream from the proposed withdrawal point of the proposed transfer.

d. The board of county commissioners of each county that is located entirely or partially within the river basin that is the source of the proposed transfer.

e. The governing body of any public water supply system that withdraws water downstream from the withdrawal point of the proposed transfer.

(e) The notice of the public hearing shall include a nontechnical description of the applicant's request and a conspicuous statement in bold type as to the effects of the water transfer on the source and receiving river basins. The notice shall further indicate the procedure to be followed by anyone wishing to submit comments on the proposed water transfer.

(f) In determining whether a certificate may be issued for the transfer, the Commission shall specifically consider each of the following items and state in writing its findings of fact with regard to each item:

(1) The necessity, reasonableness, and beneficial effects of the amount of surface water proposed to be transferred and its proposed uses.

(2) The present and reasonably foreseeable future detrimental effects on the source river basin, including present and future effects on public, industrial, and agricultural water supply needs, wastewater assimilation, water quality, fish and wildlife habitat, hydroelectric power generation, navigation, and recreation. Local water supply plans that affect the source major river basin shall be used to evaluate the projected future municipal water needs in the source major river ~~basin.~~basin and to determine whether the proposed interbasin transfer will have a detrimental impact on the future water supplies of local governments that make withdrawals from the source water body.

(2a) The cumulative effect on the source major river basin of any water transfer or consumptive water use that, at the time the Commission considers the application for a certificate is occurring, is authorized under this section, or is projected in any local water supply plan that has been submitted to the Department in accordance with G.S. 143-355(l).

(3) The detrimental effects on the receiving river basin, including effects on water quality, wastewater assimilation, fish and wildlife habitat, including wetlands, navigation, recreation, and flooding.

(4) Reasonable alternatives to the proposed transfer, including their probable costs, and environmental impacts.

(5) If applicable to the proposed project, the applicant's present and proposed use of impoundment storage capacity to store water during high-flow periods for use during low-flow periods and the applicant's right of withdrawal under G.S. 143-215.44 through G.S. 143-215.50.

(6) If the water to be withdrawn or transferred is stored in a multipurpose reservoir constructed by the United States Army Corps of Engineers, the purposes and water storage allocations established for the reservoir at the time the reservoir was authorized by the Congress of the United States.

(7) Any other facts and circumstances that are reasonably necessary to carry out the purposes of this Part.

(f1) An environmental assessment as defined by G.S. 113A-9(1) shall be prepared for any petition for a certificate under this section. The determination of whether an environmental impact statement shall also be required shall be made in accordance with the provisions of Article 1 of Chapter 113A of the General Statutes. The applicant who petitions the Commission for a certificate under this section shall pay the cost of special studies necessary to comply with Article 1 of Chapter 113A of the General Statutes. The environmental assessment or environmental impact statement shall include an evaluation of the applicant's ability to meet the applicant's water supply needs from sources that do not require an interbasin transfer and through the use of water conservation measures. The environmental assessment or environmental impact statement shall include an evaluation of measures to mitigate any damage that may arise from the proposed interbasin transfer. The environmental assessment or environmental impact statement shall be completed and made available to the public at least 30 days before the public hearing required by subsection (d) of this section.

(g) A certificate shall be granted for a water transfer if the proposed interbasin transfer will not supply more than five percent (5%) of the water used by the applicant and the applicant establishes and the Commission concludes by a preponderance of the evidence based upon the findings of fact made under subsection (f) of this section that: (i) the benefits of the proposed transfer outweigh the detriments of the proposed transfer, and (ii) the detriments have been or will be mitigated to a reasonable degree. The conditions necessary to ensure that the detriments are and continue to be mitigated to a reasonable degree shall be attached to the certificate in accordance with subsection (h) of this section.

(h) The Commission may grant the certificate in whole or in part, or deny the certificate. The Commission may also grant a certificate with any conditions attached that the Commission believes are necessary to achieve the purposes of this Part. The conditions may include mitigation measures proposed to minimize any detrimental effects of the proposed transfer and measures to protect the availability of water in the

source river basin during a drought or other emergency. The certificate shall include a drought management plan that specifies how the transfer shall be managed to protect the source river basin during drought conditions. The certificate shall indicate the maximum amount of water that may be transferred. No person shall transfer an amount of water that exceeds the amount in the certificate.

(i) In cases where an applicant requests approval to increase a transfer that existed on July 1, 1993, the Commission shall have authority to approve or disapprove only the amount of the increase. If the Commission approves the increase, however, the certificate shall be issued for the amount of the existing transfer plus the requested increase. Certificates for transfers approved by the Commission under G.S. 162A-7 shall remain in effect as approved by the Commission and shall have the same effect as a certificate issued under this Part.

(j) In the case of water supply problems caused by drought, a pollution incident, temporary failure of a water plant, or any other temporary condition in which the public health requires a transfer of water, the Secretary of Environment and Natural Resources may grant approval for a temporary transfer. Prior to approving a temporary transfer, the Secretary shall consult with those parties listed in G.S. 143-215.22I(d)(3) that are likely to be affected by the proposed transfer. However, the Secretary shall not be required to satisfy the public notice requirements of this section or make written findings of fact and conclusions in approving a temporary transfer under this subsection. If the Secretary approves a temporary transfer under this subsection, the Secretary shall specify binding conditions to protect other water users. A temporary transfer shall not exceed six months in duration, but the approval may be renewed for a period of six months by the Secretary based on demonstrated need as set forth in this subsection. A temporary transfer may be renewed no more than two times after the initial approval.

(k) The substantive restrictions and conditions upon surface water transfers authorized in this section may be imposed pursuant to any federal law that permits the State to certify, restrict, or condition any new or continuing transfers or related activities licensed, relicensed, or otherwise authorized by the federal government.

(l) When any transfer for which a certificate was issued under this section equals eighty percent (80%) of the maximum amount authorized in the certificate, the applicant shall submit to the Department a detailed plan that specifies how the applicant intends to address future foreseeable water needs. If the applicant is required to have a local water supply plan, then this plan shall be an amendment to the local water supply plan required by G.S.143-355(l). When the transfer equals ninety percent (90%) of the maximum amount authorized in the certificate, the applicant shall begin implementation of the plan submitted to the Department.

(m) It is the public policy of the State to maintain, protect, and enhance water quality within North Carolina. To that end, there is a presumption that a certificate for an interbasin transfer shall not be granted unless the interbasin transfer is necessary to protect and promote public health and welfare. Further, it is the public policy of the State that the cumulative impact of transfers from a source river basin shall not result in a violation of the antidegradation policy set out in 40 Code of Federal Regulations §

131.12 (1 July 1997 Edition) and the statewide antidegradation policy adopted pursuant thereto.

(n) The Commission may modify any certificate granted for an interbasin transfer if the Commission determines that:

(1) The cumulative impact of existing, permitted, and proposed withdrawals has exceeded or will exceed the safe yield of the source water body;

(2) The cumulative impact of existing, permitted, and proposed withdrawals has caused or contributed to or will cause or contribute to the deterioration of water quality in either the source river basin or the receiving river basin; or

(3) The projections of population growth, water supply, or water demand upon which the certificate for the interbasin transfer was granted were inaccurate."

SECTION 3. This act is effective when it becomes law and applies to any petition for a certificate or for the modification of a certificate for an interbasin transfer that is submitted to the Environmental Management Commission on or after that date.

NCDENR
North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

RECEIVED
MAY 23 2006
RESEARCH DIVISION

To: George Givens, Counsel to ERC

From: Bill Flournoy, NCCTC Program Manager BF.

Subject: ERC question on NCCTC amendment

Date: May 22, 2006

At the May 15 meeting of the ERC a question was raised about the proposed NC Conservation Tax Credit amendment creating a "Franchise Tax Election". The explanation was that currently the NC Conservation Tax Credit (NCCTC) can only be applied to income tax liability. The bill supported by the ERC (HB 2156 and SB 1563) proposes authorization of expansion of NCCTC applicability to corporate franchise and gross premium taxes. Insurance companies pay gross premium tax in lieu of income taxes. Generally speaking, franchise tax is paid by privately owned utility companies in addition to income taxes. Therefore, the taxpayer would be required to "elect" whether they wanted their NCCTC applied to their franchise tax or income tax liability.

The explanation was followed by a request for data on corporate taxes paid last year. The following figures are provided by the NC Department of Revenue for FY 04-05 collections.

Franchise	$ 498,681,391
Gross Premium	$ 431,664,202
Corporate Income	$1,193,529,164

For the purpose of perspective, it may be informative to recognize the amount of NCCTC actually claimed against income tax. (Please note that these figures from the Department of Revenue are available for only two years, and they include both corporate and individual taxes.)

	Available credit	Credit utilitized
2000	$7,266,109	$1,933,008
2001	$7,615,160	$1,521,901

The bills also include a provision to improve annual reporting of NCCTC utilization data.

cc: Greg Radford

1601 Mail Service Center, Raleigh, North Carolina 27699-1601
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NORTH CAROLINA
NATURAL HERITAGE
TRUST FUND

MEMORANDUM

May 31, 2006

TO: George Givens, General Counsel, Environmental Resources Commission

FROM: Lisa Riegel, Natural Heritage Trust Fund

SUBJECT: Copies of Resolutions for Hamilton Horton and Hugh Morton

In March the three conservation trust funds met jointly for the first time. The group assembled unanimously passed two resolutions, for Senator Hamilton Horton and for Hugh Morton, in recognition and appreciation of their work in protecting North Carolina's natural resources.

Last time we met, you thought the ERC would appreciate a copy of the resolution for Senator Hamilton Horton since he served on that commission.

If you have any questions, please contact me at (919) 715-8014.

Attachments (2)

Mr. J. Robert Gordon, Chairman
Scotland County

Mr. Alan D. Briggs
Wake County

Mr. Charles E. Clement
Watauga County

Ms. Portia Hawes
Warren County

Mr. Thomas D. Hunter, III
Henderson County

Mr. William Joslin
Wake County

Mr. Henry L. Kitchin
[illegible]mond County

[illegible]. R. Michael Leonard
[illegible]orsyth County

Mr. Thomas W. Reese
Catawba County

Ms. Elizabeth D. Taft, Ph.D
Pitt County

Mr. Dewey W. Wells
Avery County

Ms. Lois McIver Winstead
Person County

Lisa Riegel, Executive Director, Natural Heritage Trust Fund
1601 Mail Service Center, Raleigh, NC 27699-1601
Lisa.Riegel@ncmail.net

NORTH CAROLINA
NATURAL HERITAGE
TRUST FUND

May 11, 2006

Mr. J. Robert Gordon, Chairman
Scotland County

Mr. Alan D. Briggs
Wake County

Mr. Charles E. Clement
Watauga County

Ms. Portia Hawes
Warren County

Mr. Thomas D. Hunter, III
Henderson County

Mr. William Joslin
Wake County

Mr. Henry L. Kitchin
Richmond County

R. Michael Leonard
Forsyth County

Mr. Thomas W. Reese
Catawba County

Ms. Elizabeth D. Taft, Ph.D
Pitt County

Mr. Dewey W. Wells
Avery County

Ms. Lois McIver Winstead
Person County

Mrs. Hamilton C. Horton
860 Englewood Drive
Winston-Salem, NC 27106

Dear Mrs. Horton,

In March, the Trustees of the Natural Heritage Trust Fund, the Clean Water Management Trust Fund, and the Parks and Recreation Trust Fund met jointly, along with many of the other state and non-governmental conservation organizations that work in our state. The group assembled took a collective moment to recognize the great work your husband Senator Hamilton Horton did to support conservation of natural resources in North Carolina. Specific mention were his leadership of the Natural Heritage Trust Fund and of the protection of the New River. The Trustees of the three trust funds unanimously passed a resolution in recognition and appreciation of his work.

Please accept the enclosed signed resolution as a sign of our sincere appreciation and gratitude.

Sincerely,

J. Robert Gordon
Chairman, Natural Heritage Trust Fund

Lisa Riegel, Executive Director, Natural Heritage Trust Fund
1601 Mail Service Center, Raleigh, NC 27699-1601
Lisa.Riegel@ncmail.net

A RESOLUTION EXPRESSING DEEP GRATITUDE AND RESPECT FOR THE MEMORY OF SENATOR HAMILTON C. HORTON, JR., FOR HIS LEADERSHIP AND IMPORTANT CONTRIBUTIONS TO CONSERVATION IN THE STATE OF NORTH CAROLINA

WHEREAS, during a long political career including nine terms in the General Assembly, Senator Hamilton Horton, Jr. was a determined protector of important historic and natural sites in the State; and

WHEREAS, Senator Horton was a key leader in the battle to protect the New River from hydropower projects and to ensure the continued protection of this, the oldest river in the world, as an important ecological resource to the citizens of North Carolina; and

WHEREAS, Senator Horton served as the first Chairman for the North Carolina Natural Heritage Trust Fund, contributing his time, energy and wisdom to the establishment of many important conservation preserves and projects across the State; and

WHEREAS, Senator Horton's support of the establishment of the Park and Recreation Trust Fund has benefited all citizens of this State; and

WHEREAS, Senator Horton's support of tax credits for the costs of restoring historic homes and structures encouraged and made possible the restoration of many of North Carolina's most historic buildings; and

WHEREAS, on March 3, 2006, at the Strategic Visioning for Conservation in North Carolina conference and joint meeting of the natural resources conservation trust funds, the memory of Senator Horton's many contributions to the welfare of the State of North Carolina were the subject of unanimous acclaim by those present, and the undersigned were selected as representatives of the show of esteem and therefore have entered their signatures below.

NOW, THEREFORE, be it resolved that, for all of these contributions, and more, we express our deep and lasting appreciation and devotion to the memory of Senator Hamilton C. Horton, Jr.

This the third day of March, 2006.

J. Robert Gordon, Chair
Natural Heritage Trust Fund

Jonathan B. Howes, Chair
Parks and Recreation Trust Fund

Robert D. Howard, Chair
Clean Water Management Trust Fund

And additionally supported by:

John E. Pechmann, Chair
Wildlife Resources Commission

William G. Ross, Jr., Secretary
Department of Environment
and Natural Resources

NCDENR

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

March 17, 2006

Hugh Morton
330 Lake Road
Linville, NC 28604

Dear ~~Mr. Morton~~,

Earlier this month we had the first-ever meeting of North Carolina's three natural resource conservation trust funds, along with many of the other state and non-governmental conservation organizations that work in our state. The group assembled wanted you to know how much we appreciate the great work you do to support conservation of natural resources in North Carolina. The three trust funds unanimously passed a resolution in recognition and appreciation of the work you have done.

Please accept the signed copy of the resolution as a sign of our sincere appreciation and gratitude.

Sincerely,

William G. Ross, Jr.

Attachment

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One NorthCarolina Naturally

A RESOLUTION EXPRESSING APPRECIATION AND DEVOTION TO HUGH MORTON, FOR HIS MANY YEARS OF INNOVATIVE AND EFFECTIVE PROTECTION OF THE NATURAL RESOURCES OF THE STATE OF NORTH CAROLINA

WHEREAS, for more than 50 years, Hugh Morton has worked diligently to protect Grandfather Mountain, the Blue Ridge Parkway, our North Carolina Mountains, and the very air we breathe; and

WHEREAS, the easements that Hugh Morton early-on donated to The Nature Conservancy established one of the earliest and best examples of how easements can be used to protect private lands; and

WHEREAS, Hugh Morton led the effort to establish a ridge law to restrict inappropriate development of our mountain ridges, and led the "Year of the Mountain" effort in 1995 and 1996; and

WHEREAS, our ability to understand and appreciate nature in North Carolina was enhanced by the publication of *Hugh Morton's North Carolina* and in various other ways and means by which he shared with us his genius in photography and the study of nature; and

WHEREAS, Hugh Morton was of great assistance in establishing the Gorges State Park and in beginning the efforts that have protected 30,000 acres along the Blue Ridge Parkway; and

WHEREAS, Hugh Morton has long been a leader in making the public aware of the threat that air pollution and acid rain present to our mountain ridges and forests; and

WHEREAS, on March 3, 2006, at the Strategic Visioning for Conservation in North Carolina conference and joint meeting of the natural resources conservation trust funds, Hugh Morton`s contributions to the State of North Carolina were the subject of unanimous acclaim by those present, and the undersigned were selected as representatives of the show of esteem and therefore have entered their signatures below.

NOW, THEREFORE, be it resolved that, for all of these things, and more, we express our deep and lasting appreciation and devotion to Hugh Morton.

This the third day of March, 2006.

J. Robert Gordon, Chair
Natural Heritage Trust Fund

Jonathan B. Howes, Chair
Parks and Recreation Trust Fund

Robert D. Howard, Chair
Clean Water Management Trust Fund

And additionally supported by:

John E. Pechmann, Chair
Wildlife Resources Commission

William G. Ross, Jr., Secretary
Department of Environment
and Natural Resources

EAC 3

ENVIRONMENTAL REVIEW COMMISSION
2005-2006
MEMBERSHIP LIST

Senator Charlie Albertson, Co-chair
525 Legislative Office Building
Raleigh, NC 27603-5925
(919) 733-7505; Fax (919) 715-8329

Senator Daniel G. Clodfelter, Co-Chair
110 North Tryon Street
Charlotte, NC 28202-4003
(704) 331-1041; Fax (704) 378-2041

Senator Katie Dorsett
1000 N. English Street
Greensboro, NC 27405
(336) 275-0628; Fax (336) 272-6853

Senator James S. Forrester
P. O. Box 459
Stanley, NC 28164
(704) 263-8603; Fax (704) 263-8169

Senator Hamilton Horton
860 Englewood Drive
Winston-Salem, NC 27106
(336) 725-4266

Senator Eleanor Kinnaird
207 West Poplar Avenue
Carrboro, NC 27510
(919) 929-1607; Fax (919) 856-2223

Senator A. B. Swindell
P. O. Box 788
Nashville, NC 27856
(252) 462-0190; Fax (252) 459-4385

Senator David Weinstein
204 Walnut Cove Drive
Lumberton, NC 28358
(910) 739-3048; Fax (910) 608-0034

Representative Pryor Gibson, III, Co-chair
P. O. Box 1010
Wadesboro, NC 28170
(704) 694-5957

Representative Joe Hackney
P. O. Box 1329
Chapel Hill, NC 27514
(919) 929-0323; Fax (919) 929-3960

Representative Jim Harrell
PO Box 626
Elkin, NC 28621
(336) 902-0276; Fax (336) 835-1241

Representative Pricey Harrison
PO Box 9339
Greensboro, NC 27429
(336) 292-1953; Fax (919) 856-0417

Representative Howard Hunter
146 NC 461
Winton, NC 27986
(252) 332-3130; Fax (252) 332-7580

Representative Carolyn H. Justice
P. O. Box 964
Hampstead, NC 28443
(910) 270-4604; Fax (910) 270-3455

Representative Daniel F. McComas
P. O. Box 2274
Wilmington, NC 28402
(910) 343-8372; Fax (910) 343-8003

Representative Edith Warren
P.O. Box 448
Farmville, NC 27828
(252) 753-4198; Fax (252) 753-5603

STAFF

George F. Givens, Commission Counsel
Jeffrey Hudson, Assistant Commission Counsel
Jennifer McGinnis, Assistant Commission Counsel
Tim Dodge, Commission Analyst
Research Division
545 Legislative Office Building
(919) 733-2578

Susan Iddings, Assistant Commission Counsel
Bill Drafting Division
401 Legislative Office Building
(919) 733-6660

Dot Waugaman, Commission Clerk
309 Legislative Office Building
(919) 715-2525; Fax (919) 754-3232

North Carolina General Statutes
ARTICLE 12D.

Environmental Review Commission.

§ 120-70.41. Commission established.

The Environmental Review Commission is hereby established.

§ 120-70.42. Membership; cochairs; vacancies; quorum.

(a) The Environmental Review Commission shall consist of six Senators appointed by the President Pro Tempore of the Senate, six Representatives appointed by the Speaker of the House of Representatives, who shall serve at the pleasure of their appointing officer, the Chair or a Cochair of the Senate Committee on Agriculture, Environment, and Natural Resources or the equivalent committee, the Chair or a Cochair of the House of Representatives Committee on Environment and Natural Resources or the equivalent committee, the Chair or a Cochair of the Senate Committee on Appropriations – Natural and Economic Resources or the equivalent committee, and the Chair or a Cochair of the House of Representatives Committee on Appropriations – Natural and Economic Resources or the equivalent committee.

(b) The President Pro Tempore of the Senate shall designate one Senator to serve as cochair and the Speaker of the House of Representatives shall designate one Representative to serve as cochair.

(c) Except as otherwise provided in this subsection, a member of the Commission shall continue to serve for so long as the member remains a member of the General Assembly and no successor has been appointed. A member of the Commission who does not seek reelection or is not reelected to the General Assembly may complete a term of service on the Commission until the day on which a new General Assembly convenes. A member of the Commission who resigns or is removed from service in the General Assembly shall be deemed to have resigned or been removed from service on the Commission. Any vacancy that occurs on the Environmental Review Commission shall be filled in the same manner as the original appointment.

(d) A quorum of the Environmental Review Commission shall consist of nine members.

§ 120-70.43. Powers and duties.

(a) The Environmental Review Commission shall have the following powers and duties:

(1) To evaluate actions of all boards, commissions, departments, and other agencies of the State and local governments as such actions relate to the environment or protection of the environment, including but not limited to an evaluation of:

a. Benefits of each program relative to costs;

b. Achievement of program goals;

c. Use of measures by which the success or failure of a program can be measured; and
d. Conformity with legislative intent;

(2) To study on a continuing basis the organization of State government as it relates to the environment or to the protection of public health and the environment, including but not limited to:
a. Improvements in administrative structure, practices, and procedures;
b. Increased integration and coordination of programs and functions;
c. Increased efficiency in budgeting and use of resources;
d. Efficient administration of licensing, permitting, and grant programs;
e. Prompt, effective response to environmental emergencies;
f. Opportunities for effective citizen participation; and
g. Broadening of career opportunities for professional staff;

(3) To make any recommendations it deems appropriate regarding the reorganization and consolidation of environmental regulatory agencies and the recodification of statutes relating to the environment, including but not limited to:
a. Ways in which agencies may operate more efficiently and economically;
b. Ways in which agencies can provide better services to the State and to the people; and
c. Instances in which functions of agencies are duplicative, overlapping, incomplete in scope or coverage, fail to accomplish legislative objectives, or for any other reason should be redefined or redistributed;

(4) To review and evaluate changes in federal law and regulations, relevant court decisions, and changes in technology affecting the environment or protection of the environment;

(5) To review existing and proposed State law and rules affecting the environment or protection of the environment and to determine whether any modification of law or rules is in the public interest;

(6) To make reports and recommendations, including draft legislation, to the General Assembly from time to time as to any matter relating to the powers and duties set out in this section; and

(7) To undertake such additional studies as it deems appropriate or as may from time to time be requested by the President Pro Tempore of the Senate, the Speaker of the House of Representatives, either house of the General Assembly, the Legislative Research Commission, the Joint Legislative Commission on Governmental Operations, the Joint Legislative Utility Review Committee, or the Joint Select Committee on

Low-Level Radioactive Waste and to make such reports and recommendations to the General Assembly regarding such studies as it deems appropriate; provided that the Environmental Review Commission shall not undertake any study which the General Assembly has assigned to another legislative commission or committee.

(b) The Environmental Review Commission may continue the study of environmental agency consolidation and reorganization. The study of environmental agency consolidation shall include, but is not limited to:

(1) Monitoring the implementation of Session Laws 1989, c. 727;

(2) Evaluation of the organization, programs, and operation of the Department of Environment and Natural Resources;

(3) Evaluation of the organization, functions, powers, and duties of the components of the Department of Environment and Natural Resources, including boards, commissions, councils, and regional offices; and

(4) Recodification of the General Statutes relating to the environment and environmental agencies.

(c) In addition to its general powers and duties, the Environmental Review Commission shall have the following powers and duties with respect to hazardous waste management:

(1) To study the current and projected need for hazardous waste treatment, storage, and disposal capacity in the State in light of anticipated generation of hazardous waste and alternatives for hazardous waste treatment and disposal;

(2) To evaluate the potential for the development of additional hazardous waste treatment, storage, and disposal capacity by the private sector;

(3) To study the necessity for and scope of hazardous waste treatment, storage, and disposal facilities which are sited, owned, or operated by the State;

(4) To review progress in securing a volunteer county to host a hazardous waste treatment facility;

(5) To study incentives and compensation for the community which hosts, either voluntarily or involuntarily, a hazardous waste treatment facility, including any additional incentives and compensation which may be needed, whether there should be differential compensation for a volunteer county, options for use of funds by local governments, distribution of compensation among local governments, and methods of providing flexibility in the development of an incentives and compensation package for a particular local community;

(6) To review progress in developing interstate agreements for the treatment, storage, and disposal of hazardous waste;

(7) To assist in the development of cooperative, comprehensive regional approach to hazardous waste treatment and disposal;

(8),(9) Repealed by Session Laws 2001-474, s. 12.

(10) To study the capacity assurance requirement under the Comprehensive Environmental Response, Compensation and Liability Act of 1980, Pub. L. No. 96-510, 94 Stat. 2767, 42 U.S.C. 9601 et seq., as amended, and the Superfund Amendments and Reauthorization Act of 1986, Pub. L. No. 99-499, 100 Stat. 1613, as amended as it relates to the continued eligibility of North Carolina for remedial actions under Superfund;

(11) To study alternatives available to the State for dealing with hazardous waste and the ramifications of those alternatives; and

(12) To receive and evaluate reports of every State agency, board, and commission which has any power or duty with respect to hazardous waste management.

§ 120-70.44. Additional powers.

The Environmental Review Commission, while in the discharge of official duties, may exercise all the powers provided for under the provisions of G.S. 120-19, and G.S. 120-19.1 through G.S. 120-19.4. The Environmental Review Commission may meet at any time upon the call of either cochairman, whether or not the General Assembly is in session. The Environmental Review Commission may meet in the Legislative Building or the Legislative Office Building upon the approval of the Legislative Services Commission.

Notwithstanding any rule or resolution to the contrary, proposed legislation to implement any recommendation of the Environmental Review Commission regarding any study the Environmental Review Commission is authorized to undertake or any report authorized or required to be made by or to the Environmental Review Commission may be introduced and considered during any session of the General Assembly.

§ 120-70.45. Compensation and expenses of members.

Members of the Environmental Review Commission shall receive subsistence and travel expenses at the rates set forth in G.S. 120-3.1.

§ 120-70.46. Staffing.

The Legislative Services Officer shall assign as staff to the Environmental Review Commission professional employees of the General Assembly, as approved by the Legislative Services Commission. Clerical staff shall be assigned to the Environmental Review Commission through the offices of the Supervisor of Clerks of the Senate and Supervisor of Clerks of the House of Representatives. The expenses of employment of clerical staff shall be borne by the Environmental Review Commission.

§ 120-70.47. Funding.

From funds available to the General Assembly, the Legislative Services Commission shall allocate monies to fund the work of the Environmental Review Commission.

MINUTES
ENVIRONMENTAL REVIEW COMMISSION
9 October 2006

The Environmental Review Commission (ERC) met on Monday 9 October 2006 at 9:30 a.m. in Room 643 of the Legislative Office Building. Senator Charlie Albertson presided.

The following members were present: Senators Albertson, Bingham, Dorsett, and Weinstein; and Representatives Gibson, Harrison, Justice and McComas. Mr. George Givens, Commission Counsel; Jeffrey Hudson, Assistant Commission Counsel; Jennifer McGinnis, Assistant Commission Counsel; Jennifer Mundt, Commission Analyst; and Mary Watson, Acting Commission Clerk, were also present.

On 15 September 2006, notice was sent to members and interested parties via e-mail and regular mail. A copy of the notice is included in the attachments to these minutes as **Exhibit A**. Copies of the agenda for the meeting and visitor registration sheets are included in the attachments as **Exhibits B** and **C**.

Senator Albertson called the meeting to order and asked George Givens to give his report and explain the agenda items. Mr. Givens noted that since the previous meeting, Tim Dodge has resigned to attend law school, and Jennifer Mundt has been hired as Commission Analyst. He noted for the record that the Commission's authorizing legislation was amended during the 2006 regular session to authorize the Commission to contract for consultant services with the approval of the Legislative Services Commission. He pointed out that a memorandum from Ms. Jennifer Mundt (see **Exhibit D**) transmitting two reports to the Commission had been placed at each member's desk. The reports are Implementation of the "Clean Smokestacks" Act (see **Exhibit D-1**) and a status report on the study of potential costs and benefits of enacting a renewable energy portfolio standard in North Carolina (see **Exhibit D-2**). The reports that concern today's agenda items have been removed from the package and are inserted at the appropriate place in the minutes. The package also included a memo re the status of legislation recommended by the ERC to the 2006 session (see **Exhibit D-3**), brief descriptions of environmental legislation enacted during the 2006 session (see **Exhibit D-4**), a list of studies to be conducted by the ERC (see **Exhibit D-5**), and status of reports to the ERC required by law (see **Exhibit D-6**).

Mr. Givens reported on discussions he had had with the co-chairs on each of the studies to be conducted by the ERC. He said that because there had been an agenda item on mercury during the last interim it would probably not be reconsidered during this interim. With regard to abandoned homes, he intends to discuss the issues with stakeholders to determine how to proceed. With regard to issues related to solid waste management, the study will begin with a report given today by the Department of Environment and Natural Resources (DENR) on options for the Commission. The study will continue in a manner yet to be resolved. With regard to studying the merger of the Ecological Enhancement Program with the Clean Water Management Trust Fund, the Joint Legislative Transportation Oversight Committee will take the lead. Issues related to the nutrient offset program will be discussed at a working group to determine the best way to proceed with the study. He believes a consultant will be hired to investigate that matter. An executive branch committee is looking at amendments to the Mercury Switch Act, which needs to be reported to the next session. The swine moratorium is set to expire on 1 September 2007 and he expects the ERC will spend some time and attention on that issue in the upcoming months.

The focus of today's meeting is on water quantity issues and on solid waste. An update on the Underground Storage Tank Program has also been added. The final report today will be on the Apex fire. Mr. Givens also noted for the record that the planning meeting for this meeting was held on 21 September, 2006.

Senator Albertson recognized Ms. Robin Smith, Assistant Secretary for Environment, DENR, to inform the ERC of organization and personnel changes within the department (see **Exhibit E**). Richard Rogers will serve in the newly created Assistant Secretary for Natural Resources position. Ms. Smith will serve as Assistant Secretary for Environment. A third assistant secretary will be for information systems.

The latter position was created in response to direction from the State Office of Information Technology Services to exercise more control over information technology decision-making and purchases. Ms. Smith also introduced Ms. Elizabeth Self as the new legislative liaison.

Senator Albertson next recognized Dr. David Moreau, Chair of the Environmental Management Commission, to give his report on activities of the Commission for the previous two quarters (see **Exhibit F** for his PowerPoint presentation, **Exhibit G** and **Exhibit H** for copies of the quarterly reports, and **Exhibit I** for a timeline of activities on the Concord and Kannapolis IBT Petition. He said the Clean Air Mercury Rule and the Petition for an Innovation Transfer by the cities of Kannapolis and Concord have occupied a lot of the Commission's time over the past two to three years.

The Clean Air Mercury Rule was issued by the US Environmental Protection Agency (EPA) in May of 2005. The states had 18 months to revise or submit a state implementation plan to execute the program. It was estimated by EPA that this rule would reduce mercury emissions by about 20 percent by 2010 and by 70 percent by 2018. They chose to regulate mercury emissions from electric power plants as a cap and trade program. There is a lawsuit concerning this program in the courts. The EMC took almost a year of study and negotiations to get a rule out to public hearing. It was approved to go to public hearing in March of 2006. Hearings were held across the state in Raleigh, Charlotte and Winterville. The impact of the program on North Carolina is that it set allowances of about 33,700 ounces of mercury emissions per year for Duke Energy and Progress Energy for the period 2010 to 2017. In Phase 2, the allocation was reduced to about 14,000 ounces per year. Meeting the 2018 cap would require about 80 percent reduction of mercury emissions from the 2004 level. The cap and trade program works as follows: if the utilities exceed the allocated credits, they must go on the national market to purchase credits to meet the cap. The problem is that the market does not yet exist, and when it comes into being, it is uncertain how many credits will be available and at what price. If the utilities reduce their emissions to a level below their allocated cap, they can market the excess emission credits to other utilities. A minimum for mercury emissions is set for new utility sources. The Commission looked into whether the federal performance standard is sufficient for North Carolina, if the emission limits should be more stringent than the federal limits, if the state should allow the use of the national trading program, and how growth and new facilities will be handled with respect to the caps.

A key point of confusion is the baseline. The Director of the Division of Air Quality (DAQ) has been quoted as saying that the state can expect about a 60 percent reduction in mercury emissions as a co-benefit of the Clean Smokestacks Act (CSA). Advocates for more stringent controls want a 90 percent reduction. One baseline used is the mercury in the coal that is burned with 90 percent reduction relating to the mercury in the coal that is burned. The other baseline is the estimated emissions in 2004. The estimate is that the current controls (electrostatic precipitators) on all of the power plants reduced the mercury emissions currently by 30 percent, so that the 2004 emissions are about 67,500 ounces; and the mercury in the coal is about 96,000 ounces. The Commission estimates that under the Clean Smokestacks Act, about 41 percent of the mercury in the coal will be controlled to the 90 percent level; 45 percent will be controlled to about the 66 percent level, and the non-CSA facilities will account for about 13 percent of the total. The best guess is that the utilities will be able to meet the 2010 objective. There are no plans in place for 2018, so the level of emissions in 2018 is still an uncertainty. The estimate is that it will require a state-wide reduction of utility emissions of 85 percent if the cap is to be achieved in North Carolina. The EMC is currently in the process of drafting language for resolving the outstanding issues and hope to have a draft of the rules within the next two weeks. They will then make a decision about whether to go back to public hearing.

The other matter Dr. Moreau discussed is the petition for inter-basin transfers (IBTs) for Kannapolis and Concord. The two cities have requested transfers from the Catawba basin and from the Yadkin basin (see **Exhibit I**). The decision on the transfer is expected to be made in January of 2007. Most of the discussion has focused on the impacts on the Catawba basin; however, the Yadkin basin is being given more attention at the present time. The Commission is obligated to make findings of fact, put them in writing, and satisfy a list of requirements within the statute. The decision criterion is that the EMC has to make their decision based on the findings of fact by weighing the beneficial and adverse effects and insuring that any adverse effects are mitigated. The Commission is given the authority to grant the

petition in whole, deny it, or grant it in part. It also has the authority to set whatever conditions on those permits it deems necessary. The impacts are being measured in a variety of ways, mostly on the impact on water availability. Most of the impact is being measured by the elevation duration curves, frequency with which the levels of the lake are at certain elevations, and comparison with and without the transfers. It is hard to find differences with and without the transfers at various magnitudes. Staff has focused on the worst case, the drought period from 2001-2002, and look at the details of what would have happened with the transfer during the worst period of hydrologic record. The systems are dominated by hydroelectric power generation, and the new low inflow protocol, which has been adopted as a part of the relicensing on the Catawba, imposes the low inflow protocol. With the IBT, the protocol is triggered earlier, thus reducing the amount of hydroelectric power being generated. Curiously enough, the lake levels actually as a rise as a result of the IBT. One of the difficulties of the analyses is that they are being run with proprietary software. The EMC has been trying to get outside of the simulation model to see what the impacts would be of the transfers independent of power generation. One effort to determine the impact is to find out how lake levels would drop if the transfer was skimmed off the top with no inflow for six months.

Senator Bingham asked Dr. Moreau if there were any adverse effects of IBTs on power generation. Dr. Moreau said there would be an adverse effect on power generation because the low inflow protocol reduces power generation. Duke Energy has agreed to the low inflow protocol as a part of the federal energy relicensing process. Senator Bingham then asked how future effects of IBTs would be addressed. Dr. Moreau replied that the issue is under consideration. Senator Bingham went on to ask if there was a process for reconsidering transfers when one area began to have water supply problems. Dr. Moreau answered in that case, the area could come to the EMC and request a capacity use designation to cause the EMC to re-examine all the transfers and demands on the basin.

Dr. Moreau added that there is a problem with the statute for IBTs in that the statute is silent on any time limit for the certificate. He said he personally would be more comfortable if there were time limits on the transfers.

Representative McComas asked why there were no public hearings on the mercury rule on the coast. Dr. Moreau replied that Winterville was selected as the eastern public hearing site. Representative McComas commented that the focus of the hearings on mercury emissions is on the power companies. He asked if other generators of mercury emissions are being considered. Dr. Moreau said the EPA rule is specific to electric utility generators and the state must adopt a rule in concert with the EPA requirements. It does not address municipal incinerators or other industrial boilers. Dr. Moreau said he does not know what portion of mercury emissions is being covered at the current time. The general assumption is that the dominant source of the mercury emissions is the electric power generating units.

Mr. Givens asked if there are existing regulations that regulate emissions of mercury from other types of smokestacks. Dr. Moreau said he did not have any knowledge of any. Senator Albertson asked Dr. Moreau to find out the answer and report back to the ERC.

Representative Gibson asked Dr. Moreau if he believes the General Assembly needs to change some of the statutes concerning IBTs. Dr. Moreau replied that he does not find much wrong with the current statute. The only provision he would change is to place the burden of proof somewhere. He suggested adding a presumption against IBTs to increase the level of burden of proof. Dr. Moreau said there is plenty of water in the state, but people have to be careful about making withdrawals in the worst drought conditions. Mr. Givens commented that the current statutory evidentiary standard for IBTs is the preponderance of evidence standard, which is the lowest (51 percent) of the three generally established judicial standards.

Senator Albertson recognized Mr. John Morris, Director, Division of Water Resources DWR), DENR, to discuss issues related to the IBTs (see **Exhibit J,** Analysis of Reservoir Levels and Water Supply: Impacts of Proposed Concord Kannapolis Interbasin Transfer and **Exhibit K**, Information on Interbasin Transfers in South Carolina). Mr. Morris said the report on water resources would address

three subjects: (1) the context of IBTs and how they have worked in the three transfer cases to date, (2) the annual report on state water supply planning activities, and (3) a report on progress being made with the new statute on the Drought Management Advisory Commission that will be made by Mr. Woody Yonts.

Many North Carolina towns, cities, counties and economic regions are divided by the 38 water basin lines. Many of them are in two or three different basins. IBTs occur when a city or county in two different basins tries to arrange for their water supply needs. There are over 160 IBTs in North Carolina. Many are very small. There are over 40 IBTs that are over 1 million gallons a day. The threshold for permitting is 3 million gallons a day. Three IBTs have been permitted by the EMC. The first is Cary, Apex and other communities in the Triangle area. Cary and other Triangle communities have had tremendous growth recently, and they have found that Jordan Lake, a large federal reservoir, has a substantial amount of water storage available. The lake is in the Cape Fear basin, and Cary is partly in the Cape Fear basin, but more in the Neuse basin. Use of water from Jordan Lake results in a transfer from the Cape Fear basin to the Neuse basin. The new growth in Cary is westward toward the Cape Fear basin, so now Cary is developing a new wastewater plant that will return the water used in the western area back into the Cape Fear basin. The City of Durham is partly in the Neuse basin and partly in the Cape Fear basin. Historically, their reservoirs have been developed in the Neuse basin, and when the reservoirs provide water to the part of the City of Durham that is in the Cape Fear basin, some of that water is discharged to the Cape Fear River. To a significant degree, then, the transfer from the Neuse to the Cape Fear by Durham cancels out the transfer in the other direction by Cary and Apex.

The second transfer approved by the EMC is in the Piedmont Triad area, particularly involving Greensboro and High Point. The two cities are in the upper end of the Cape Fear basin where the natural availability of water is somewhat limited. The local governments decided to take a regional approach, and founded the Piedmont Triad Regional Water Authority, which involves Greensboro, High Point, Archdale, Jamestown, Randleman and Randolph County. Over a period of years they planned to build a new reservoir project, Randleman Lake, which is on the Deep River. Building a reservoir does not create water, but it provides for storage of water from wet periods to use during dry periods. The use of water from the lake involves some IBTs. Water that goes to Greensboro goes from the Deep River basin to the Haw River basin, both part of the Cape Fear basin; however, the statute defines them as two separate basins. A much smaller amount of water used by High Point goes from the Deep River to the Yadkin River basin. One of the conditions placed on the lake project by the EMC is that the stored water in the reservoir is to be used to provide a higher flow in the Deep River during drought periods.

The third transfer permitted by the EMC is in the Charlotte Mecklenburg area. The City of Charlotte is in two different river basins, the Catawba basin and the Rocky River basin. The University of North Carolina at Charlotte and the associated economic development is outside the Catawba basin in the Rocky River basin. Charlotte found it was cost effective and sustainable to use water from their existing sources and investments in the Catawba basin to serve the area just across the basin divide in the Rocky River basin.

Mr. Morris shared four conclusions about the present status of IBTs in the state. First, the IBT is a long range commitment of water resources, so it needs to be carefully regulated to assure that the source river basin is fully protected and that there is good long range water availability in the source river basin. The Commission has been very careful in the three permits they have given to date. The have put some substantial conditions on the use of water that protect the source river basin. Second, it does not appear that the IBT mechanism is a rapidly growing trend in the state. Third, IBT is not at this time a significant factor in any of the river basins, so it is a very small factor in overall state water management. Fourth, IBTs are very critical local or regional water supply solutions, allowing reliable and cost effective water sources to be provided, and the transfers can be done in a way that is carefully regulated and protective of the source river basin.

Essentially, the statutes for IBTs require a very detailed environmental analysis to document all the impacts of a proposed transfer. The analysis has to stand public scrutiny in the public hearing process. The Department is responsible for considering all comments and criticisms made and correcting

the document if needed to respond to those comments and criticisms. The goal is to have a thorough and accurate document that tells all interested parties exactly what the impact of the transfer will be. Then the analysis goes to the EMC, and the statute gives them very specific guidance as to how they weigh the positive and negative factors and make their decision. Mr. Morris added that South Carolina does not have the same procedures for making IBTs. They do not have the same kind of public notice, there is no requirement for mandatory public hearings, and no environmental impact statement is required.

Senator Weinstein asked if there is any long range planning to assure a sufficient water supply as our state grows. Mr. Morris replied that the Division looks 50 years into the future.

Mr. Givens asked about IBTs that were grandfathered when the legislation was passed. Mr. Morris said two of the three transfers discussed above were given certificates under old legislation. If there were transfers in place in 1993, they were grandfathered to the extent that physical facilities were in place to transfer that amount of water. Transfers below the threshold of 2 million gallons a day are allowed, but if the transfers increase to above 2 million gallons a day, a certificate will be required. Mr. Givens asked Mr. Morris about Dr. Moreau's concerns with the statute (the time limit of certificates and the evidentiary standard the EMC uses to determine if a petition should be granted). Mr. Morris said the time limit could be considered; South Carolina does use time limits. He added that the EMC inserts a statement into their certificates that says if the environmental analysis on which the certificate was based turns out to have errors in it or new information comes to light, the Commission can reopen the certificate and reconsider it. He went on to say that if there is a capacity use area declared for an entire basin it should override the IBT certificate. That would happen if it was perceived that in the entire river basin there is a potential depletion of water resources. Mr. Givens asked if he believed that the statutory delineation of river basins and sub-basins is correct. Mr. Morris said counting the 38 basins was a compromise between the 17 major river basins and the over 100 basins that some identified.

Mr. Morris said he was in favor of the North Carolina approach to sustainability of the water supply through the Water Use Act. If the EMC determines there is a region of the state where water use has grown to the extent that it threatens to deplete water resources within the region, or if there is a harmful competition between water users, the EMC can adopt an administrative rule to define the area. Then water users of over 100,000 gallons a day have to get a permit from DENR. There is only one capacity use area in the state at this time, a 15-county region in the coastal plan where there was a problem of overuse of the groundwater. The solution involves a 16-year transition period where groundwater users will reduce their withdrawals from certain aquifers in three stages, while developing other water sources that will be sustainable.

Mr. Morris continued with agenda item 7, a status report on water supply planning (see **Exhibit L**). He discussed water quantity monitoring, water use monitoring, local water supply plans, the North Carolina Water Supply Plan (NCWSP), river basin water supply plans, water use during droughts, central coastal plan capacity use area, southern coastal plain capacity use investigation, IBT certifications, IBT requests, and hydropower facility relicensing. He said he believes that when the long range plans and water supply models are completed for each river basin, the state will have a good basis upon which to evaluate any kind of future demand on water supply.

Senator Weinstein asked about the overuse of aquifers, specifically by Smithfield Foods. Mr. Morris replied that the EMC has asked DWR to investigate that area as a potential capacity use area. DWR has talked to Smithfield Foods and the Lumber River Council of Governments to find a solution. If the area users can make rapid progress toward solving the problem, a regulatory solution will not be needed. An agreement has been reached between Smithfield Foods and the Lower Cape Fear Water and Sewer Authority to develop a new water source from the Cape Fear River and reduce the impact on groundwater. DWR is hopeful and encouraged that the new surface water source will be able to serve local governments in the area as well.

Representative Gibson asked if the model for water supply can reflect new water uses and sources to determine the effect on long range water availability. Mr. Morris replied that it can.

Representative Gibson asked if local authorities get the information regularly. Mr. Morris answered that the models are made available to the local governments for their use in looking at future scenarios based on prospective changes.

Senator Albertson recognized Mr. Woody Yonts, Water Resources Engineer, to discuss the annual report by the Drought Management Advisory Council (see **Exhibit M**). Mr. Yonts said the State of North Carolina is leading the nation in water supply planning, ground monitoring, and communicating with communities in order to respond to droughts.

Senator Albertson recognized Mr. Dexter Matthews, Director, Division of Waste Management, DENR, to discuss issues related to solid waste management (see **Exhibit N**). Mr. Matthews commented on the strides made in the early 1990s in the area of solid waste legislation: goals were established for waste reduction, scrap tire and white good management programs were implemented, programs to address medical waste were implemented, the first bans on disposal of certain kinds of waste were instituted, all unlined landfills were required to be closed by 1 January 1998. As a result of these actions, North Carolina closed all unlined landfills, cleaned up all the major scrap tire sites in the state, addressed the disposal of medical waste was through new regulatory requirements, and developed waste reduction programs.

Mr. Matthews said to prepare for his presentation he has surveyed 16 states across the country on their solid waste laws and regulations. He addressed the following issues:

- Owner and operator liability and solvency – need to be sure that Limited Liability Companies (LLCs) have enough financial resources to take on the responsibility of solid waste disposal, and to be sure all companies have financial responsibility requirements for closure and post closure care for landfills
- Compliance with North Carolina bans on disposal of certain waste types – there needs to be a way to insure that banned substances do not make their way into our landfills
- Alternative analysis and impact study – DENR does not require landfill impact studies to look for the best place for landfills to be sited; the permitting process does not require looking at alternatives to landfills
- Local government franchise/host fees – recent franchises have led to local governments being a partner in the financial success of private landfill projects, and raise the question if these partnerships bring liability to the local government as an owner/participant in the success of the project
- State regulatory program resources –a permit fee should be imposed to provide additional resources for the oversight of landfills
- Old landfill sites – there has been no adequate cleanup of the approximately 700 old landfill sites, even identification of their locations, and resources should be provided to do so, probably with a tip fee at the point of disposal in North Carolina
- Technology/design and operational enhancements – there have been many advances in landfill technology and design and additional rulemaking is desirable

Mr. Matthews reported that DWM is talking with other states about buffer requirements, including separation from groundwater and vertical requirements, cover requirements, critical and sensitive areas, facility size, groundwater sampling, leachate controls, landfill gas controls, liner design and construction, LLC questions, local government approvals, traffic studies, and waste acceptance. He said DWM is hoping to have a report for the December ERC meeting with requests for changes to rules. Currently the Division is looking at double containment for all leachate appurtenances located outside the lined disposal area, full leak detection for the liner with electrical methods that are now available, leak detection under pumps, and elimination of penetrations of liners such as leachate and gas collection pipes.

Representative Harrison asked what changes Mr. Matthews would suggest in the statute to ensure the financial resources of LLCs to handle releases from private landfills. He replied that legislation to make it clear that DWM has the authority to require financial assurance prior to the release of a facility

would be helpful. Representative Harrison then asked about waste screening legislation. Mr. Matthews said the franchise operators would be violating a law if they disposed of waste not allowed in landfills. Waste screening has been in place for public landfills because of federal requirements concerning hazardous and liquid waste in landfills. There is a potential for a problem when a person from another state, not knowing North Carolina laws and not knowing where their waste would ultimately be disposed of, could place something into their waste that is not allowed in our state. Mr. Matthews suggested the requirements need to be enhanced to protect against that kind of problem. Representative Harrison asked why landfills are exempt from the State Environmental Protection Act (SEPA). Mr. Matthews replied that was done years ago. Federal law, the Resource Conservation and Recovery Act (RCRA) is very comprehensive, and much of the criteria involved siting a landfill under RCRA is the same as under SEPA. The biggest difference is the alternative analysis. Another concern is for DWM to be able to place additional requirements on a particular landfill site because it is a marginal site. Mr. Matthews added that a number of states require impact analyses as part of their landfill permitting process.

Representative Harrison asked how other states handle tipping fees and how have states that have tipping fees been able to overcome resistance to the fees. Mr. Matthews replied that about 21 states have tipping fees, and the fees have been used to meet a variety of needs. He said DWM would want to use the fees generated by charging a tipping fee for the cleanup of orphan sites in the state.

Representative Gibson asked if the Division is in conversation with regulated parties to let them know that the financial responsibility issue is a DENR concern. Mr. Matthews replied the operators are aware of the LLC issue. There is no committee in place looking at possible rules; however, he has talked with a number of associations and mentioned the issues he has discussed today. Representative Gibson asked if DWM would be looking at the ERC to help get additional resources to handle backlog and reduce time for permitting. Mr. Matthews said they would. Representative Gibson asked how much funding it would take to clean up orphan sites. Mr. Matthews answered that he did not have the information today, but said he would have it available at the next meeting.

Mr. Givens asked what percentage of the solid waste management budget is receipts supported, what percentage is federally supported and what percentage is funded from the General Fund. Mr. Matthews replied that solid waste is almost completely funded by General Fund appropriations. Mr. Givens asked if DWM has information on what other states charge for tipping fees. Mr. Matthews said the outside ranges are from 50 cents to $10.

Senator Bingham asked if in states with high tipping fees waste is disposed of responsibly or have regulators noted an increase in illegal dumping. Mr. Matthews said he did not believe a $2 a ton tip fee would make a lot of difference. He added that what will make a difference in an individual's decision to dispose of waste responsibly is the adequacy of disposal options. He added that he would ask his counterparts in states with high tip fees to see if they have seen any changes because of the high fee.

Mr. Givens asked if there is a known figure for the amount of waste disposed of by an average household in a year. Mr. Matthews said DWM looks at those figures based on the total population divided by the total number of tons of solid waste disposed. That figure is just over 1 ton per person per year in the state; however, that figure includes commercial waste as well as household waste. He said residential waste would be about one-third of a ton per person, which would result in about a $2 tip fee per year for a 3-person household with a fee of $2 per ton..

Representative Justice asked about the capacity of landfills and if counties would be more inclined to participate in regional landfills. Mr. Matthews said there is no capacity problem in North Carolina taken as a whole, but there is a capacity issue in particular areas of the state. He added that a number of enhancements being discussed for legislation or rule-making will have an impact on local governments. He said the changes may make a difference to local governments in whether or not they want to operate their own landfills or transfer waste to other facilities.

Representative Gibson asked how long it takes for a typical county in North Carolina to get a solid waste landfill permitted. Mr. Matthews said that it would take about 3-5 years, including all the work done prior to submission and the permitting process.

Representative Harrison asked if the enhancements Mr. Matthews foresees will require legislative action. Mr. Matthews said there may be some, although many of the changes could be effected through rulemaking.

Representative McComas asked if DWM has looked at the requirements for getting a permit to operate a mine concerning financial responsibility to see if those requirements might apply to landfills. Mr. Matthews said he has not. He added that DWM does require financial assurance for closure and post-closure care, but they do not have financial assurance up front for potential releases from the site. DWM has looked at requirements for financial responsibility in regard to hazardous waste regulations. They are proposing that the operator have financial assurance on the front end for potential releases, so if a company that has a permit becomes insolvent, the Division knows they have the resources to respond to the release.

Senator Albertson recognized Mr. Grover Nicholson, Chief, Underground Storage Tank Section, DWM, DENR, to give the annual report on the status of leaking petroleum underground storage tank (UST) program and the State cleanup funds (see **Exhibit O** for the report, and **Exhibit P** for notes on his presentation).

In addition to his notes, Mr. Nicholson said that prevention in the form of owner and operator training and UST inspections and compliance are the best ways to reduce the number and severity of releases and thereby reduce the amount of money required to be spent to clean up the problems. The Federal Energy Act recognizes that prevention is important. It mandates an increased inspection frequency and training, and requires secondary containment for many UST systems. EPA is also changing the law so that some of the money from the LUST fund can be used for prevention. There are many different kinds of UST leak prevention systems; therefore it is better to train the owner and operator on the site. Secondary containment is required by the Federal Energy Act for any system that is being installed within 1,000 feet of a water supply. North Carolina rules promulgated to be in place by July of 2007 will require any new or replacement UST system to have secondary containment for the entire system.

Mr. Nicholson spoke about the effects of Session Law 2004-124, which was implemented in October of 2004. The law said that if the State could not reimburse approved cleanup claims within 90 days of claim approval, no more work could be directed. As a result of the law, DWM has developed a balance sheet showing demands against the fund as well as the resources the fund has. Because of that law and Session Law 2003-352, DWM work is prioritized, so they work on the riskiest sites first. Every release is given a priority number, and every week they look at the list and include more incidences they can direct, depending on available resources. Mr. Nicholson said they were directing 60 incidents at the beginning of the process, and now are directing over 300, good but not close to the 8300 active incidents already known. EPA has continued to be uncomfortable with the implementation of the law and the use of North Carolina's Trust Fund as a mechanism for financial responsibility. There are mechanisms other than a state trust fund to ensure financial responsibility, such as private insurance, self insurance, bonding, and a personal trust fund. Many states have state trust funds.

EPA has a minimal federally mandated cleanup requirement for USTs, which is removal of "free product" as soon as possible and as much as possible. When a UST leaks, free product in the form of a type of petroleum flows down through the soil and stays on top of groundwater, forms a lens of whatever is leaking. That lens continues to dissolve into the groundwater, so it acts continually as a source of groundwater contamination. It also rises up and down through the soil layer as the groundwater level fluctuates seasonally, recontaminating the soil. Removal of this free product is a positive action. There are about 714 commercial sites and 190 non-commercial sites with free product. Under the present implementation of Session Law 2004-124, 35 of the sites are being addressed, sites that are already contaminating or threatening to contaminate a well. EPA is becoming increasingly uncomfortable with

this approach, because the state is not meeting the federal law minimum (see the copy of a letter from EPA to Secretary Ross dated 19 September 2006 in the Annual Report—the last two pages of **Exhibit O**).

With the Federal Energy Act, it is still possible for EPA to approve a State program, but to withdraw their approval of the state fund as a sufficient financial responsibility mechanism. Conceivably, EPA could decide that North Carolina's trust fund is not providing the financial responsibility that it needs to, and they could require all tank owners to use another mechanism to assure financial responsibility.

Senator Bingham asked what would happen if EPA did make that decision. Mr. Nicholson replied that owners would be required to find another approach to providing financial responsibility, or the state could put more money in the trust fund so they would be able to address the free product sites. He added that it would be good to take a longer term look to see if North Carolina still needs to be in the subsidy business for commercial tanks. He went on to say that DWM staff had a meeting of a stakeholders group that came up with consensus legislation in 2005 that included both ideas—put more money in the fund to enable funding of the releases they are already responsible for, and the other equally important part is to sunset the financial responsibility by the State and transition into other means of financial responsibility. The State does not have the resources to address all of the approximately 900 sites with free product and to address all the sites that have already contaminated or are threatening someone's well.

Representative Gibson asked that the agenda of the meeting be sent to all members of the General Assembly because several of the items would be of interest to them. He also asked that the reports be made available on the NCGA website so members could have access to them.

Senator Albertson recognized Mr. Dexter Matthews again, this time to report on the fire that occurred the previous weekend in Apex, North Carolina. The facility, Environmental Quality Industrial Services of North Carolina, Inc. (EQ), was permitted by the Division in April 2005. The permit and accompanying regulations control all aspects of management of waste at the facility. Prior to issuance of the draft permit, they went through full public notice and comment, both on the application from the applicant and then on the draft permit. EQ was permitted to receive, consolidate and ship a wide variety of regulated hazardous waste, including solids, liquids and lab packs. The wastes are collected at EQ, repackaged and sent for final disposal, recycling or use as a fuel.

On 6 October 2006, explosions and a fire caused thousands of people to be evacuated from the area around the EQ facility. Response to the fire and explosions was very good. Local Wake County responders did exactly what they needed to do—they got people out of harm's way and let the fire burn out. Since the incident, the Divisions within DENR have done a very good job as well.

EQ is one of eleven hazardous waste management companies that are part of a 15-year old resident inspector program. The sites are inspected a minimum of four times each month. The resident inspector program is a North Carolina program that allows DWM to have the resources to conduct the four monthly inspections. If it were not for the resident inspectors program, facilities would be inspected once a year or every two years. Violations noted during inspections are usually corrected while inspectors are there. If there are violations that rise to the level warranting a penalty, the penalty is punitive, not one to get them to get into compliance, because they will be in compliance well before the penalty is issued.

Waste containers are subject to standards governing labeling, dating, storage practices, and spill containment. The penalty that was issued to EQ in March of 2006 primarily addressed the company's failure to respond appropriately when strong odors were generated during the pumping of waste from 55 gallon drums into a tanker truck. In addition to the penalty that addressed the container management violations, there were also failure to properly maintain an inspection log, failure to label a particular container, storage of two containers of incompatible waste next to each other, and failure to maintain 24 inches of aisle space between containers at the site.

The Hazardous Waste Section (HWS) is currently working with investigators to determine the cause of the fire, and to assist in the cleanup of the site, including proper identification and disposal of residual waste materials. A meeting of several government environmental officials, both federal and state, was held on site at 10:00 a.m. the day of the meeting to begin development of a sampling plan for the facility as the initial step to clean up the site. The cause or causes of the explosions and fire are not known yet, but will be determined before any further operations are allowed at the facility.

Senator Dorsett asked what the penalty was, and if the state has any liability. Mr. Matthews replied the penalty was in the area of $32,000, and the liability rests with the company, not the state.

Mr. Givens said the resident inspector program legislation has been amended a number of times to create a large number of inspections so that some facilities are not required to have a resident inspector. He asked where the EQ facility fell in that categorization. Mr. Matthews replied that there is a tiered approach, based on the amount and toxicity of waste managed at a facility as to how many inspections they receive. EQ falls in the category of facilities that are inspected a minimum of four times a month. Mr. Givens asked what significance Mr. Matthews attached to press reports that this is the second fire the company has experienced within the last two years. Mr. Matthews replied there was another event in Michigan. He does not know whether or not it was the same type of facility. Federal investigators are currently looking at that issue.

Representative McComas asked if the permits specify what chemicals and solvents may be stored or consolidated at the site, or is it a broad listing of "hazardous materials." Mr. Matthews replied that the particular type of waste that can be managed at the facility is in the permit. During the operation of the site, they receive waste in during the day, and they export waste during the day, so what particular chemicals are on the site at any particular point in time cannot be identified. A broad spectrum of waste types could be at the facility at any given time.

Senator Albertson recognized two Humphrey Fellows brought to the meeting by Senator Kinnaird—Dr. Roger Williams F Nascimento from Brazil, and Mr. Nguyen (Yim) Ngoc Deim from Vietnam. He invited them to return to visit the Commission at any time.

The meeting adjourned at 12:50 p.m.

Senator Charlie Albertson, Co-Chair
Presiding

Representative Pryor Gibson, Co-Chair

Dot Waugaman, Commission Assistant

Senator Daniel Clodfelter, Co-Chair

LIST OF EXHIBITS

Exhibit A Notice of Meeting dated 15 September 2006

Exhibit B Agenda of Meeting

Exhibit C List of Attendees

Exhibit D Package of Reports with memorandum from Jennifer Mundt dated 9 October 2006

D-1 Implementation of the "Clean Smokestacks Act", a report to the ERC and Joint Legislative Utility Review Committee, dated 1 June 2006

D-2 Status report on the study of potential costs and benefits of enacting a renewal energy portfolio standard (RPS) in North Carolina, dated 30 June, 2006

D-3 Status of recommended legislation, memorandum from George F. Givens, dated 9 October 2006

D-4 Enacted environmental legislation, 2006 session

D-5 Studies to be conducted by the ERC, dated 9 October, 2006

D-6 Status of reports to the ERC required by law, dated 9 October, 2006

Exhibit E Organization Chart, NC Department of Environment and Natural Resources

Exhibit F PowerPoint presentation by Dr. Moreau on his report to the Commission

Exhibit G Quarterly Report to the Environmental Review Commission on Environmental Management Commission Activities dated July 2006

Exhibit H Quarterly Report to the Environmental Review Commission on Environmental Management Commission Activities dated September 2006

Exhibit I Timeline of Activities on the Concord and Kannapolis IBT Petition, Dr. Moreau

Exhibit J Analysis of Reservoir Levels and Water Supply: Impacts of Proposed Concord Kannapolis Interbasin Transfer, 31 August, 2006

Exhibit K Information on Interbasin Transfers in South Carolina, dated 26 September 2006

Exhibit L Status Report to the General Assembly on Water Supply Planning, 1 September 2006 through 31 August, 2006

Exhibit M Annual Report on the Implementation of the Drought Management Advisory Council, 1 October, 2006, transmitted by memorandum dates 29 September 2006

Exhibit N Outline of Issues, Solid Waste Study

Exhibit O Annual Report to the ERC on the Status of Leaking Petroleum Underground Storage Tanks, the State Cleanup Funds and the Groundwater Protection Loan Fund, 1 September 2006

Exhibit P Presentation on the NC Underground Storage Tank Program presented by Grover Nicholson, 9 October 2006

EXHIBIT A

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 733-2578
FAX: (919) 715-5460

SUSAN S. IDDINGS
ASSISTANT COMMISSION COUNSEL
401 LEGISLATIVE OFFICE BUILDING
(919) 733-6660

JENNIFER L. McGINNIS
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

DOT WAUGAMAN
COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 715-2525
FAX (919) 754-3232

JEFF W. HUDSON
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

JENNIFER R.F. MUNDT
COMMISSION ANALYST
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

15 September 2006
FIRST REVISION

TO: Members of the Environmental Review Commission
Interested Parties

FROM: George F. Givens, Commission Counsel
Dot Waugaman, Commission Clerk

RE: **Notice of Commission Meeting**
Notice of Planning Meeting
Schedule of Future Meetings
Meetings of Interested Parties (605 Working Groups)
Additional Information

COMMISSION MEETING:

The Environmental Review Commission (Commission) will meet at 9:30 a.m. Monday 9 October 2006 in Room 643 of the Legislative Office Building in Raleigh.

At this meeting, the Commission will begin or continue studies for which the Commission is responsible, hear reports from State agencies, discuss topics to be considered at future meetings, and attend to other matters. Listed below are potential agenda topics for this meeting and for future meetings. More specific information regarding the agenda for the 9 October meeting of the Commission will be developed at the staff planning meeting discussed below.

STUDIES

1) Issues related to solid waste (S.L. 2006-244, Sec.4)

2) Issues related to the nutrient offset payment program with regard to the costs associated with providing nutrient controls that are adequate to offset point source and nonpoint source discharges of nitrogen; whether nutrient offset payments should be authorized for additional nutrients, including phosphorus; and whether the nutrient offset program should be expanded to other areas of the State (S.L. 2006-215, Sec. 2)

3) Issues related to abandoned manufactured (mobile) homes with regard to impacts on public health and safety, the environment, and the State's scenic resources (S.L. 2006-248, Sec. 8.3)

4) The merger of the organization and functions of the Ecosystem Enhancement Program and the Clean Water Management Trust Fund with the Joint Legislative Transportation Oversight Committee (S.L. 2006-248, Sec. 16)

5) Measures to reduce the quantity of mercury that is released into the environment, that impacts natural resources, and that harms the public health of the citizens of the State (S.L. 2006-248, Sec. 8.2)

6) Establishment of a consistent and uniform risk-based approach to the assessment, prioritization, and remediation of environmental contamination

7) Issues related to liability for the cleanup of environmental damage and the defenses to liability that are available to innocent landowners and prospective purchasers of contaminated properties

REPORTS *(Report due dates are indicated in parentheses)*

General/Miscellaneous:

8) Quarterly report on the activities of the Environmental Management Commission (G.S. 143B-282(b)) *(15 July, 15 October)*

9) Annual report on the mercury minimization plan prepared by DENR (G.S. 130A-310.57) *(1 November)*

10) Implementation of the Ecosystem Enhancement Program and use of funds in the Ecosystem Restoration Fund (G.S. 143-214.13) *(1 November)*

11) Annual report on the cost of the State's environmental permitting programs contained within the Department of Environment and Natural Resources (DENR) (G.S. 143-215.3A(c)) *(1 November)*

12) Annual report on the implementation of Pay for Performance Program (S.L. 2001-442) *(1 September)*

13) Annual report on the evaluation and adjustment of the boundaries of the area served by each Metropolitan Planning Organization (G.S. 136-202(d)) *(1 November)*

Air Quality:

14) Annual report on the cost of the Title V Program (G.S. 143-215.3A(c)) *(1 November)*

15) Annual report on implementation of S.L. 2002-4 (Clean Smokestacks Act) (S.L. 2002-4, Sec. 14) *(1 June)*

16) Annual report on the desirability of requiring and the feasibility of obtaining reductions in emissions of oxides of nitrogen (NOx) and sulfur dioxide (SO2) beyond those required by the Clean Smokestacks Act (S.L. 2002-4, Sec. 11) *(1 September)*

17) Annual report on development and implementation of a plan to reduce vehicle miles traveled by State employees and vehicle emissions resulting from job-related travel, including commuting to and from work (G.S. 143-215.107C(d)) *(1 October)*

18) Annual report on development and implementation of a plan to reduce vehicle miles traveled by private sector employees and vehicle emissions resulting from job-related travel, including commuting to and from work (G.S. 143-215.107C(e)) *(1 October)*

Coastal Management:

19) Annual report on the progress in developing and implementing the Coastal Habitat Protection Plans and reports on the completion or substantial revision of each draft Coastal Habitat Protection Plan (G.S. 143B-279.8(e) and G.S. 143B-279.8(f)) *(1 September)*

20) Annual report by the Coastal Resources Commission evaluating the impacts on water quality and other environmental impacts from new urban waterfront area development (S.L. 2004-117, Sec. 4) *(1 October)*

Hazardous Waste Management:

21) Annual report on the Inactive Hazardous Sites Program (G.S. 130A-310.10) *(1 October)*

22) Annual report on implementation of the Resident Inspectors Program at commercial hazardous waste facilities (G.S. 130A-295.02(m)) *(1 October)*

23) Report of Superfund cost share fund expenditures for cleanup of sites on the National Priorities List (S.L. 1999-237(15.6)(b)) *(Floating, within 30 days of expenditure)*

24) Annual report on the North Carolina Hazardous Waste Management Plan (G.S. 130A-294(i)) *(1 October)*

25) Annual report on the Effectiveness of the Brownfields Property Reuse Act (G.S. 130A-310.40) *(1 October)*

Land Resources:

26) Annual report on the cost of implementing the Mining Act of 1971 (G.S. 74-54.1(c)) *(1 September)*

27) Annual report on implementation of the Sedimentation Pollution Control Act of 1973 (G.S. 113A-67) *(1 October)*

Parks and Recreation / Land Conservation:

28) Parks and Recreation Trust Fund Annual Report, Fiscal Year 2003-2004 (G.S. 113-44.15(c)) *(1 October)*

29) North Carolina Natural Heritage Trust Fund Award Report, Fiscal Year 2003-2004 (G.S. 113-77.9(e)) *(1 October)*

30) Annual report on progress towards attaining the State's goal of protecting one million acres of farmland, open space, and conservation lands (G.S. 113A-241(c)) *(1 October)*

31) Annual report on implementation of the Conservation Easements Program and inventory of all conservation easements held by DENR (G.S. 113A-235(c)) *(1 October)*

32) Report on the master plan for farmland preservation in North Carolina (S.L. 2004-124, Sec. 6.31(b)) *(March 2005)*

Solid Waste Management:

33) Annual report on the recycling efforts of the public schools in the State including information provided by local school administrative units on the number of public schools that have recycling programs and the types of recyclable materials that are collected (S.L. 2001-512, Sec. 11) *(15 December)*

Water Quality:

34) Report on the evaluation of the training and qualification requirements for approval as an animal waste management systems technical specialist (S.L. 2006-38, Sec. 2) *(15 November 2006)*

35) Annual report on permitting and inspecting animal waste management systems/Animal Waste Compliance Report (G.S. 143-215.10M) *(1 October)*

36) Semiannual report on the pilot program for inspection of animal waste management systems including a comparison of the costs of conducting operations reviews and inspections under the pilot program with the costs of conducting operations and inspections under G.S. 143-215.10D and G.S. 143-215.10F *(15 October)*

37) Annual report on the compliance/enforcement of water quality laws for facilities that discharge into surface waters (G.S. 143-215.9A) *(1 October)*

38) Annual report on the Wastewater Discharge Elimination Program (S.L. 2001-452, Sec. 2.9) *(15 October)*

39) Semiannual report on the effectiveness of the pilot program to inspect animal waste management systems by the Division of Soil and Water Conservation (S.L. 2003-340, Sec. 6.2) *(15 October)*

40) Annual report on Basinwide Water Quality Management Plans (G.S. 143-215.8B) *(1 October)*

41) Final report on the Neuse River Monitoring and Modeling Project (S.L. 2005-386, Sec. 2.3) *(1 November 2005)*

42) Annual report on the Dry-Cleaning Solvent Cleanup Program (G.S. 143-215.104U) *(1 October)*

43) Annual report on the status of leaking petroleum underground storage tanks, the State cleanup funds, and the Groundwater Protection Loan Fund (G.S. 143-215.94M) *(1 September)*

44) Annual report by the Roanoke River Basin Bi-State Commission (G.S. 77-98)

45) Annual report on implementation of the Clean Water Management Trust Fund (G.S. 113-145.6A(a)) *(1 December)*

46) Annual report on the implementation of stormwater rules and programs (G.S. 143-214.7(e)) *(1 October)*

47) Annual report by the Catawba/Wateree River Basin Advisory Commission and the Yadkin/Pee Dee River Basin Advisory Commission (G.S. 77-117) *(1 October)*

48) Annual report and analysis of how the implementation of the Sedimentation Pollution Control Act is affecting activities that contribute to the sedimentation of the State's waters and review of the effectiveness of local erosion and sedimentation control programs (G.S. 113A-67) *(1 October)*

Water Quantity:

49) Annual report on the progress of water supply planning (G.S. 143-355(n)) *(1 September)*

50) Annual report by the Drought Management Advisory Council, including a review of drought advisories issued by the Council and any recommendations to improve coordination among local, State, and federal agencies; public water systems; and water users to improve the management and mitigation of the harmful effects of drought (G.S. 143-355.1(g)) *(1 October)*

51) Annual report by the State Water Infrastructure Commission on its activities and findings, includes any recommendations of the Commission that require action by the General Assembly to implement (G.S. 159G-67) *(1 November)*

PLANNING MEETING:

To facilitate development of the agenda for the 9 October meeting of the Commission, to begin planning for subsequent meetings of the Commission, and to receive input from interested persons regarding the work of the Commission, the Commission Counsel will hold an informal planning meeting at **10:00 a.m. on Thursday 21 September 2006 in Room 605 of the Legislative Office Building**. Persons who wish to participate in the development of the agenda for meetings of the Commission, or who are interested in any matter before the Commission, are invited to attend.

SCHEDULE OF FUTURE MEETINGS:

Below is a schedule of meetings of the Environmental Review Commission for October 2006 through January 2007. This schedule is tentative and subject to adjustment. For planning purposes, however, please reserve these dates. Please note the following:

1. Commission meetings normally begin at 9:30 a.m., include a lunch break, and run until mid-afternoon. Please plan on meeting from 9:30 a.m. until at least 3:30 p.m. The Commission will meet in the Legislative Building (LB) or the Legislative Office Building (LOB) as indicated.

2. To facilitate development of the agenda for meetings of the Commission and to receive input from interested persons regarding the future work of the Commission, the Commission Counsel holds informal planning meetings for staff and interested parties. Commission members are not expected to attend these meetings. Unless otherwise announced, public staff planning meetings will be held at 10:00 a.m. in Room 605 LOB.

3. The 2007 Regular Session is scheduled to begin at 12:00 noon on Wednesday 24 January 2007. The Commission may meet shortly after the beginning of the session to complete work and to consider any legislative proposals and recommendations.

Commission Meeting	Location	Staff Planning Meeting (605 LOB)
Monday 9 October 2006	643 LOB	Thursday 21 September 2006
Wednesday 25 October 2006	544 LOB	Friday 13 October 2006
Wednesday 15 November 2006	1228 LB	Friday 3 November 2006
Wednesday 13 December 2006	1228 LB	Friday 1 December 2006
Wednesday 17 January 2007	544 LOB	Monday 8 January 2007
Tuesday 23 January 2007	1228 LB	Monday 8 January 2007

MEETINGS OF INTERESTED PARTIES (605 WORKING GROUPS):

The Commission Counsel will hold meetings of interested parties on specific topics as indicated below:

- To be announced.

ADDITIONAL INFORMATION:

If you have questions related to the Commission, please feel free to contact the Commission Counsel or other Commission staff at (919) 733-2578.

EXHIBIT B

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 733-2578
FAX: (919) 715-5460

SUSAN S. IDDINGS
ASSISTANT COMMISSION COUNSEL
401 LEGISLATIVE OFFICE BUILDING
(919) 733-6660

JENNIFER L. McGINNIS
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

DOROTHY M. WAUGAMAN
COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 715-2525
FAX: (919) 754-3232

JEFF W. HUDSON
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

JENNIFER R. F. MUNDT
COMMISSION ANALYST
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

AGENDA
9:30 a.m. Monday 9 October 2006
Room 643 Legislative Office Building
Raleigh, North Carolina

1. Call to order
   Senator Charles W. Albertson, Presiding

2. Introductory remarks by Cochairs
   Senator Charles W. Albertson
   Senator Daniel G. Clodfelter
   Representative Pryor A. Gibson

3. Report to the Commission and explanation of agenda items
   George F. Givens, Commission Counsel

4. Update on organization and personnel changes in the Department of Environment and Natural Resources (DENR)
   Robin W. Smith, Assistant Secretary for Environment
   DENR

5. Quarterly reports by the Environmental Management Commission (EMC) as to its operations, activities, programs, and progress for the period of April 2006 through October 2006 (G.S. 143B-282(b))
   Dr. David H. Moreau, Chairman
   Environmental Management Commission

6. Discussion of issues related to the interbasin transfer of water
   John N. Morris, Director
   Division of Water Resources, DENR

7. Annual report on the implementation of G.S. 143-355 and development of the State Water Supply Plan (G.S. 143-355(n))
   John N. Morris, Director
   Division of Water Resources, DENR

8. Annual report by the Drought Management Advisory Council, including a review of drought advisories issued by the Council and any recommendations to improve coordination among local, State, and federal agencies; public water systems; and water users to improve the management and mitigation of the harmful effects of drought (G.S. 143-355.1(g))
   Woodrow "Woody" Yonts, Water Resources Engineer
   Water Supply Planning Section, Division of Water Resources, DENR

9. Discussion of issues related to solid waste management (S.L. 2006-244, Sec. 4)
   Dexter R. Matthews, Director
   Division of Waste Management, DENR

10. Annual report on the status of the leaking petroleum underground storage tank program and the State cleanup funds (G.S. 143-215.94M)
    Grover Nicholson, Chief
    Underground Storage Tank Section, Division of Waste Management, DENR

11. Report on the fire at the Environmental Quality Industrial Services of North Carolina, Inc, hazardous waste facility located in Apex, North Carolina
    Dexter R. Matthews, Director
    Division of Waste Management, DENR

12. Commission discussion and announcements

13. Adjourn

SCHEDULE OF FUTURE MEETINGS:

A schedule of meetings of the Commission for October 2006 through January 2007 is set out in bold below. This schedule is tentative and subject to adjustment.

To facilitate development of the agenda for meetings of the Commission and to receive input from interested persons regarding the future work of the Commission, the Commission Counsel holds informal planning meetings for staff and interested parties. The schedule of these public Commission staff planning meetings is also set out below.

9:30 a.m. Wednesday 25 October 2006
Location: 544 LOB
Staff Planning Meeting: 10:00 a.m. Friday 13 October 2006 – 605 LOB

9:30 a.m. Wednesday 15 November 2006
Location: 1228 LB
Staff Planning Meeting: 10:00 a.m. Friday 3 November 2006 – 605 LOB

9:30 a.m. Wednesday 13 December 2006
Location: 1228 LB
Staff Planning Meeting: 10:00 a.m. Friday 1 December 2006 – 605 LOB

9:30 a.m. Wednesday 17 January 2007
Location: 544 LOB
Staff Planning Meeting: 10:00 a.m. Monday 8 January 2007 – 605 LOB

9:30 a.m. Tuesday 23 January 2007
Location: 1228 LB
Staff Planning Meeting: 10:00 a.m. Monday 8 January 2007 – 605 LOB

OTHER MEETINGS:

To be announced.

ADDITIONAL INFORMATION:

Persons having questions about the Commission meeting or other matters related to the Commission may contact Commission Counsel or other Commission staff at (919) 733-2578. Information regarding Commission membership, authorizing legislation, and prior Commission meetings may be found at: http://www.ncleg.net/Committees/environmentalre_/default.htm

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — October 9, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
PJ Lusk	UNC - MPA
Julie Walden	UNC - MPA
Jackie Ashley	UNC - MPA student
Gordon McCallie	NC Conservation Network
David Mickey	BREC
Jack Chandler	Catawba County
Robin Smith	DENR
Wendy Kelly	Helms Mulliss Wicker
Ted Boggs	NCDENR
Sharon Stroud	State Energy Office
Michael Nelson	Conservation Council

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — October 9, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Christine Wunsche	Environment North Carolina
Elizabeth Self	DENR
Dale Moreau	EMC
Todd Roessler	Kilpatrick Stockton
James Kling	Lawrence Bewley + Associates
Woody Yonts	NC DW Water Res (DENR)
ED Mussler	DWM
DAVID BARNES	Poyner + Spruill
Lisa Martin	NC Home Builders
Kathy Hawkins	Progress Energy
Tommy Stevens	NC Pork Council

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — October 9, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Phil Fragapane	DW Water Resources
Tom Fransen	Div Water Resources
Amy Pickle	Southern Environmental Law Center
John Preyer	Restoration Systems / NCERA
DONNIE REDMOND	DENR-DAQ
Cam Wheeler	Progress Energy
Daniel Blue	Kennedy Covington
[illegible]	Poyner & Spruill

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — October 9, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
John Goodman	NCCBI
Patrick Buffkin	Allen Associates, Inc.
Rita Harris	NC State Ports
Anthony Caggiano	CAZM Bill
Chad Essick	Poyner + Spruill, LLP
Nancy Thompson	Weyerhaeuser
Dana Simpson	Smith Anderson
Jim Haven	Global Warming Initiatives
Jennifer Willis	Wake Co. Gov't
Kim Hibbard	NCLM
Paul Meyer	NCACC

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — October 9, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Greg Peverill	Solid Waste Management Consulting Svcs.
RANDALL ESSICK	Waste MANAGEMENT
CHRIS ROOF	MRR SOUTHERN
Diana Kees	NCDENR
Jamie Kritzer	NCDENR
Chris Anderson	
Elliott Hood	Duke University
Kelly Porter	Water Resources Research Institute
Upton Hatch	"
CINWOOD PEELE	NCDENR
PAUL CRISSMAN	NCDENR

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — October 9, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Phil CARTER	WASTE INDUSTRIES USA, INC.
Scott Mouw	DPPEA/DENR
Jennifer Burnaugher	Governor's office
Todd Roessler	Kilpatrick Stockton
Shawn Purvis	UNC-CH MPA
Glenn Barnes	UNC-CH MPA
Trina Ozer	UNC MPA
Anthony Allen	NCACC
William Snyder	UNC-CH
Tonya Walton	UNC-CH MPA
Richard Whisnant	UNC-CH

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — October 9, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Jeryl K. Covington	City of Greensboro Box 3136 GSO. NC 27402-3136
Gayle Wilson	Orange County PO Box 12177 Chapel Hill, NC 27516
Daniel Moore	MRR Southern 2005 Rolling Rd Greensboro, NC 27403
MIKE BRINCHEK	CDM 5400 GLENWOOD AVE. Ste 300 RALEIGH NC 27612

EXHIBIT D-1

Implementation of the "Clean Smokestacks Act"

A Report to the Environmental Review Commission and the Joint Legislative Utility Review Committee

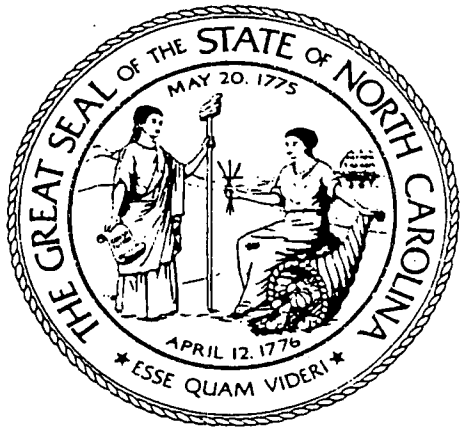
Submitted by the North Carolina Department of Environment and Natural Resources and the North Carolina Utilities Commission

June 1, 2006

Implementation of the "Clean Smokestacks Act"

A Report to the Environmental Review Commission and the Joint Legislative Utility Review Committee

Submitted by the North Carolina Department of Environment and Natural Resources and the North Carolina Utilities Commission



June 1, 2006

Implementation of the "Clean Smokestacks Act"

A Report to the Environmental Review Commission and the Joint Legislative Utility Review Committee

Submitted by the North Carolina Department of Environment and Natural Resources and the North Carolina Utilities Commission

This report is submitted pursuant to the requirement of Section 14 of Session Law 2002-4, Senate Bill 1078 enacted June 20, 2002. The actions taken to date by Progress Energy Carolinas, Inc. and Duke Energy Carolinas, LLC appear to be in accordance with the provisions and requirements of the Clean Smokestacks Act.

Signed: _____

William G. Ross, Jr., Secretary
Department of Environment and Natural Resources

Signed: _____

Jo Anne Sanford, Chair
North Carolina Utilities Commission

June 1, 2006

Implementation of the "Clean Smokestacks Act"

A Report to the
Environmental Review Commission and the
Joint Legislative Utility Review Committee

June 1, 2006

The General Assembly of North Carolina, Session 2001, passed Session Law 2002-4 also known as Senate Bill 1078. This legislation is titled "*An Act to Improve Air Quality in the State by Imposing Limits on the Emission of Certain Pollutants from Certain Facilities that Burn Coal to Generate Electricity and to Provide for Recovery by Electric Utilities of the Costs of Achieving Compliance with Those Limits*" ("the Clean Smokestacks Act" or "the Act"). The Clean Smokestacks Act, in Section 14, requires the Department of Environment and Natural Resources ("DENR") and the Utilities Commission ("Commission") to report annually, i.e., by June 1 of each year, on the implementation of the Act to the Environmental Review Commission and the Joint Legislative Utility Review Committee.

The Act, in Section 9, requires Duke Energy Carolinas, LLC ("Duke Energy"), and Progress Energy Carolinas, Inc. ("Progress Energy") to submit annual reports to DENR and the Commission containing certain specified information. Duke Energy and Progress Energy filed reports, with DENR and the Commission, by cover letters dated March 30, 2006. Specifically, such reports were submitted in compliance with the requirements of G.S. 62-133.6(i). Duke Energy's and Progress Energy's reports are attached, and made part of this report, as Attachments A and B, respectively.

Additionally, by letter dated May 10, 2006, the Secretary of DENR wrote to the Commission stating that, pursuant to G.S. 62-133.6 (j), DENR has reviewed the information provided, and the submittals comply with the Act. The Secretary further stated that the plans and schedules of the Companies appear adequate to achieve the emission limitations set out in G.S. 143-215.107D.

This report is presented to meet the reporting requirement of the Act pertaining to DENR and the Commission, as discussed above, and is submitted jointly by DENR and the Commission. The report is structured to address the various actions that have occurred pursuant to the provisions of Sections 9, 10, 11, 12, and 13 of the Act. Reports of actions under these Sections describe the extent of implementation of the Act to this date.

I. Section 9(c) of the Act, Codified as Section 62-133.6(c) of the North Carolina General Statutes

G.S. 62-133.6(c) provides: *The investor-owned public utilities shall file their compliance plans, including initial cost estimates, with the Commission and the Department of Environment and Natural Resources not later than 10 days after the date on which this section becomes effective. The Commission shall consult with the Secretary of Environment and Natural Resources and shall consider the advice of the Secretary as to whether an investor-owned public utility's proposed compliance plan is adequate to achieve the emissions limitations set out in G.S. 143-215.107D.*

Status: North Carolina's investor-owned electric utilities, Progress Energy and Duke Energy, filed their initial compliance plans as required in June and July of 2002, respectively, in accordance with G.S. 62-133.6(c), Section 9(c) of Session Laws 2002-4, the Clean Smokestacks Act. DENR reviewed this information and determined that the submittals comply with the Act and, as proposed, appear adequate to achieve the emission limitations set out in G.S. 143-215.107D.

II. Section 9(i) of the Act, Codified as Section 62-133.6(i) of the North Carolina General Statutes

G.S. 62-133.6(i) provides: *An investor-owned public utility that is subject to the emissions limitations set out in G.S. 143-215.107D shall submit to the Commission and to the Department of Environment and Natural Resources on or before 1 April of each year a verified statement that contains all of the following [specified information]:*

The following are the eleven subsections of G.S. 62-133.6(i) and the related responses from Progress Energy and Duke Energy for each subsection:

1. **G.S. 62-133.6(i)(1) requires:** *A detailed report on the investor-owned public utility's plans for meeting the emissions limitations set out in G.S. 143-215.107D.*

Progress Energy Response: "The initial plan for Progress Energy Carolinas, Inc. was submitted on July 29, 2002. Appendix A [of the attached Progress Energy submittal dated March 30, 2006, i.e., Attachment B] contains an updated version of this plan, effective April 1, 2006."

Duke Energy Response: "Exhibits A and B [of the attached Duke submittal dated March 30, 2006, i.e., Attachment A, outline the updated plan as of April 1, 2006,] . . . for technology selections by facility and unit, projected operational dates, expected emission rates, and the corresponding tons of emissions that demonstrate compliance with the provisions of G.S. 143-215.107D."

2. **G.S. 62-133.6(i)(2) requires:** *The actual environmental compliance costs incurred by the investor-owned public utility in the previous calendar year, including a description of the construction undertaken and completed during that year.*

Summary of Progress Energy Report: The actual environmental compliance costs (capital costs) incurred by Progress Energy in calendar year 2005 were $181.27 million. Progress Energy performed a significant amount of work at the Asheville and Roxboro plants. Progress Energy successfully placed the first wet scrubber in service on Asheville Unit 1 in November of 2005. At the Roxboro plant, engineering, procurement, and construction began or continued for each of the four units. At the Mayo, Lee, and Sutton plants, preliminary engineering, design, and procurement activities were initiated, however no construction activities commenced in 2005.

Summary of Duke Energy Report: The actual environmental compliance costs incurred by Duke Energy in calendar year 2005 were $346.42 million. Significant construction occurred in 2005 at the Marshall Steam Station. Construction activities included, but were not limited to: fabrication and installation of absorber outlet ducts and flue liners; site earthwork for the gypsum landfill; and completion of all remaining major building and equipment foundations, structural steel erection for duct supports, assembly of ball mills, recycle pumps, hydroclones, underground and aboveground piping, electrical work, installation of material handling equipment, and wastewater buildings. At the Belews Creek Steam Station, the construction team was mobilized and initiated construction activities that resulted in completion of approximately 10 percent of the project. Approximately 20 percent of this project's total costs was incurred during 2005.

For the remaining Steam Stations (Allen, Cliffside, Buck, Dan River, and Riverbend), the Company reported that costs were incurred for a variety of things such as project studies and investigations, engineering, equipment specifications development, equipment layout, contracting related costs, logistics, etc.

3. **G.S. 62-133.6(i)(3) requires:** *The amount of the investor-owned public utility's environmental compliance cost amortized in the previous calendar year.*

Summary of Progress Energy and Duke Energy Reports: Progress Energy amortized $147 million in 2005. Duke Energy amortized $311.2 million in 2005. As indicated in the June 1, 2005 report to the Environmental Review Commission and the Joint Legislative Utility Review Committee ("the June 1, 2005 report"), Progress Energy, in response to a data request submitted by the Commission, had projected that it would amortize $107 million of environmental compliance costs in 2005. Also, as indicated in the June 1, 2005 report, Duke Energy, in response to a Commission data request, had projected that it would amortize $281 million of environmental compliance costs in 2005.

4. **G.S. 62-133.6(i)(4) requires:** *An estimate of the investor-owned public utility's environmental compliance costs and the basis for any revisions of those estimates when compared to the estimates submitted during the previous year.*

Summary of Progress Energy Report: Progress Energy reported that its total estimated net capital costs (that is, excluding the portion for which the Power Agency is

responsible) are currently projected to be between $1.1 billion and $1.4 billion, with the current point estimate being $1.36 billion. In its 2005 report, Progress Energy, at that time, estimated its cost of compliance to be $895 million. Therefore, its current estimate of $1.36 billion is $465 million, or 52 percent, higher than the cost estimate reported in 2005.

The cost increases are due to several factors according to Progress Energy, including design changes such as the conversion of the Asheville scrubber from dry to wet and higher construction material prices (detailed in the attached Progress Energy report). Additionally, Progress Energy indicated that it did not initially account for major costs associated with the wastewater treatment system in the initial plan, but is now including cost associated with wastewater processing.

Progress Energy's current cost estimate of $1.36 billion is $547 million, or 67 percent, higher than the original 2002 cost estimate of $813 million.

Summary of Duke Energy Report: Duke Energy reported that its currently expected costs are less than the estimates provided in 2005. More specifically, in its 2006 report, the Company estimated its compliance costs to be $1.732 billion, as compared to the $1.742 billion reflected in its 2005 report, a decrease of $10 million, or 0.6 percent (detailed in Exhibit C of Attachment A of the Duke Energy report). As stated by Duke Energy, the reasons for this decrease were: "SNCR [Selective Non-Catalytic Reduction] Projects – In addition to the deletion of the Dan River Unit 3 SNCR project, refinement of the SNCR work scope at each location has resulted in a lower overall estimated cost. The most significant change to this scope over the last year has been to remove the Riverbend central reagent (urea) distribution center scope of work and replace with individual station storage and dilution water equipment."

Duke Energy's current cost estimate of $1.732 billion is $232 million, or 15 percent, higher than the original 2002 cost estimate of $1.5 billion.

5. **G.S. 62-133.6(i)(5) requires:** *A description of all permits required in order to comply with the provisions of G.S. 143-215.107D for which the investor-owned public utility has applied and the status of those permits or permit applications.*

Progress Energy Response:

Asheville Plant

- Numerous soil erosion and sedimentation control plans have been approved
- Authorization to Construct (ATC) the wastewater treatment system for the pretreatment of flue gas desulfurization wastewater was approved
- ATC engineer's certifications for pretreatment and constructed wetlands were submitted

Roxboro Plant

- An air permit for coal handling and limestone handling was issued

- Several soil erosion and sedimentation control plans have been approved
- An Army Corps of Engineers' permit and water quality certification to fill wetlands for gypsum storage area was received
- A non-discharge permit for the wastewater treatment system was received
- Authorization to Construct (ATC) the wastewater treatment system was approved
- Letter to the Commission identifying work in the ash pond was approved

Lee Plant
- A Prevention of Significant Deterioration (PSD) air permit application for the installation of low NOx burners was submitted

Sutton Plant
- An air permit for the installation of low NOx burners was received

Duke Energy Response:
Belews Creek
- NPDES Permit modification received
- Initial erosion control permit received
- Landfill site suitability application submitted
- Air permit for flue gas desulfurization (FGD) project received
- Non-discharge permit revision to include FGD wastewater received
- Authorization to Construct (ATC) application for the wastewater treatment system was approved
- Revised landfill construction plan application submitted
- Air Permit – Notice of Intent to Construct received
- Several soil erosion and sedimentation control plans have been approved

Cliffside
- Air permit application submitted
- A complimentary Prevention of Significant Deterioration permit application was submitted for proposed new generating units

Marshall
- Several soil erosion and sedimentation control plans have been approved
- Landfill construction plan application received
- Authorization to Construct (ATC) application for solids removal system was approved
- ATC application for constructed wetlands was approved
- Selective Non-Catalytic Reduction permits received for Units 1, 2, and 3

Allen
- Air permits approved for Unit 3 and Unit 4

Riverbend

- Selective Non-Catalytic Reduction permits received for Units 4, 5, 6 and 7
- Burner application permits received for Unit 5 and Unit 6

6. **G.S. 62-133.6(i)(6) requires:** *A description of the construction related to compliance with the provisions of G.S. 143-215.107D that is anticipated during the following year.*

Progress Energy Response: See Appendix C of the attached letter from Progress Energy dated March 30, 2006 (Attachment B), for details of construction and installation of equipment. Significant construction activities at the Asheville Plant in 2006 include the completion of systems for the Unit 2 scrubber so that it can be placed into service by the end of May 2006. Construction activities will also begin for the Asheville Unit 1 selective catalytic reduction project. At the Roxboro Plant, significant construction activities for the Unit 2 scrubber will occur in 2006. Construction of the gypsum conveying equipment will also begin. Construction activities for the Unit 3 and Unit 4 scrubbers will include the erection of an absorber tower for each unit and installation of the flue gas liners in the Unit 3 and Unit 4 chimneys.

Duke Energy Response: See attached letter from Duke Energy dated March 30, 2006 (Attachment A), for details of construction anticipated for the next year for:

Allen Steam Station

- Relocation of existing rail spurs and switches and relocation of existing plant services including ash sluice lines, diesel oil tank, electrical and potable water lines
- Begin earthwork and grading for new entrance road and foundations
- Complete detailed engineering for selective non-catalytic reduction (SNCR) equipment on Unit 2
- Complete installation of SNCR equipment on Unit 4

Belews Creek Steam Station

- Construct major foundations for the flue gas desulfurization (FGD) system
- Complete all construction on approximately 5% of the sub-systems that make up the total FGD system
- Complete construction of the concrete shell for the two new chimneys
- Achieve a completion status of 75% on the overall project

Cliffside Steam Station

- Continue engineering study to finalize the project scope

Marshall Steam Station

- Complete ductwork installation using large crane

- Complete construction, turnover, and commissioning of Unit 4
- Begin testing and tuning of Unit 4 and common systems
- Complete construction, turnover, and commissioning of Unit 3 systems
- Begin testing and tuning of Unit 3 and common systems
- Complete detailed engineering for selective non-catalytic reduction (SNCR) equipment on Unit 2 and Unit 4
- Complete installation of SNCR equipment on Unit 1

Buck Steam Station

- Complete detailed engineering for selective non-catalytic reduction (SNCR) equipment on Unit 5 and Unit 6
- Complete detailed engineering for burners on Unit 3 and Unit 4

Dan River Steam Station

- Substantially complete installation of burners on Units 2 and 3

Riverbend Steam Station

- Complete detailed engineering for selective non-catalytic reduction equipment on Units 4, 5, 6, and 7

7. **G.S. 62-133.6(i)(7) requires:** *A description of the applications for permits required in order to comply with the provisions of G.S. 143-215.107D that are anticipated during the following year.*

Progress Energy Response:

Asheville Plant

- Revisions to the air permit to test and install technology to reduce SO_3 may be necessary
- Erosion and sedimentation control plan
- Revision J for the construction of the demineralizer pipe, pump, and ductbank was approved in January 2006

Roxboro Plant

- Revisions to the air permit will be necessary to address fugitive emissions of hydrogen sulfide from the wastewater treatment system
- Authorization to Construct (ATC) for the gypsum settling pond was received in March 2006
- Receipt of the ATC for the bioreactor is anticipated in the second quarter of 2006
- Erosion and sedimentation control plan

Mayo Plant

- A construction permit will be required for the flue gas

desulfurization system

- A non-discharge permit application to be submitted for the wastewater treatment system
- A request for authorization to construct for the wastewater treatment system
- Erosion and sedimentation control plan

Cape Fear Plant

- A construction permit may be required to conduct a trial of an air pollution control technology

Lee Plant

- A construction permit will be required for the installation of the Rotamix system for NOx control

Duke Energy Response:

Allen Steam Station

- A request for authorization to construct for the wastewater treatment system - Plan to submit August 2006
- Air Permit Application – Plan to submit April 2006
- Request to revise non-discharge permit to include flue gas desulfurization (FGD) wastewater submitted January 2006
- Submittal to DENR/Army Corps of Engineers (ACOE) regarding stream crossing of entrance road – Plan to submit March 2006
- Erosion control plans for the Allen FGD project
- Plan to submit air permit application for selective non-catalytic reduction equipment on Unit 2
- Authorization to Construct (ATC) application for the dilution water piping on Unit 4 - Plan to submit to City of Belmont in March 2006

Belews Creek Steam Station FGD

- Authorization to Construct (ATC) application for the sanitary waste lagoon – Plan to submit in March 2006

Buck Steam Station

- Air permit burner application for Units 3 and 4 – Plan to submit March 2006
- Air permit application for selective non-catalytic reduction equipment for Units 5 and 6 – Plan to submit March 2006

Cliffside Steam Station Unit 5 FGD

- It may be necessary to submit a revised air permit application for a standalone Unit 5 FGD – Possible submission in 3rd or 4th quarter 2006

Dan River Steam Station

- Air permit burner applications for Units 1, 2, and 3 – Submitted February 2006

Marshall Steam Station

- Air permit application for selective non-catalytic reduction equipment for Unit 4 – Plan to submit September 2006

8. **G.S. 62-133.6(i)(8) requires:** *The results of equipment testing related to compliance with G.S. 143-215.107D.*

Progress Energy Response: "No equipment testing related to compliance with G.S. 143-215.107D occurred in 2005."

Duke Energy Response: "No additional equipment related testing occurred in 2005."

9. **G.S. 62-133.6(i)(9) requires:** *The number of tons of oxides of nitrogen (NOx) and sulfur dioxide (SO2) emitted during the previous calendar year from the coal-fired generating units that are subject to the emissions limitations set out in G.S. 143-215.107D.*

Progress Energy Response: "The total calendar year 2005 emissions from the affected coal-fired Progress Energy Carolinas units are:

- NOx 49,621 [tons]
- SO_2 202,041 [tons]"

Duke Energy Response: In the 2005 calendar year, the following were emitted from the North Carolina based Duke Energy coal-fired units:

- NOx 56,073.3 tons
- SO2 298,780.5 tons

10. **G.S. 62-133.6(i)(10) requires:** *The emissions allowances described in G.S. 143-215.107D(i) that are acquired by the investor-owned public utility that result from compliance with the emissions limitations set out in G.S. 143-215.107D.*

Progress Energy Response: "During 2005, PEC did not acquire any allowances as a result of compliance with the emission limitations set out in N.C. General Statute 143-215.107D."

Duke Energy Response: "No emissions allowances have been acquired by Duke Power Company resulting from compliance with the emissions limitations set out in G.S. 143-215.107D."

11. **G.S. 62-133.6(i)(11) requires:** *Any other information requested by the Commission or the Department of Environment and Natural Resources.*

Summary of Commission Request: The Commission submitted informational requests to Progress Energy and Duke Energy on April 19, 2006. The information requested, among other things, concerned current projected amortization schedules over the remaining years of the seven-year accelerated cost-recovery period.

Progress Energy Response: Progress Energy noted that the Act requires it to amortize $569 million, which represents 70 percent of the original cost estimate of $813 million, by the end of 2007. The Company indicated that $395 million had been amortized as of December 31, 2005, leaving a total of $174 million to be amortized during 2006 and 2007. Progress Energy stated that, assuming ratable amortization of such remainder, the annual amount of amortization would be $87 million in both 2006 and 2007. However, the Company also observed that the Act grants Progress Energy the flexibility to vary the amortization schedule from $0 to $174 million per year.

With regard to the amounts to be amortized in 2008 and 2009, Progress Energy noted that such amounts remain to be determined. Nevertheless, the Company indicated that, assuming the 30 percent residual amount of the total original cost estimate of $813 million, i.e., $244 million, is amortized ratably in 2008 and 2009, the amount of the annual amortization in each of those two years would be $122 million.

Progress Energy stated that it currently has no plans to write off or amortize any amounts above $813 million. **[DENR/COMMISSION NOTE:** As previously indicated, the Company currently estimates its total net environmental compliance costs to be approximately $1.36 billion.**]**

Progress Energy also stated that it believed that G.S. 62-133.6(d) and (f) address the present issue(s) by requiring the Commission to hold a hearing to determine the Company's just and reasonable environmental compliance costs, including the amounts that should be amortized in 2008 and 2009, and preserve Progress Energy's right to seek recovery of its actual environmental compliance costs above $813 million in its next rate case.

Duke Energy Response: In regard to calendar years 2006 and 2007, Duke Energy responded that it now expects to amortize environmental compliance costs in the amounts of $250 million and $281 million, respectively. With regard to the amounts to be amortized in 2008 and 2009, Duke Energy indicated that such amounts had not yet been determined and that they were subject to Commission approval. The Company further responded as follows:

> While Duke Power recognizes that amortization in 2008 and 2009 of any amounts in excess of the original 2002 estimated environmental compliance cost of $1.5 billion is an option, it has not yet determined what recovery it will seek for any such amounts. Notably, the cost figures

stated in Duke's Compliance Plan Annual Update filed on April 3, 2006 are estimates, based on Duke's current best judgment. As required by N.C.G.S. 62-133.6(i), Duke will continue to update its cost estimates annually.

Duke notes that the Clean Smokestacks Statute provides some direction on the methodology and extent of recovery for environmental compliance costs. Specifically, Section 62-133.6(b) of the NC General Statutes allows Duke to accelerate the recovery of its 'estimated environmental compliance costs over a seven-year period, beginning January 1, 2003 and ending December 31, 2009.' It also expressly recognizes that '[t]he amounts to be amortized pursuant to this subsection are estimates of the environmental compliance costs that may be adjusted as provided in this section.' Id.

Further, Section 62-133.6(d) requires that, subject to the provisions of Section 62-133.6(f), the Commission shall hold a hearing to review an investor-owned utility's environmental compliance costs. It expressly authorizes the Commission to 'modify and revise these costs as necessary to ensure that they are just, reasonable, and prudent based on the most recent cost information available and determine the annual cost recovery amounts that each investor-owned public utility shall be required to record and recover during calendar years 2008 and 2009.' Additionally, it requires the Commission to issue an order by December 31, 2007. Section 62-133.6(f) in turn provides that '[i]n any general rate case initiated to adjust base rates effective on or after January 1, 2008, the investor-owned utility shall be allowed to recover its actual environmental compliance costs . . . less the cumulative amount of accelerated cost recovery recorded pursuant to subsection (b) . . . .'

The Clean Smokestacks Statute, therefore, contemplates that an investor-owned utility such as Duke would fully recover its prudently incurred actual environmental compliance costs, with the determination of the annual amounts of cost recovery for 2008 and 2009 being subject to Commission approval.

[DENR/COMMISSION NOTE: As previously noted, Duke Energy currently estimates its environmental compliance costs to total $1.732 billion.**]**

III. Section 10 of the Act provides: *It is the intent of the General Assembly that the State use all available resources and means, including negotiation, participation in interstate compacts and multistate and interagency agreements, petitions pursuant to 42 U.S.C. § 7426, and litigation to induce other states and entities, including the Tennessee Valley Authority, to achieve reductions in emissions of oxides of nitrogen (NOx) and sulfur dioxide (SO2) comparable to those required by G.S. 143-215.107D, as enacted by Section 1 of this act, on a comparable schedule. The State shall give*

particular attention to those states and other entities whose emissions negatively impact air quality in North Carolina or whose failure to achieve comparable reductions would place the economy of North Carolina at a competitive disadvantage.

DENR/Division of Air Quality (DAQ) and Department of Justice Activities to Implement this Section:

The State continues to pursue opportunities to carry forward the legislature's objectives in section 10. The State reports the following recent activities and developments:

1) On January 30, 2006, the State, through the Attorney General, sued the Tennessee Valley Authority (TVA) in federal district court in Asheville. The suit alleges that emissions of SO_2 and NOx from TVA's fleet of coal-fired power plants are inadequately controlled and therefore create a public nuisance. The Attorney General has asked the Court to require TVA to install NOx and SO_2 controls to abate the public nuisance.

2) On July 8, 2005, the Attorney General filed in federal appeals court in the District of Columbia a petition for review of the United States Environmental Protection Agency's (EPA) Clean Air Interstate Rule. Among other things, the State is alleging that the Rule fails to take into account significant air quality problems in North Carolina, fails to guarantee a remedy to North Carolina because the Rule relies too heavily on the trading of pollution credits, and fails to require controls to be installed expeditiously. The matter is still pending. In addition, also on July 8, 2005, the Attorney General filed a petition with the EPA requesting that the EPA reconsider certain aspects of the rule, but this petition was denied. Further action regarding this denial is under consideration.

3) On May 9, 2005, the Attorney General secured a consent decree from the United States District Court for the Eastern District of North Carolina mandating a schedule for the EPA to respond to North Carolina's Section 126 Petition. By the Section 126 Petition, the State requested that the EPA impose NOx and/or SO_2 controls on large coal-fired utility boilers in thirteen upwind states that impact North Carolina's air quality. On August 1, 2005, the EPA proposed to deny the Section 126 Petition, and the Attorney General filed a detailed response alleging that a denial of the Petition would be arbitrary, irrational, and unlawful. On March 15, 2006, the EPA denied the State's petition. Further action regarding this denial is under consideration.

4) Since the enactment of the Clean Smokestacks Act, the Attorney General and the Department of Environment and Natural Resources have on several occasions presented the Clean Smokestacks Act in other jurisdictions to demonstrate leadership and prompt similar actions in surrounding areas that impact North Carolina. On April 6, 2006, Governor Ehrlich of Maryland signed into law the Healthy Air Act (2006 Md. Laws 301) -- a Clean Smokestacks-type law that significantly limits emissions of SO_2 and NOx from large coal-fired utility boilers in Maryland. A bill to enact the Virginia Clean Smokestacks Act (H.B. 1055) was introduced in the Virginia House of Delegates on January 11, 2006, after a similar bill was defeated in the 2005 session.

IV. Section 11 of the Act provides: *The environmental Management Commission shall study the desirability of requiring and the feasibility of obtaining reductions in emissions of oxides of Nitrogen (NOx) and Sulfur Dioxide (SO_2) beyond those required by G.S. 143-215.107D, as enacted by Section 1 of this act. The Environmental Management Commission shall consider the availability of emission reduction technologies, increased cost to consumers of electric power, reliability of electric power supply, actions to reduce emissions of oxides of nitrogen (NOx) and sulfur dioxide (SO_2) taken by states and other entities whose emissions negatively impact air quality in North Carolina or whose failure to achieve comparable reductions would place the economy of North Carolina at a competitive disadvantage, and the environment, and the natural resources, including visibility. In its conduct of this study, the Environmental Management Commission may consult with the Utilities Commission and the Public Staff. The Environmental Management Commission shall report its findings and recommendations to the General Assembly and the Environmental Review Commission annually beginning 1 September 2005.*

Environmental Management Commission and DENR Response: A letter was submitted to the Environmental Review Commission from Dr. David Moreau, Environmental Management Commission Chairman dated April 3, 2006, stating the following:

> Since the Clean Smokestacks Act was passed in June 2002, significant Federal regulatory changes have occurred. Specifically, the Clean Air Interstate Rule (CAIR) requires North Carolina's neighboring states to achieve major reductions in NO_x and SO_2 -- reductions that require installation of state-of-the-art control equipment. Although there may be questions about the timing and emissions reductions of CAIR, the Division of Air Quality (DAQ) believes CAIR will ultimately provide major benefits to North Carolina's air quality.
>
> The Clean Smokestacks Act already requires that state of the art control equipment be installed on many units in North Carolina. CAIR annual NO_x and SO_2 emissions budgets are even lower than those set by the Clean Smokestacks Act and this could result in even more units in North Carolina having state of the art control equipment applied.
>
> Given the recent action by the Federal government regarding power plant emissions, it is recommended that the study as to whether or not further State action is required be deferred until an evaluation is made of the progress of North Carolina and her neighbors in complying with CAIR. The EMC would propose that the reporting begin on December 1, 2013. This will give the specified electric generation facilities in North Carolina time to implement their control strategies and will also give the DAQ time to quantify the air quality impacts. Requiring reporting prior to the complete implementation of these control technologies will provide little

new or beneficial information. Furthermore, the evolution of new control technologies is fairly long term and it is recommended that the frequency of the reporting thereafter be on a three-year basis.

V. **Section 12 of the Act provides:** *The General Assembly anticipates that measures implemented to achieve the reductions in emissions of oxides of nitrogen (NOx) and sulfur dioxide (SO2) required by G.S. 143-215.107D, as enacted by Section 1 of this act, will also result in significant reductions in the emissions of mercury from coal-fired generating units. The Division of Air Quality of the Department of Environment and Natural Resources shall study issues related to monitoring emissions of mercury and the development and implementation of standards and plans to implement programs to control emissions of mercury from coal-fired generating units. The Division shall evaluate available control technologies and shall estimate the benefits and costs of alternative strategies to reduce emissions of mercury. The Division shall annually report its interim findings and recommendations to the Environmental Management Commission and the Environmental Review Commission beginning 1 September 2003. The Division shall report its final findings and recommendations to the Environmental Management Commission and the Environmental Review Commission no later than 1 September 2005. The costs of implementing any air quality standards and plans to reduce the emission of mercury from coal-fired generating units below the standards in effect on the date this act becomes effective, except to the extent that the emission of mercury is reduced as a result of the reductions in the emissions of oxides of nitrogen (NOx) and sulfur dioxide (SO2) required to achieve the emissions limitations set out in G.S. 143-215.107D, as enacted by Section 1 of this act, shall not be recoverable pursuant to G.S. 62-133.6, as enacted by Section 9 of this act.*

DAQ Actions to Implement this Section: The DAQ submitted reports in September of 2003, 2004, and 2005, as required by this Section. The first report primarily focused on the "state of knowledge" of the co-benefit of mercury control that will result from the control of NOx and SO_2 from coal-fired utility boilers. Also, preliminary estimates were made for this co-benefit for the North Carolina utility boilers based on the initial plans submitted by Progress Energy and Duke Energy. The second report primarily focused on "definition of options". The Division has also submitted the third and final report titled Mercury Emissions and Mercury Controls for Coal-Fired Electrical Utility Boilers. The Clean Air Mercury Rule (CAMR) has been drafted and public hearings have been scheduled to solicit input from the public. A hearing was held on May 25, 2006, in Charlotte and two other hearings are scheduled for June 1, 2006, in Raleigh and June 8, 2006 in Winterville. Comments from these hearings will be taken into consideration and the CAMR will then be presented to the Environmental Management Commission in September of 2006.

VI. **Section 13 of the Act provides:** *The Division of Air Quality of the Department of Environment and Natural Resources shall study issues related to the development and implementation of standards and plans to implement programs to control emissions of carbon dioxide (CO2) from coal-fired generating units and other*

stationary sources of air pollution. The Division shall evaluate available control technologies and shall estimate the benefits and costs of alternative strategies to reduce emissions of carbon dioxide (CO2). The Division shall annually report its interim findings and recommendations to the Environmental Management Commission and the Environmental Review Commission beginning 1 September 2003. The Division shall report its final findings and recommendations to the Environmental Management Commission and the Environmental Review Commission no later than 1 September 2005. The costs of implementing any air quality standards and plans to reduce the emission of carbon dioxide (CO2) from coal-fired generating units below the standards in effect on the date this act becomes effective, except to the extent that the emission of carbon dioxide (CO2) is reduced as a result of the reductions in the emissions of oxides of nitrogen (NOx) and sulfur dioxide (SO2) required to achieve the emissions limitations set out in G.S. 143-215.107D, as enacted by Section 1 of this act, shall not be recoverable pursuant to G.S. 62-133.6, as enacted by Section 9 of this act.

DENR Actions to Implement this Section: The DAQ submitted reports in September of 2003, 2004, and 2005, as required by this Section. The first report primarily focused on the "state of knowledge" and actions being taken or planned elsewhere regarding CO_2 control from coal-fired utility boilers. The second report primarily focused on "definition of options". The DAQ submitted the third and final report titled, "Carbon Dioxide (CO2) Emission Reduction Strategies for North Carolina", to the Environmental Management Commission and the Environmental Review Commission as required. Numerous recommendations were set forth in this report including a recommendation for a North Carolina Climate Action Plan.

The North Carolina Global Warming/Climate Change Bill (HB 1191/SB 1134) was enacted during the 2005 Session of the General Assembly. Along with the passage of the bill, the North Carolina 2005 Session of the General Assembly passed the Global Climate Change Act. This act established a Legislative Commission on Global Climate Change (LCGCC). Additionally, a formalized stakeholder group, the Climate Action Plan Advisory Group (CAPAG) was formed by DENR. The CAPAG's purpose is to research, educate, discuss, and formalize consensus-based recommendations to the DENR for their process and potential implementation by the General Assembly through a formal stakeholder process including determination of economic benefits. The CAPAG will work in conjunction with the LCGCC providing periodic updates. The inaugural meeting of the CAPAG was held on February 16, 2006. The CAPAG is now in the early stages of utilizing technical workgroups. These technical workgroups contain experts in the following five sectors: 1) Agriculture, Forestry, and Waste; 2) Energy Supply; 3) Transportation and Land Use; 4) Residential, Commercial, and Industrial; and 5) Cross Cutting (for issues that cut across different sectors, such as establishing a greenhouse gas registry). The CAPAG is working diligently towards a comprehensive North Carolina Climate Action Plan, with a current target to complete it by the spring of 2007.

VII. Supplementary Information: As noted in earlier reports, the Public Staff - North Carolina Utilities Commission (Public Staff) will audit the books and records of Progress

Energy and Duke Energy on an ongoing basis in regard to the costs incurred and amortized in compliance with the provisions of the Act. The Public Staff has undertaken such a review, focusing on the verification of costs related to complying with the Act, the amortization of those costs, and the operating results of emission reduction equipment installed by Progress Energy and Duke Energy.

The Public Staff filed its most recent reports in the present regard with the Commission on May 22, 2006. Such reports, which are a continuation of the Public Staff's ongoing review, present an overview of certain work performed by the Public Staff and its findings for the 12-month period ending December 31, 2005. Attached, and made part of this report, are the Public Staff's reports for Duke Energy and Progress Energy, Attachments C and D, respectively.

CONCLUSION

Actions taken to date by Progress Energy and Duke Energy appear to be in accordance with the provisions and requirements of the Clean Smokestacks Act.

ATTACHMENTS

Attachment A: Duke Energy Carolinas, LLC, Clean Smokestacks Compliance Plan Annual Update for 2006, Submitted by Cover Letter Dated March 30, 2006

Attachment B: Progress Energy Carolinas, Inc. Annual North Carolina Clean Smokestacks Act Compliance Report, Submitted by Cover Letter Dated March 30, 2006

Attachment C: Report of the Public Staff on Costs Incurred and Amortized by Duke Energy Carolinas, LLC in Compliance with Session Law 2002-4, Filed on May 22, 2006

Attachment D: Report of the Public Staff on Costs Incurred and Amortized by Progress Energy Carolinas, Inc. in Compliance With Session Law 2002-4, Filed on May 22, 2006

Duke Power.
A Duke Energy Company

George T. Everett, Ph.D.
Director, Environmental/Legislative Affairs

919-235-0955
gteverett@duke-energy.com

March 30, 2006

Ms. Geneva S. Thigpen, Chief Clerk
North Carolina Utilities Commission
4325 Mail Service Center
Raleigh, NC 27699-4325

RECEIVED
2006
Clerk's Office
N.C. Utilities Commission

Subject: Docket No. E-7, Sub 718
Duke Power Compliance Plan Annual Update NO_x Control

Record No. NC CAP 005

Dear Ms. Thigpen:

Duke Power is required by Senate Bill 1078 to file information on or before 1 April of each year to update the Commission on progress to date, upcoming activities and expected strategies to achieve the emissions limitations set out in G.S. 143-215.107D. Enclosed for filing are the original and thirty (30) copies of Duke Power's Compliance Plan Annual Update for 2006 that fully describe the company's efforts to comply with this clean air legislation.

The current plan to meet the emission requirements for NO_x and SO_2 includes:

NO_x Control – The installation of Selective Catalytic Reduction (SCR) on Cliffside Steam Station Unit 5 and Belews Creek Steam Station Units 1&2 has been completed. Our NOx plans include installation of Selective Non-Catalytic Reduction (SNCR) at 15 units, and burner work at our remaining sites with the exception of Cliffside Units 1-4. With these installations, Duke can demonstrate compliance with our 2007 and 2009 NOx caps under Senate Bill 1078.

SO_2 Control – The installation of wet scrubbers on our twelve largest generating units continues to be our plan. We have worked with the Department of Environment and Natural Resources on a plan to accelerate the scrubber installation schedule at Plant Allen. Acceleration of the Allen scrubbers maintains our design and construction continuity and helps assure Duke Power can meet the recently finalized Clean Air Interstate Rule. Costs for our scrubber projects have gone up at Plant Allen due to increases in material (steel and petroleum-based products) and labor costs. Explanations for these increases have been shared with the Public Staff.

Exhibits A and B outline current unit specific technology selections, projected operational dates, expected emission rates, and the corresponding tons of emissions that demonstrate compliance with the legislative requirements to the best of Duke Power's knowledge at this time. The projected estimates of 'environmental compliance costs' for these pollution control projects are included in Exhibit C.

Duke Power will continue to examine the technology selection, implementation schedule and associated costs. Annual updates will be provided to the NC Utilities Commission as required. If you have questions regarding any aspect of our plan, please do not hesitate to contact my office at 919-235-0955.

Sincerely,

George T. Everett

George T. Everett, Ph.D.
Director, Environmental/Legislative Affairs
Duke Power

Enclosures

Robert P. Gruber
Executive Director – Public Staff
4326 Mail Service Center
Raleigh, NC 27699-4326

Duke Power Company

General Assembly of North Carolina Session 2001
Senate Bill 1078 – Improve Air Quality/Electric Utilities (NC Clean Air Legislation)
2006 Annual Data Submittal

1. **A detailed report on the investor-owned public utility's plans for meeting the emissions limitations set out in G.S. 143-215.107D.**

Exhibits A and B outline the plan as of this date for technology selections by facility and unit, projected operational dates, expected emission rates, and the corresponding tons of emissions that demonstrate compliance with the provisions of G.S. 143-215.107D. Changes to the expected plan for meeting these emissions limitations as compared to past compliance plans are highlighted in these exhibits and described below:

NO_x Compliance

- Technology Change – The Dan River Unit 3 SNCR project has been deleted from the plan because of the expected high cost to install and operate a single unit SNCR system.
- Schedule Changes – Numerous project schedule changes are included in this 2006 update:
  - The Buck Units 3&4 Burner projects were accelerated from 2008 to the spring of 2007 to better support compliance with the Phase I cap of 35,000 tons per year.
  - The Buck Unit 5 SNCR project was accelerated to the fall of 2006 to better align with the Buck Unit 6 SNCR schedule and allow for the most effective outage and work sequencing.
  - The Dan River Units 2&3 Burner projects were delayed until the fall of 2006 because of the elimination of the pollution control project (PCP) exemption in July 2005 and its effect on the permitting process.
  - The Riverbend Unit 4 SNCR project was accelerated to the spring of 2007 for outage optimization and to better support compliance with the Phase I cap of 35,000 tons per year.
  - The Riverbend Units 6&7 SNCR projects were accelerated to the fall of 2006 for outage optimization.
- Rate Changes – Expected rates have been adjusted in this 2006 update based on 2005 operational performance, project schedule changes and other factors:
  - Allen Units 1-5 expected rates were adjusted based on 2005 ozone season performance; Allen Units 1&3 SNCR operation demonstrated that 0.16 could be achieved with system optimization.
  - The Belews Creek Units 1&2 expected rates were also lowered based on 2005 ozone season results.
  - The Buck Units 3&4 rates were adjusted as a result of the Burner project accelerations.

- Buck Units 5&6 expected rates were lowered based on 2005 ozone season performance along with SNCR equipment guarantees.
- Cliffside Units 1&2 expected rates increased based on 2005 ozone season performance.
- The Cliffside 5 expected rate decreased slightly based on 2005 ozone season performance of the SCR equipment.
- The Dan River Unit 2 expected rate was adjusted slightly based on expected performance.
- The Dan River Unit 3 expected rate was changed based on expected performance of the burner equipment, the burner outage schedule and the deletion of the SNCR equipment.
- The Marshall Unit 2 expected rate changed due to the timing of the SNCR installation outage and 2005 ozone season performance.
- The Marshall Units 3&4 expected rates changed based on the 2005 ozone season performance and the current SNCR installation outage schedule; the 2009 expected rates for these units reflect expected further optimization of the SNCR equipment.
- The Riverbend expected rates were adjusted based on the SNCR installation schedule changes and lower SNCR equipment guarantees.

Because the expected 2009 NO_x emissions are so close to the 31,000 ton limit, Duke will continue to evaluate options to improve performance, including the addition of SCR on Marshall Unit 3 and reconsideration of a Dan River Unit 3 SNCR system.

SO_2 Compliance

- New Pulverized Coal (PC) Units – This 2006 update includes the proposed addition of two new 800 MW coal units in 2011 and 2012 at the Cliffside Steam Station. The 2013 expected compliance plan includes these units along with the associated retirement of Cliffside Units 1-4 if the new units are put in service.
- Schedule Changes – Both the Belews Creek Unit 2 and Cliffside Unit 5 FGD (Scrubber) operational dates were adjusted in this plan. The Belews Creek Unit 2 operational date has shifted slightly from the fall of 2007 until early 2008; the Cliffside 5 operational date has shifted out to 2010 to better align with the proposed operational dates for the new units.
- Rate Changes – Expected rate changes have been adjusted in this 2006 update based on changes to operational dates and other considerations:
  - The Allen expected rates were adjusted based on the new sequencing of FGD operational dates in 2009; Allen Units 1, 2 & 5 are now expected to be operational in the spring of 2009 and supported by one FGD absorber while Units 4&5 are expected to be operational in the fall of 2009 and supported by the second FGD absorber.
  - The Buck rates were adjusted based on the expected use of a lower sulfur coal
  - The Cliffside rates were adjusted based on the expected use of a higher sulfur coal and the FGD operational date change for Unit 5.

2. **The actual environmental compliance costs incurred by the investor-owned public utility in the previous calendar year, including a description of the construction undertaken and completed during that year.**

In the 2005 calendar year, Duke Power Company spent $346,420,000 on activities in support of compliance with the provisions of G.S. 143-215.107D. Exact amounts associated with each project are provided in Exhibit C, and a description of the associated activities is provided below:

Allen Steam Station FGD

- Initiated Phase II portion of project including preliminary engineering, project scope development, plant interface studies, contract exhibits and project estimates

Belews Creek Steam Station FGD

- Executed the Engineering, Procurement and Construction (EPC) agreement with the Consortium of ALSTOM Power Inc. and Shaw/Stone & Webster (Alstom/Shaw)
- Mobilized the project's construction management team to the Belews Creek site and initiated construction activities
- Completed the installation of a new fuel oil tank and the removal of the existing fuel oil and elevated water storage tanks from the area planned for the main portions of the FGD system
- Removed the existing hill from the area planned for the main portions of the FGD system (approximately 300,000 cubic yards of soil and rock)
- Initiated construction of the major foundations for the FGD system
- Completed approximately 20% of the overall project (approximately 10% of the construction activities)

Cliffside Steam Station Unit 5 FGD

- Continued preliminary construction planning and development of conceptual site layout

Marshall Steam Station FGD

- Completed fabrication and installation of absorber outlet ducts and flue liners
- Completed site earthwork for gypsum landfill, wetlands (including plantings)
- Completed all remaining major building and equipment foundations including wetlands equalization basin, transformers, switchgear and major tanks
- Completed structural steel erection for absorber, reagent prep, dewatering buildings, transfer towers 1&2, limestone unloading & stackout, and duct support sections 1 through 11
- Completed assembly of ball mills, absorber recycle pumps, hydrocyclones, dewatering belt filters, limestone unloading and major field-erected tanks
- Completed installation of underground piping, above group piping systems and makeup water station tie-ins

- Completed majority of transformers setting, switchgear and underground ductbank work
- Completed majority of material handing equipment installation
- Completed erection of all wastewater treatment tanks and sludge press building

Allen Steam Station SNCR, Unit 2

- Completed preliminary engineering

Allen Steam Station SNCR, Unit 3

- Completed installation of Unit 3 SNCR equipment and supporting plant air equipment

Allen Steam Station SNCR, Unit 4

- Completed detailed engineering and received mechanical, electrical and installation drawings
- Procured material in preparation for 2006 installation

Allen Steam Station SNCR, Unit 5

- Completed preliminary engineering

Buck Steam Station SNCR, Unit 5

- Completed preliminary engineering

Buck Steam Station SNCR, Unit 6

- Completed preliminary engineering

Dan River Steam Station Burners, Unit 2

- Completed detailed engineering and material procurement in preparation for 2006 installation

Dan River Steam Station Classifiers, Unit 2

- Completed installation of advanced static classifier technology in fall of 2005

Dan River Steam Station Burners, Unit 3

- Completed detailed engineering and material procurement in preparation for 2006 installation

Dan River Steam Station Classifiers, Unit 3

- Completed installation of advanced static classifier technology in fall of 2005

Marshall Steam Station SNCR, Unit 1

- Completed detailed engineering and received mechanical, electrical and installation drawings
- Procured material in preparation for 2006 installation

Marshall Steam Station SNCR, Unit 2

- Completed preliminary engineering

Marshall Steam Station SNCR, Unit 3

- Completed installation of SNCR equipment

Marshall Steam Station SNCR, Unit 4

- Continued preliminary engineering and planning for project

Riverbend Steam Station SNCR, Unit 4

- Completed preliminary engineering

Riverbend Steam Station Burners, Unit 5

- Incurred final costs associated with project to install burners on unit in early 2005

Riverbend Steam Station SNCR, Unit 5

- Completed preliminary engineering

Riverbend Steam Station Burners, Unit 6

- Completed installation of SOFA technology on unit in spring of 2005

Riverbend Steam Station Classifiers, Unit 6

- Completed installation of advanced static classifier technology in spring of 2005

Riverbend Steam Station SNCR, Unit 6

- Completed preliminary engineering

Riverbend Steam Station SNCR, Unit 7

- Completed preliminary engineering

3. **The amount of the investor-owned public utility's environmental compliance costs amortized in the previous calendar year.**

In the 2005 calendar year, **$311,236,000** was amortized related to construction work activity in support of compliance with the provisions of G.S. 143-215.107D. **$637,429,142** in total has now been amortized for the program through year-end 2005.

4. **An estimate of the investor-owned public utility's environmental compliance costs and the basis for any revisions of those estimates when compared to the estimates submitted during the previous year.**

The estimated 'environmental compliance costs' as defined in G.S. 143-215.107D are provided in Exhibit C. Changes to the expected costs as compared to past compliance plans are highlighted in this exhibit and described below:

- Allen FGD Project – The Allen FGD estimate has increased since 2005 and is attributable to ramp up in the power generation and/or environmental retrofit construction market, and continued escalation of labor costs. The Cliffside 5 FGD estimate is also affected by these issues, but is expected to be offset by savings if this project is executed in conjunction with the proposed construction of new generating units at the Cliffside station.
- SNCR Projects – In addition to the deletion of the Dan River Unit 3 SNCR project, refinement of the SNCR work scope at each location has resulted in a lower overall estimated cost. The most significant change to this scope over the last year has been to remove the Riverbend central reagent (urea) distribution center scope of work and replace with individual station storage and dilution water equipment.
- Dan River Unit 3 Burner Project – The Dan River Unit 3 Burner project experienced some costs increases estimated at $470,000 due to the delay in installation discussed above.

5. **A description of all permits required in order to comply with the provisions of G.S. 143-215.107D for which the investor-owned public utility has applied and the status of those permits or permit applications.**

Belews Creek Steam Station FGD

- NPDES Permit Modification – Submitted 6/30/04; received 5/16/05
- Initial Erosion Control Permit – Submitted 2/4/05; received 3/7/05
- Landfill Site Suitability Application – Submitted 3/30/05; expect Site Suitability by April 2006
- Air Permit Application for Belews Creek FGD project – Submitted 4/18/05; received 2/6/06
- Request to revise NPDES Permit to include FGD wastewater – Submitted 6/30/04; received permit revision 5/16/05
- Authorization to Construct (ATC) application for Wastewater Treatment System – Submitted 7/21/05; received 12/27/05
- Authorization to Construct (ATC) application for Constructed Wetlands – Submitted 7/21/05; expect final permit April 2006
- Revised Landfill Construction Plan Application – Submitted 9/30/05; expect permit July 2006
- Air Permit – Notice of Intent to Construct – Submitted 10/11/05; received 10/24/05
- NOTE: Revisions to Erosion Control Permit submitted on various dates; most recent revised permit received 12/20/05

Cliffside Steam Station Unit 5 FGD

- Air Permit Application – Submitted 12/16/05
- NOTE: A complimentary PSD permit application was submitted on this same 12/16/05 date for the proposed new generating units at the Cliffside site. If this associated PSD air permit is not approved or withdrawn, it will be necessary to submit a revised Air Permit Application for a standalone Unit 5 FGD.

Marshall Steam Station FGD

- Landfill Construction Plan Application – Submitted 4/1/04; received 2/4/05
- Sedimentation and Erosion Control Plan Permits
  - Limestone/Gypsum Conveyor – Submitted 6/17/04; received 7/9/04
  - Limestone/Gypsum Conveyor Expansion – Submitted 12/15/04; received 12/30/04
  - Constructed Wetland Treatment System – Submitted 7/26/04; received 8/18/04
  - Gypsum Landfill – Submitted 3/31/04; received 4/21/04
- Authorization to Construct (ATC) application for Solids Removal System – Submitted 11/19/04; received 12/22/04
- Authorization to Construct (ATC) application for Constructed Wetlands – Submitted 5/21/04; received 8/10/04

Allen Steam Station SNCR, Unit 3

- Air Permit Application – Submitted 7/15/04; Received 2/5/05

Allen Steam Station SNCR, Unit 4

- Air Permit Application – Submitted 7/15/05; Received 1/15/06

Marshall Steam Station SNCR, Unit 1

- Air Permit Application – Submitted 9/18/05; Received 12/20/05

Marshall Steam Station SNCR, Unit 2

- Air Permit Application – Submitted 9/18/05; Received 12/20/05

Marshall Steam Station SNCR, Unit 3

- Air Permit Application – Submitted 5/14/04; Received 10/13/04

Riverbend Steam Station SNCR, Unit 4

- Air Permit Application – Submitted 3/20/05; Received 8/1/05

Riverbend Steam Station Burners, Unit 5

- Air Permit Application – Submitted 4/2/04; Received 4/30/04

Riverbend Steam Station SNCR, Unit 5

- Air Permit Application – Submitted 3/20/05; Received 8/1/05

Riverbend Steam Station Burners, Unit 6

- Air Permit Application – Submitted 5/14/03; Received September 2003

Riverbend Steam Station SNCR, Unit 6

- Air Permit Application – Submitted 11/5/05; Received 1/1/06

Riverbend Steam Station SNCR, Unit 7

- Air Permit Application – Submitted 11/5/05; Received 1/1/06

6. **A description of the construction related to compliance with the provisions of G.S. 143-215.107D that is anticipated during the following year.**

Allen Steam Station FGD

- Finalize EPC agreement with the Alstom/Shaw consortium
- Relocate existing plant services including ash sluice lines, diesel oil tank, electrical and potable water lines
- Relocate existing rail spurs and switches
- Construct new FGD entrance road from state highway
- Begin earthwork and grading for project, including initial site clearing
- Begin installation of piles and foundations
- Install new ductwork tie-ins to Unit 2

Belews Creek Steam Station FGD

- Complete the construction of the major foundations for the FGD system
- Complete the construction of the concrete shell for the two new chimneys
- Complete all construction on approximately 5% of the sub-systems that make up the total FGD system
- Complete construction of the Constructed Wetlands (part of the wastewater treatment system)
- Initiate commissioning activities on the completed sub-systems of the total FGD system
- Achieve a completion status of 75% on the overall project (65% of construction activities)

Cliffside Steam Station Unit 5 FGD

- Continue engineering study to finalize the project scope, funding and implementation schedule

Marshall Steam Station FGD

- Mobilize large crane for ductwork installation
- Complete initial tie-in of the Unit 4 ductwork and install blanking plate
- Complete ductwork installation using large crane
- Complete construction, turnover and commissioning of Unit 4 and common systems

- Complete final tie-in of the Unit 4 ductwork and removal of blanking plate
- Begin testing and tuning of Unit 4 and common systems
- Achieve Substantial Completion for Unit 4 and common systems
- Complete initial tie-in of the Unit 3 ductwork and install blanking plate
- Complete construction, turnover and commissioning of Unit 3 systems
- Complete final tie-in of the Unit 3 ductwork and removal of blanking plate
- Begin testing and tuning of Unit 3 and common systems
- Achieve Substantial Completion for Unit 3 systems

Allen Steam Station SNCR, Unit 2

- Complete detailed engineering for SNCR equipment and reagent storage
- Begin material procurement activities in support of installation in early 2007
- Complete procurement and construction of reagent storage equipment

Allen Steam Station SNCR, Unit 4

- Complete installation of SNCR equipment, including incremental compressed air and dilution water systems, in time to support 2006 ozone season operation

Allen Steam Station SNCR, Unit 5

- No significant activity expected in 2006

Buck Steam Station Burners, Unit 3

- Complete detailed engineering and material procurement activities in support of installation in early 2007

Buck Steam Station Classifiers, Unit 3

- No significant activity expected in 2006

Buck Steam Station Burners, Unit 4

- Complete detailed engineering and material procurement activities in support of installation in early 2007

Buck Steam Station Classifiers, Unit 4

- No significant activity expected in 2006

Buck Steam Station SNCR, Unit 5

- Complete detailed engineering and material procurement activities in support of installation in late 2006
- Substantially complete installation of SNCR equipment including incremental air, dilution water and storage needs in time to support 2007 operation

Buck Steam Station SNCR, Unit 6

- Complete detailed engineering and material procurement activities in support of installation in late 2006
- Substantially complete installation of SNCR equipment including incremental air, dilution water and storage needs in time to support 2007 operation

Dan River Steam Station Burners, Unit 1

- No significant activity expected in 2006

Dan River Steam Station Burners, Unit 2

- Substantially complete installation of burners

Dan River Steam Station Burners, Unit 3

- Substantially complete installation of burners

Marshall Steam Station SNCR, Unit 1

- Complete installation of SNCR equipment in time to support 2006 ozone season operation

Marshall Steam Station SNCR, Unit 2

- Complete detailed engineering for SNCR equipment and reagent storage
- Begin material procurement activities in support of installation in early 2007
- Complete procurement and construction of reagent storage equipment

Marshall Steam Station SNCR, Unit 4

- Complete detailed engineering for SNCR equipment
- Begin material procurement activities in support of installation in early 2007

Riverbend Steam Station SNCR, Unit 4

- Complete detailed engineering for SNCR equipment
- Begin material procurement activities in support of installation in early 2007

Riverbend Steam Station SNCR, Unit 5

- Complete detailed engineering for SNCR equipment
- Begin material procurement activities in support of installation in late 2007

Riverbend Steam Station SNCR, Unit 6

- Complete detailed engineering and material procurement activities in support of installation in late 2006
- Substantially complete installation of SNCR equipment including reagent storage needs in time to support 2007 operation

Riverbend Steam Station SNCR, Unit 7

- Complete detailed engineering and material procurement activities in support of installation in late 2006
- Substantially complete installation of SNCR equipment including incremental air and dilution water needs in time to support 2007 operation

7. **A description of the applications for permits required in order to comply with the provisions of G.S. 143-215.107D that are anticipated during the following year.**

Allen Steam Station FGD

- Authorization to Construct (ATC) application for Wastewater Treatment System – Plan to submit August 2006; expect to receive February 2007
- Air Permit Application – Plan to submit April 2006; expect to receive approval July 2006
- Request to revise NPDES Permit to include FGD wastewater – Submitted 1/24/2006; expect to receive revision May 2006
- Submittal to DENR/ACOE regarding stream crossing of entrance road – Plan to submit March 2006
- NOTE: all erosion control permits are in EPC contractor's scope for the Allen FGD Project

Belews Creek Steam Station FGD

- Authorization to Construct (ATC) application for Sanitary Waste Lagoon – Plan to submit March 2006; expect to receive September 2006

Cliffside Steam Station Unit 5 FGD

- NOTE: A complimentary PSD permit application was submitted on 12/16/05 for the proposed new generating units at the Cliffside site. If this associated PSD air permit is not approved or withdrawn, it will be necessary to submit a revised Air Permit Application for a standalone Unit 5 FGD. This application would be made in the 3rd or 4th Quarter of 2006.

Allen Steam Station SNCR, Unit 2

- Air Permit Application – Plan to submit July 2006; expect to receive approval January 2007

Allen Steam Station SNCR, Unit 4

- Authorization to Construct (ATC) application for the dilution water piping – Plan to submit to the City of Belmont March 2006

Buck Steam Station Burners, Unit 3

- Air Permit Application – Plan to submit March 2006; expect to receive approval February 2007

Buck Steam Station Burners, Unit 4

- Air Permit Application – Plan to submit March 2006; expect to receive approval February 2007

Buck Steam Station SNCR, Unit 5

- Air Permit Application – Plan to submit March 2006; expect to receive approval July 2006

Buck Steam Station SNCR, Unit 6

- Air Permit Application – Plan to submit March 2006; expect to receive approval July 2006

Dan River Steam Station Burners, Unit 1

- Air Permit Application – Submitted 2/23/06; expect to receive approval August 2006

Dan River Steam Station Burners, Unit 2

- Air Permit Application – Submitted 2/23/06; expect to receive approval September 2006

Dan River Steam Station Burner Project, Unit 3

- Air Permit Application – Submitted 2/23/06; expect to receive approval September 2006

Marshall Steam Station SNCR, Unit 4

- Air Permit Application – Plan to submit September 2006; expect to receive approval January 2007

8. The results of equipment testing related to compliance with G.S. 143-215.107D.

No additional equipment related testing occurred in 2005. The SNCR and SCR tests that occurred in prior years that were used in evaluating technology selections are repeated in this 2006 report for reference.

Allen Steam Station SNCR, Unit 1

- SNCR Equipment installation was completed in May 2003 followed by equipment acceptance testing in late 2003. During this test run, it was determined that the SNCR system met all commercial performance guarantees with approximately a 25% reduction in NOx with ammonia slip of less than 5 ppm at full load
- During the 2004 ozone season, Allen Unit 1 achieved a 0.162# NO_x/MMBTU outlet rate, 5% better than the 0.17#/MMBTU target established for the unit.

Belews Creek Steam Station SCR

- SCR Equipment installation was completed in 2003 in support of the EPA/SIP Call requirements for NO_x reduction. While Belews Creek had operational problems in the first half of the 2004 ozone season, many of these issues were addressed on Belews Creek Unit 1 by August, 2004. Subsequently, tests performed during the months of August and September showed that when the SCR Equipment was in service during this time, emissions averaged 0.07# NO_x/MMBTU

9. **The number of tons of oxides of nitrogen (NO_x) and sulfur dioxide (SO_2) emitted during the previous calendar year from the coal-fired generating units that are subject to the emissions limitations set out in G.S. 143-215.107D.**

   In the 2005 calendar year, 56,073.3 tons of NO_x and 298,780.5 tons of SO_2 were emitted from the North Carolina based Duke Power Company coal-fired units located in North Carolina and subject to the emissions limitations set out in G.S 143-215.107D.

10. **The emissions allowances described in G.S. 143-215.107D(i) that are acquired by the investor-owned public utility that result from compliance with the emissions limitations set out in G.S. 143-215.107D.**

    No emissions allowances have been acquired by Duke Power Company resulting from compliance with the emissions limitations set out in G.S. 143-215.107D.

11. **Any other information requested by the Commission or Department of Environment and Natural Resources.**

    No additional information has been requested to be included in this annual data submittal.

Expected Duke Power Company Co[illegible]ance for NC Clean Air Plan as of 4/1/2006
[illegible]bit A)

NO_x								
				2007 Compliance		2009 Compliance		
Facility	Unit	Technology	Operational Date	Expected Rate #/MMBTUs	Tons	Expected Rate #/MMBTUs	Tons	
Allen	1	SNCR	2003	0.160	901	0.160	851	
Allen	2	SNCR	2007	0.180	799	0.160	798	
Allen	3	SNCR	2005	0.160	1,409	0.160	1,297	
Allen	4	SNCR	2006	0.160	1,537	0.160	1,451	
Allen	5	SNCR	2008	0.220	2,078	0.160	1,377	
Belews Creek	1	SCR	2003	0.065	1,942	0.060	2,425	
Belews Creek	2	SCR&Burners	2004	0.060	2,260	0.060	1,871	
Buck	3	Burners	2007	0.280	489	0.220	308	
Buck	4	Burners	2007	0.280	295	0.220	196	
Buck	5	SNCR	2006	0.150	582	0.150	605	
Buck	6	SNCR	2006	0.150	581	0.150	604	
Cliffside	1	Tuning Only	2004	0.360	302	0.360	255	
Cliffside	2	Tuning Only	2004	0.360	300	0.360	262	
Cliffside	3	Tuning Only	2004	0.400	587	0.400	544	
Cliffside	4	Tuning Only	2004	0.400	593	0.400	538	
Cliffside	5	SCR	2002	0.060	1,099	0.060	1,141	
Dan River	1	Burners	2008	0.370	614	0.220	345	
Dan River	2	Burners	2006	0.220	388	0.220	369	
Dan River	3	Burners	2006	0.220	828	0.220	825	
Marshall	1	SNCR	2006	0.170	2,212	0.170	2,256	
Marshall	2	SNCR	2007	0.190	2,008	0.170	2,241	
Marshall	3	SNCR	2005	0.190	4,322	0.180	4,328	
Marshall	4	SNCR	2007	0.190	4,305	0.180	4,078	
Riverbend	4	SNCR	2007	0.200	466	0.170	400	
Riverbend	5	SNCR&Burners	2008	0.240	516	0.170	401	
Riverbend	6	SNCR&Burners	2006	0.150	570	0.150	565	
Riverbend	7	SNCR	2006	0.150	549	0.150	578	
			Expected Total:		**32,533**		**30,909**	*** NOTE 1 ***
			Compliance Limit:		**35,000**		**31,000**	

*** NOTE 1 *** Because the expected 2009 NO_x emissions are so close to the 31,000 ton limit, Duke will continue to evaluate options to improve performance, including SCR on Marshall Unit 3 and/or SNCR on Dan River Unit 3.

Technology:

Burners – Overfired Air or Separated Overfired Air with associated Mill Classifier installations

SCR – Selective Catalytic Reduction

SNCR – Selective Non-Catalytic Reduction

Changes from 4/1/2005 Plan Highlighted

Expected Duke Power Company Compliance for NC Clean Air Plan as of 4/1/2006
(Exhibit B)

SO_2							
				2009 Compliance		2013 Compliance	
Facility	Unit	Technology	Operational Date	Expected Rate #/MMBTUs	Tons	Expected Rate #/MMBTUs	Tons
Allen	1	Scrubber	2009	0.500	2,659	0.150	747
Allen	2	Scrubber	2009	0.500	2,488	0.150	727
Allen	3	Scrubber	2009	1.200	9,864	0.150	1,183
Allen	4	Scrubber	2009	1.200	10,746	0.150	1,031
Allen	5	Scrubber	2009	0.500	4,215	0.150	1,217
Belews Creek	1	Scrubber	2008	0.150	5,927	0.150	5,512
Belews Creek	2	Scrubber	2008	0.150	4,579	0.150	4,639
Buck	3			1.100	1,543	1.100	1,748
Buck	4			1.100	983	1.100	1,087
Buck	5			1.100	4,412	1.100	3,671
Buck	6			1.100	4,410	1.100	4,297
Cliffside	1			1.650	1,170	0.000	0
Cliffside	2			1.650	1,198	0.000	0
Cliffside	3			1.650	2,243	0.000	0
Cliffside	4			1.650	2,213	0.000	0
Cliffside	5	Scrubber	2010	1.650	31,193	0.150	2,755
Cliffside	6	Scrubber	2011	0.000	0	0.080	2,240
Cliffside	7	Scrubber	2012	0.000	0	0.080	2,237
Dan River	1			1.400	2,184	1.400	2,233
Dan River	2			1.400	2,336	1.400	2,368
Dan River	3			1.400	5,202	1.400	5,229
Marshall	1	Scrubber	2007	0.150	1,952	0.150	1,971
Marshall	2	Scrubber	2007	0.150	1,940	0.150	1,592
Marshall	3	Scrubber	2007	0.150	3,539	0.150	3,520
Marshall	4	Scrubber	2006	0.150	3,333	0.150	3,387
Riverbend	4			1.550	3,635	1.550	3,620
Riverbend	5			1.550	3,641	1.550	3,454
Riverbend	6			1.550	5,799	1.550	5,736
Riverbend	7			1.550	5,942	1.550	5,891
			Expected Total:		**129,346**		**72,090**
			Compliance Limit:		**150,000**		**80,000**

Changes from 4/1/2005 Plan Highlighted

Expected Duke Power Company Compliance Plan for NC Clean Air Plans of 4/1/2006
(Exhibit C)

Facility	Unit(s)	Technology	Operational Date	Spent to Date 2001 ($000)	2002 ($000)	2003 ($000)	2004 ($000)	2005 ($000)	Remaining 2006-2010 ($000)	Project Total ($000)	
Allen	1-5	Scrubber	2009	$0.9	($0.9)	$1,099.8	($11.8)	$5,348.3	$420,820.3	$427,256.6	
Belews Creek	1-2	Scrubber	2008	$0.0	$0.0	$1,121.3	$5,999.1	$106,433.5	$422,757.4	$536,311.3	
Cliffside	5	Scrubber	2010	$0.0	$0.0	$978.5	$287.5	$112.0	$250,798.4	$252,176.3	
Marshall	1-4	Scrubber	2007	$0.0	$0.0	$10,213.7	$92,096.3	$218,129.8	$102,994.6	$423,434.4	SO_2
Allen	1	SNCR	2003	$177.3	$162.4	$2,884.1	$364.9	$0.0	$0.0	$3,588.7	
Allen	2	SNCR	2007	$0.0	$0.0	$0.0	$0.0	$239.3	$4,821.6	$5,061.0	
Allen	3	SNCR	2005	$0.0	$0.0	$215.7	$2,584.1	$4,091.5	$0.0	$6,891.4	
Allen	4	SNCR	2006	$0.0	$0.0	$0.0	$217.9	$1,122.2	$4,410.1	$5,750.2	
Allen	5	SNCR	2008	$0.0	$0.0	$98.9	$164.6	$122.3	$4,224.0	$4,609.8	
Buck	3	Burner	2007	$0.0	$0.0	$0.0	$0.0	$0.0	$3,775.0	$3,775.0	
Buck	3	Classifier	2007	$0.0	$0.0	$0.0	$0.0	$0.0	$292.0	$292.0	
Buck	4	Burner	2007	$0.0	$0.0	$0.0	$0.0	$0.0	$2,077.0	$2,077.0	
Buck	4	Classifier	2007	$0.0	$0.0	$0.0	$0.0	$0.0	$172.0	$172.0	
Buck	5	SNCR	2006	$0.0	$0.0	$0.0	$268.2	$345.9	$4,828.0	$5,442.1	
Buck	6	SNCR	2006	$0.0	$0.0	$0.0	$265.8	$335.3	$3,150.0	$3,751.1	
Dan River	1	Burner	2008	$0.0	$0.0	$0.0	$0.0	$0.0	$2,112.0	$2,112.0	
Dan River	1	Classifier	2008	$0.0	$0.0	$0.0	$0.0	$0.0	$171.0	$171.0	
Dan River	2	Burner	2006	$0.0	$0.0	$0.0	$0.0	$775.4	$1,231.1	$2,006.5	
Dan River	2	Classifier	2005	$0.0	$0.0	$0.0	$0.0	$130.8	$0.0	$130.8	
Dan River	3	Burner	2006	$7.5	$162.3	$22.2	$512.8	$679.0	$1,832.5	$3,216.3	
Dan River	3	Classifier	2005	$0.0	$0.0	$0.0	$0.0	$184.3	$0.0	$184.3	
Marshall	1	SNCR	2006	$0.0	$0.0	$0.8	$167.2	$1,418.4	$2,620.0	$4,206.4	
Marshall	2	SNCR	2007	$0.0	$0.0	$197.6	$185.4	$778.3	$5,292.0	$6,453.2	
Marshall	3	SNCR	2005	$0.0	$0.0	$1,577.4	$652.1	$2,042.4	$0.0	$4,271.8	
Marshall	4	SNCR	2007	$0.0	$0.0	$0.0	$0.0	$43.3	$3,925.0	$3,968.3	
Riverbend	4	SNCR	2007	$0.0	$0.0	$0.0	$45.6	$474.3	$3,323.2	$3,843.1	
Riverbend	5	Burner	2005	$362.8	$284.3	$2.8	$2,313.4	$180.0	$0.0	$3,143.3	
Riverbend	5	Classifier	2005	$0.0	$0.0	$0.0	$159.6	$0.0	$0.0	$159.6	
Riverbend	5	SNCR	2008	$0.0	$0.0	$0.0	$1.5	$321.7	$3,758.3	$4,081.5	
Riverbend	6	Burner	2005	$144.0	$416.1	$12.2	$510.4	$2,096.4	$0.0	$3,179.1	
Riverbend	6	Classifier	2005	$0.0	$0.0	$0.0	$0.0	$189.4	$0.0	$189.4	
Riverbend	6	SNCR	2006	$0.0	$0.0	$0.0	$1.5	$340.3	$4,326.1	$4,667.9	
Riverbend	7	SNCR	2006	$0.0	$0.0	$0.0	$48.5	$485.8	$4,402.8	$4,937.0	NO_x
			Subtotals:	$692.4	$1,024.2	$18,424.9	$106,834.5	$346,420.0	$1,258,114.4		
								NC-CAP Total:	$1,731,510.4		

Significant changes from 4/1/2005 Plan Highlighted

Progress Energy

March 30, 2006

Mrs. Geneva S. Thigpen
Chief Clerk
North Carolina Utilities Commission
4325 Mail Service Center
Raleigh, NC 27699-4325

Re: Annual NC Clean Smokestacks Act Compliance Report
Docket No. E-2, Sub 815

Dear Mrs. Thigpen:

Progress Energy Carolinas, Inc. submits the attached report for calendar year 2005 regarding the status of compliance with the provisions of the North Carolina Clean Smokestacks Act. Section 9(i) of the Act requires that an annual report of compliance progress be submitted to the Commission by April 1 of each year for the previous calendar year.

Very truly yours,

Len S. Anthony /mhm

Len S. Anthony
Deputy General Counsel-Regulatory Affairs

LSA:mhm

Attachment

232822

Progress Energy Service Company, LLC
P.O. Box 1551
Raleigh, NC 27602

Progress Energy

MAR 30 2006

March 30, 2006

Mr. William G. Ross, Jr.
Secretary
North Carolina Department of Environment and Natural Resources
1601 Mail Service Center
Raleigh, NC 27699-1601

Dear Secretary Ross:

Progress Energy Carolinas, Inc. (PEC) submits the attached report for calendar year 2005 regarding the status of compliance with the provisions of the North Carolina Clean Smokestacks Act. Section 9(i) of the Act requires that an annual compliance progress report be submitted by April 1 of each year for the previous calendar year. PEC appreciates the efforts of your staff to work with us and looks forward to continuing our positive working relationship to facilitate fulfillment of PEC's obligations with this important law.

Please don't hesitate to contact me at (919) 546-3775 if you have any questions.

Sincerely,

Caroline Choi
Director, Environmental Services

c: North Carolina Utilities Commission
Keith Overcash, DAQ

Progress Energy Service Company, LLC
PO Box 1551
Raleigh, NC 27602

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Progress Energy Carolinas, Inc.
North Carolina Clean Smokestacks Act
Calendar Year 2005 Progress Report

On June 20, 2002, North Carolina Senate Bill 1078, also known as the "Clean Smokestacks Act," was signed into effect. This law requires significant reductions in the emissions of nitrogen oxides (NOx) and sulfur dioxide (SO_2) from utility owned coal-fired power plants located in North Carolina. Section 9(i) of the bill, which is now incorporated as Section 62-133.6(i) of the North Carolina General Statutes, requires that an annual progress report regarding compliance with the Clean Smokestacks Law be submitted on or before April 1 of each year. The report must contain the following elements, taken verbatim from the statute:

1. A detailed report on the investor-owned public utility's plans for meeting the emissions limitations set out in G.S. 143-215.107D.
2. The actual environmental compliance costs incurred by the investor-owned public utility in the previous calendar year, including a description of the construction undertaken and completed that year.
3. The amount of the investor-owned public utility's environmental compliance costs amortized in the previous calendar year.
4. An estimate of the investor-owned public utility's environmental compliance costs and the basis for any revisions of those estimates when compared to the estimates submitted during the previous year.
5. A description of all permits required in order to comply with the provisions of G.S. 143-215.107D for which the investor-owned public utility has applied and the status of those permits or permit applications.
6. A description of the construction related to compliance with the provisions of G.S. 143-215.107D that is anticipated during the following year.
7. A description of the applications for permits required in order to comply with the provisions of G.S. 143-215.107D that are anticipated during the following year.
8. The results of equipment testing related to compliance with G.S. 143-215.107D.
9. The number of tons of oxides of nitrogen (NOx) and sulfur dioxide (SO_2) emitted during the previous calendar year from the coal-fired generating units that are subject to the emissions limitations set out in G.S. 143-215.107D.
10. The emissions allowances described in G.S. 143-215.107D(i) that are acquired by the investor-owned public utility that result from compliance with the emissions limitations set out in G.S. 143-215.107D.
11. Any other information requested by the Commission or the Department of Environment and Natural Resources.

Information responsive to each of these report elements follows. The responses are given by item number in the order in which they are presented above.

1. **A detailed report on the investor-owned public utility's plans for meeting the emissions limitations set out in G.S. 143-215.107D.**

The plan for Progress Energy Carolinas, Inc. was originally submitted on July 29, 2002. Appendix A contains an updated version of this plan, effective April 1, 2006. We continue to evaluate various design, technology and generation options that could affect our future compliance plans.

2. **The actual environmental compliance costs incurred by the investor-owned public utility in the previous calendar year, including a description of the construction undertaken and completed that year.**

The actual capital costs incurred by Progress Energy in 2005 were $181,274,000.

We successfully placed in service our first wet scrubber on Asheville Unit 1 in November 2005. A significant amount of work was performed at the Asheville plant in 2005 in order to place the Unit 1 scrubber in service. This work included the installation of electrical power and control cables and circuits, piping, pumps, valves, oxidation air compressors, instruments and controls (including the scrubber distributed control system), agitators, absorber tower outlet hood, spray headers, trays and other tower internals, limestone and gypsum handling equipment, and gypsum dewatering equipment. Work efforts also included constructing the wetlands and industrial wastewater treatment system for treating scrubber blowdown wastewater, completing ductwork from the precipitator to the scrubber tower and from the scrubber tower to the stack, and installing new induced draft fans and various other process equipment. Much of the equipment noted above was also installed for the Asheville Unit 2 scrubber, which will be placed in service in 2006.

In addition to the scrubber projects at Asheville, detailed design, engineering and procurement activities began for the Asheville Unit 1 SCR, which will be installed and operational in late 2007. Based on the changes in forecasted energy demand, the in-service date for these NOx controls was accelerated from 2008 to ensure compliance with the Act's annual tonnage cap. Detailed design and engineering activities included preparation of various specifications and bill of materials, civil engineering of foundation systems, structural engineering of flue gas path components and associated structural steel, and mechanical engineering for various piping systems. Work on the Asheville Unit 1 SCR also included issuing purchase orders for the SCR catalyst, ammonia injection grids, static mixers, urea to ammonia system equipment, ash handling system changes, and sonic horns.

At the Roxboro plant, environmental projects work increased significantly in 2005. Engineering, procurement and construction began or continued for each of the four units. The new electrical switchgear building that will provide power for much of the common

scrubber equipment was completed. Various power distribution panels and load centers located in the electrical switchgear building were placed into service. Purchase orders were issued for most of the major equipment. Structural steel was erected, along with various floor elevations for the new limestone preparation/gypsum dewatering building. Erection began on the limestone ball mills and the limestone storage silos. Two new concrete chimney shells (one for Units 1 and 2 and one for Units 3 and 4) were constructed. Many of the fiberglass reinforced plastic sections that make up the flue gas liners were fabricated off site to be ready for installation beginning in early 2006. Foundations were completed for all four absorber towers and their adjacent pump buildings. The ceramic tile-lined concrete absorber tower for the Unit 2 scrubber was built. Excavation began for the limestone storage pile and conveying equipment. Erection also started on the pipe bridge between the absorber towers and the limestone preparation/gypsum dewatering building.

At the Mayo plant, initial general arrangement drawings for the wet scrubber were developed. Engineering studies were completed for the scrubber distributed controls system, electrical power distribution, and induced draft fans options. Work began on the water supply, scrubber blowdown wastewater treatment, and boiler/ductwork transient analysis studies. Engineering was also performed to support the modeling required to determine the height of the new chimney. A purchase order was issued for the absorber recycle pumps. The procurement of these pumps requires a long lead time; they were purchased in 2005 to ensure availability and minimize cost increases. A milestone project schedule was developed. There were no construction activities in 2005.

At the Lee plant, preliminary engineering, design, and procurement activities were initiated for the installation of low-NOx burners in 2006. The PSD permit application was prepared and submitted to the Division of Air Quality for review and approval. There were no construction activities in 2005.

At the Sutton Plant, preliminary engineering, design, and procurement activities were initiated for the installation of low-NOx burners in 2006. There were no construction activities in 2005.

3. The amount of the investor-owned public utility's environmental compliance costs amortized in the previous calendar year.

Progress Energy Carolinas, Inc. amortized $147 million in 2005.

4. An estimate of the investor-owned public utility's environmental compliance costs and the basis for any revisions of those estimates when compared to the estimates submitted during the previous year.

Appendix B contains the capital costs incurred toward compliance with G.S. 143-215.107D in 2005 and the projected costs for future years through 2013, which show the net cost to PEC excluding the portion for which the Power Agency is responsible. The

estimated total capital costs, including escalation, are currently projected to be between $1.1B and $1.4B, with the current point estimate being $1.36B. This represents an increase of 52% from the 2005 cost estimate of $895 million. Prior reports have discussed the cost impact of project scope changes such as the use of a wet scrubber at Asheville in lieu of a dry scrubber, the capability to burn higher sulfur coals, and increased sulfur removal efficiency; all of which provide increased fuel flexibility for the Asheville, Roxboro, and Mayo plants. These additional cost increases reflect 1) increased costs for materials of construction, such as steel, concrete, and electrical power and control cables; 2) the need for a greater volume of these materials than originally forecast; 3) increased costs for equipment, such as pumps, fans, and electrical transformers; 4) the addition of wastewater treatment facilities, which were not included in the original program estimate; and 5) adjusting future project costs based on the actual project costs for our first completed scrubber and the current detailed cost estimates for the scrubbers under construction. It should be noted that significant design work remains to be completed, especially for the SO_2 controls at Mayo, Cape Fear, and Sutton. Our current estimates are subject to further adjustment as the engineering for these projects is completed.

The cost increases that we are experiencing are not unique to PEC. Other utilities with major construction projects for environmental controls are experiencing similar increases. Significant cost increases are also being experienced on other, non-utility, large construction projects in North Carolina, especially in the Raleigh area. For example, the project costs for the expansion of Terminal C at the Raleigh Durham International Airport were recently reported to have increased by 23% over the last 3 years due to inflation and rising building costs; projected costs for new Wake County schools were recently reported to have increased by 18-20% a year compared with an overall inflation rate of 2.7 to 3.4% due to higher prices for construction materials; the project costs for the planned commuter rail service from Raleigh to Durham were recently reported to have increased by 9% since 2004 (not adjusted for inflation); and the costs for the new Raleigh convention center currently under construction were recently reported to have increased by 12% due to the volatility of equipment and material prices in the construction market.

Independent cost indices, such as the Chemical Engineering Plant Cost Index, also show that the costs for construction labor and materials have increased sharply. The net overall plant escalation from December 2002 through November 2005 was 19%, which is substantially higher than the 2.0 to 2.5% per year (7.7% over the same December 2002-November 2005 period) escalation rates used for the original program cost estimates.

5. A description of all permits required in order to comply with the provisions of G.S. 143-215.107D for which the investor-owned public utility has applied and the status of those permits or permit applications.

Progress Energy applied for the following permits in 2005:

Asheville Plant

Erosion and Sedimentation Control Plan

Several updates were submitted for the erosion and sedimentation control plan:

- Rev H for the wastewater treatment discharge pipeline, truck scale, truck wash station was approved April 6, 2005.
- Rev 1 for the river pumps conduit was approved June 2, 2005.
- Rev I for the Unit 1 SCR was approved November 14, 2005.

NPDES Permit

An Authorization to Construct (ATC) the wastewater treatment system for the pretreatment of flue gas desulfurization wastewater was approved March 29, 2005 –ATC No. 0000396A03.

The ATC engineer's certifications for pretreatment and constructed wetlands were submitted November 8, 2005.

Roxboro Plant

Air Permit

An update to the air permit for coal handling and limestone handling was submitted on August 25, 2005. This permit was issued on February 9, 2006.

Erosion and Sedimentation Control Plan

Several updates were submitted for the erosion and sedimentation control plan:

- Rev G for the gypsum storage area was approved January 21, 2005
- Rev H was rolled in with Rev G (revision H was a response to questions on revision G) and so was also approved January 21, 2005.
- Rev I for the emergency access road, fire protection piping, conduit, temporary haul road was approved May 17, 2005.
- Rev J for the makeup water pipeline, gypsum conveyor foundations, settling pond and bioreactor site was approved September 13, 2005

Wetlands Permitting

An Army Corps of Engineers permit and water quality certification to fill wetlands for gypsum storage area was received September 6, 2005.

NPDES permit

An NPDES permit for the wastewater treatment system was received August 10, 2005.

Submissions were made for the Authorization to Construct (ATC) the wastewater treatment system on October 3, November 1 and December 2, 2005. Approval for construction of the settling basin is expected in March 2006. Approval for the construction of the bioreactor is expected in the second quarter of 2006.

Dam/Impoundment Safety

Progress Energy's letter to the NCUC identifying work in the ash pond was approved December 5, 2005.

Lee Plant

Air Permit

A prevention of significant deterioration (PSD) permit application for the installation of low NOx burners was submitted on December 7, 2005. A draft permit was received February 13, 2006 and is expected to be final in March 2006.

Sutton Plant

Air Permit

Air permit 01318T18 for the installation of Low NOx Burners was received February 21, 2005.

6. A description of the construction related to compliance with the provisions of G.S. 143-215.107D that is anticipated during the following year.

Appendix C presents the planned construction schedule for compliance with G.S. 143-215.107D. Please note that this is a projected schedule of construction activity through 2013 that is subject to modification. The schedule will be updated as part of this report each year.

The planned construction activities at Asheville in 2006 include the completion of the mechanical, electrical and controls systems for the Unit 2 scrubber. This includes completion of the flue gas ductwork from the precipitator to the absorber tower, and installation, checkout and commissioning of the major equipment including the distributed controls system and absorber recycle pumps. Systems common to both Units 1 and 2 were commissioned during the checkout and startup activities for the Unit 1 scrubber. The unit 2 scrubber is expected to be placed into service at the end of May

Construction activities will also begin for the Asheville Unit 1 SCR project. These activities include installation of foundations for the new SCR structural steel; fabrication,

delivery and erection of the SCR support steel; fabrication and delivery of the inlet and outlet ducts for the SCR and the SCR reactor modules; and various mechanical and electrical activities to support placing this SCR in service in 2007.

At Roxboro, the significant construction activities for the Unit 2 scrubber include installation of the absorber recycle pumps, hydroclones, oxidation air compressors, absorber tower outlet hood, flue gas ductwork from the precipitator to the absorber tower and from the absorber tower to the chimney, spray headers, trays and other tower internals, agitators, and various process piping and tanks. Flue liners for each boiler will be installed in the chimney. The structural steel for the absorber recycle pump building will be erected. Systems common to the scrubbers for all units such as the gypsum handling conveyors, limestone handling and preparation equipment (conveyors, feeders, silos, and ball mills), dewatering equipment (belt filters), wastewater treatment settling ponds and bio-reactor will be installed. Various mechanical, electrical and controls equipment that support the scrubber process will also be installed. Installation of the gypsum conveyor from the dewatering building to the storage pile will begin. Construction activities for the Unit 3 and Unit 4 scrubbers will include the erection of the absorber tower for each unit and installation of the flue gas liners in the Units 3 and 4 chimneys. Installation will begin for various electrical power and control cables and circuits along with the installation of various process equipment and piping. Minimal construction activities for Unit 1 will be performed. Construction of these systems and the scrubber blowdown wastewater treatment system will continue through 2008.

7. **A description of the applications for permits required in order to comply with the provisions of G.S. 143-215.107D that are anticipated during the following year.**

Several recent changes to permitting processes in the state have dramatically increased the lead time to prepare and review environmental permits necessary for Clean Smokestacks projects. A recent court decision [D.C. Circuit Court of Appeals Decision in *New York v. EPA*, No. 02-1387 (June 24, 2005)] eliminated the provision exempting pollution control equipment from new source review. For Progress Energy Carolinas, this results in increased costs for consultants and modeling. For the NC Division of Air Quality (DAQ), this results in longer permit application processing times. For example, the application for the installation of a low-NOx burner, which formerly took 3-4 months, now requires review under the PSD program, a process typically lasting a year or more. The staff at the DAQ has expedited this process for the recent permit submission for the Lee plant. We appreciate the collaborative efforts the DAQ staff has made to assure our construction and installation schedules remain on track. However, the longer permit processing times continue to be a serious concern for future projects as not every permit can reasonably be expedited. PEC wishes to work collaboratively with the DAQ to prevent such delays from occurring.

The following permit applications and permit approvals are anticipated for 2006:

Asheville Plant

Air Permit

Revisions to the air permit may be necessary to test and, if necessary, install technology to reduce emissions of SO_3.

Erosion and Sedimentation Control Plan

Revision J for the construction of the demineralizer pipe, pump and ductbank was approved in January 2006.

Roxboro Plant

Air Permit

Revisions to the air permit will be necessary to address fugitive emissions of hydrogen sulfide from the wastewater treatment system.

NPDES Permit

The ATC for the gypsum settling pond was received March 3, 2006.
Receipt of the ATC for the bioreactor is anticipated in the second quarter 2006.

Erosion and Sedimentation Control Plan

- Rev K for the haul road, transformers, main plant area wastewater pipe trench and gypsum conveyor foundations was approved in February 2006
- Rev L for burying the wastewater pipeline - approval is anticipated second quarter 2006

Additional revisions to the plan may be necessary.

Mayo Plant

Air Permit

A construction permit will be required for the flue gas desulfurization system - anticipated submission Spring 2005.

NPDES Permit

NPDES permit modification application for wastewater treatment system submitted February 23, 2006.

A request for authorization to construct the wastewater treatment system is expected to be submitted in the fourth quarter 2006.

Erosion and Sedimentation Control Plan

The first of the erosion and sedimentation plans for the main construction area and laydown yards will be submitted during the second quarter, 2006. Additional plan revisions will be necessary as construction plans are developed.

Cape Fear Plant

Air Permit

A construction permit may be required to conduct a trial of an air pollution control technology. If required, this permit application will be submitted during the second quarter of 2006.

Lee Plant

Air Permit

A construction permit will be required for the installation of the Rotamix system for NOx control. This permit application will be submitted during the second quarter 2006.

8. The results of equipment testing related to compliance with G.S. 143-215.107D.

No equipment testing related to compliance with G.S. 143-215.107D occurred in 2005.

9. The number of tons of oxides of nitrogen (NOx) and sulfur dioxide (SO_2) emitted during the previous calendar year from the coal-fired generating units that are subject to the emissions limitations set out in G.S. 143-215.107D.

The total calendar year 2005 emissions from the affected coal-fired Progress Energy Carolinas units are:

NOx 49,621 tons
SO_2 202,041 tons

10. The emissions allowances described in G.S. 143-215.107D(i) that are acquired by the investor-owned public utility that result from compliance with the emissions limitations set out in G.S. 143-215.107D.

During 2005, PEC did not acquire any allowances as a result of compliance with the emission limitations set out in N.C. General Statute 143-215.107D.

11. Any other information requested by the Commission or the Department of Environment and Natural Resources.

NC Clean Smokestacks Audit Public Staff Data Request No. 5 was issued to Progress Energy Carolinas in February of 2005, and a response was provided on March 4, 2005. NC Clean Smokestacks Commission staff request was issued to Progress Energy Carolinas in April of 2005, and a response was provided on May 2, 2005 with revisions filed on May 6, 2005. NC Clean Smokestacks Audit Public Staff Data Request No. 6 was issued to Progress Energy Carolinas in February of 2006, and a response was provided on March 24, 2006.

Appendix A

Progress Energy Carolinas, Inc's (PEC) Air Quality Improvement Plan Supplement

April 1, 2006

On June 20, 2002, Governor Easley signed into law SB1078, which caps emissions of nitrogen oxides (NOx) and sulfur dioxide (SO_2) from utility owned coal-fired power plants located in North Carolina. PEC's annual NOx emissions must be less than 25,000 tons beginning in 2007 and annual SO_2 emissions must be less than 100,000 tons beginning in 2009 and less than 50,000 tons beginning in 2013. These caps represent a 56% reduction in NOx emissions from 2001 levels and a 74% reduction in SO_2 from 2001 levels for PEC.

PEC owns and operates 18 coal-fired units at seven plants in North Carolina. The locations of these plants are shown on Attachment 1.

Nitrogen Oxides Emissions Control Plan

PEC has been evaluating and installing NOx emissions controls on its coal-fired power plants since 1995 in order to comply with Title IV of the Clean Air Act and the NOx SIP Call rule adopted by the Environmental Management Commission (EMC). Substantial NOx emissions reductions have already been achieved (50,000 tons of NOx in 2004 compared with 112,000 tons in 1997) and further reductions will ensure compliance with the Clean Smokestacks Act 25,000 ton cap in calendar year 2007. This target will be achieved with a mix of combustion controls (which minimize the formation of NOx) such as low-NOx burners and over-fire air technologies, and post-combustion controls (which reduce NOx produced during the combustion of fossil fuel to molecular nitrogen) such as selective catalytic reduction (SCR) and selective non-catalytic reduction (SNCR) technologies.

Attachment 2 details PEC's North Carolina coal-fired electric generating units, their name plate generation capacity, the control technologies already installed, and those planned for installation. As technologies evolve or other circumstances change, a different mix of controls may be selected. Attachment 2 also projects the NOx emissions on a unit-by-unit basis based on the energy demand forecast and expected efficiencies of the NOx emissions controls employed. This information is provided only to show how compliance may be achieved and is not intended in any way to suggest unit-specific emission limits. Actual emissions for each unit may be substantially different in 2007.

Sulfur Dioxide Emissions Control Plan

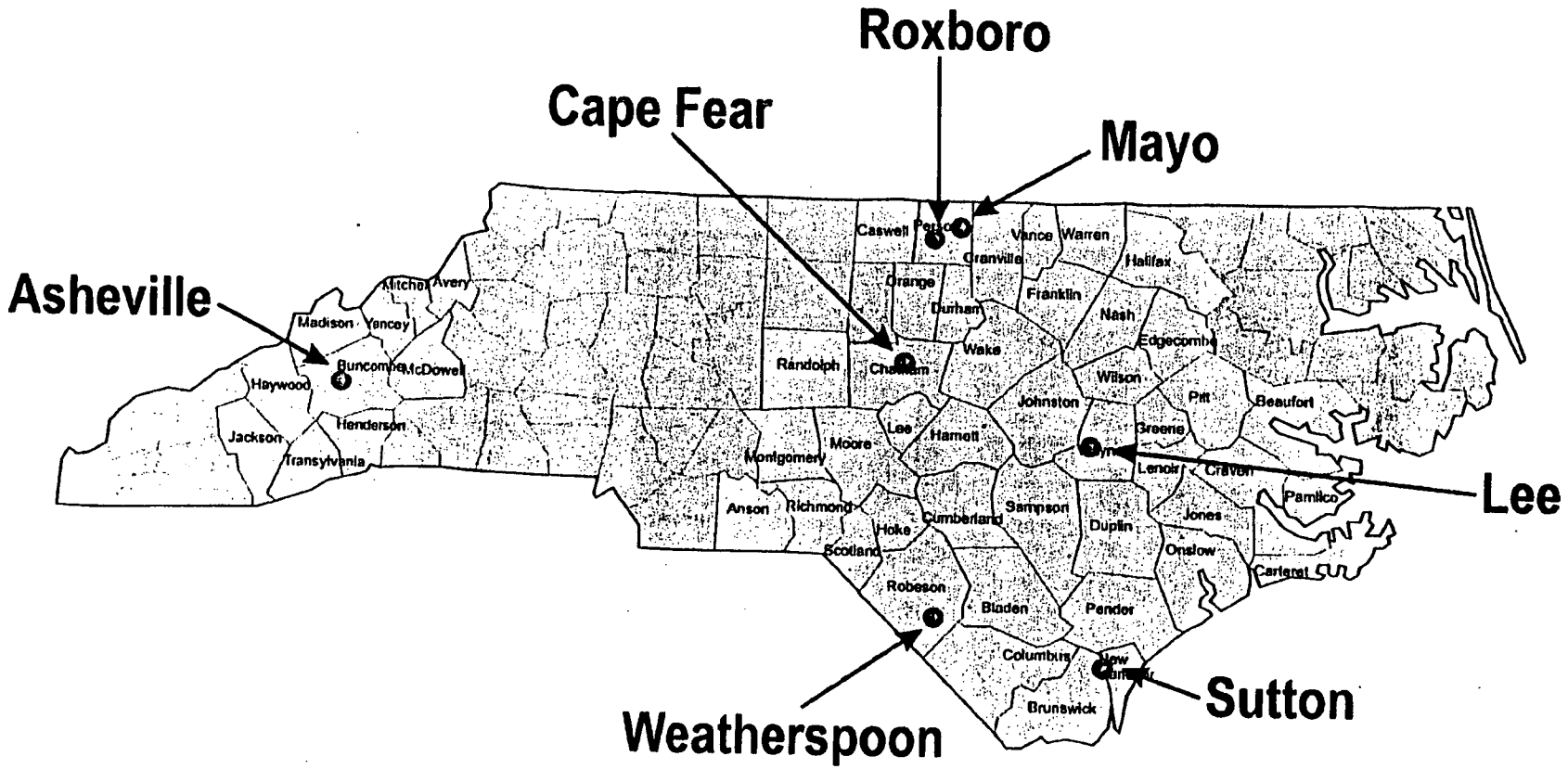
PEC will be installing wet flue gas desulfurization systems (FGD or "scrubbers") to remove 97% of the SO_2 from the flue gas of its Asheville, Roxboro and Mayo boilers. Screening studies will be conducted for the Cape Fear 5 and 6 and Sutton 3 units to select the most appropriate technology for these plants. Wet scrubbers produce unique waste

and by-product streams. Issues related to wastewater permitting and solid waste disposal are being addressed for each site. PEC plans to treat the scrubber wastewater stream at the Asheville Plant using an innovative constructed wetlands treatment system to ensure compliance with discharge limits. A bioreactor technology is being evaluated for the Roxboro Plant. A contract has been executed with a gypsum product end-user that will construct a wallboard facility near the Roxboro plant to use the synthetic gypsum produced by the Roxboro and Mayo plants for the manufacture of drywall products. PEC is also negotiating with another gypsum company for the use of the synthetic gypsum that will be produced at the Asheville plant

Specific units are listed in Attachment 3 with data on projected schedules and projected annual emissions in 2009 and 2013. These projections assume a 97% SO_2 removal efficiency, forecasted energy demand, 3.3 lbs SO_2/Mbtu coal on scrubbed units, and 1.2 lbs SO_2/Mbtu coal on the other units. Please note that these are projected schedules and are subject to revision.

Particular units controlled and control technologies utilized are subject to change depending on future developments in SO_2 removal technologies, energy demand, sulfur content of coal, and other circumstances which may produce a more optimal plan for meeting the SO_2 emissions limits in 2009 and 2013. DENR will be advised as changing circumstances dictate.

Attachment 1: Location of PEC's Coal-Fired Power Plants in North Carolina



Attachment 2: PEC NOx Control Plan for North Carolina Coal-fired Units

Unit	MW Rating	Control Technology	Operation Date[1]	Projected NOx Tons, 2007[2]
Asheville 1	198	LNB/AEFLGR/SCR	2009	2,625
Asheville 2	194	LNB/OFA/SCR		432
Cape Fear 5	143	ROFA/ROTAMIX		580
Cape Fear 6	173	ROFA/ROTAMIX		770
Lee 1	79	WIR		928
Lee 2	76	**LNB**	2006	493
Lee 3	252	LNB/OFA/**ROTAMIX**	2010	1,689
Mayo 1	745	LNB/OFA/SCR		1,741
Roxboro 1	385	LNB/OFA/SCR		1,084
Roxboro 2	670	TFS2000/SCR		1,292
Roxboro 3	707	LNB/OFA/SCR		2,036
Roxboro 4	700	LNB/OFA/SCR		1,938
Sutton 1	97	SAS		1,008
Sutton 2	106	**LNB**	2006	1,116
Sutton 3	410	LNB/ROFA/ROTAMIX		3,716
Wspn 1	49			879
Wspn 2	49			915
Wspn 3	78	WIR		1,028
Total	5,111			24,271

AEFLGR = Amine-Enhanced Flue Lean Gas Reburn
LNB = Low NOx Burner
SNCR = Selective Non-Catalytic Reduction
OFA = Overfire Air
ROFA = Rotating Opposed-fired Air
ROTAMIX = Injection of Ammonia to further reduce NOx (used in combination with ROFA)
WIR = Underfire Air
TFS2000 = Combination Low-NOx Burner/Overfire Air
SAS = Separated Air Staging

[1] Note: This is the operation date for the control technology installed to comply with the North Carolina Improve Air Quality/Electric Utilities Act only (shown in bold).
[2] Unit by unit emissions are illustrative only and specific emissions limits should not be inferred. Actual emissions in 2007 may be different from unit to unit

Attachment 3: PEC SO_2 Control Plan for North Carolina Coal-Fired Units

Unit	MW Rating	Technology	Operation Date	Projected SO_2 Tons, 2009[1]	Projected SO_2 Tons, 2013[1]
Asheville 1	198	Scrubber	2005	864	818
Asheville 2	194	Scrubber	2006	886	960
Cape Fear 5	143	Scrubber	2012	6,249	656
Cape Fear 6	173	Scrubber	2011	7,725	787
Lee 1	79			2,940	2,660
Lee 2	76			2,637	2,756
Lee 3	252			10,078	7,493
Mayo 1	745	Scrubber	2009	14,361	3,203
Roxboro 1	385	Scrubber	2008	1,741	1,700
Roxboro 2	670	Scrubber	2007	2,853	2,577
Roxboro 3	707	Scrubber	2008	2,928	3,005
Roxboro 4	700	Scrubber	2007	2,363	2,902
Sutton 1	97			4,402	3,217
Sutton 2	106			4,052	2,768
Sutton 3	410	Scrubber	2012	16,269	1,823
Wspn 1	49			1,458	1,208
Wspn 2	49			1,587	1,286
Wspn 3	78			3,301	3,480
Total	5,111			86,692	44,485

[1] Unit by unit emissions are illustrative only and specific emissions limits should not be inferred. Actual emissions in 2009 and 2013 may be different from unit to unit.

[2] Projections are based on 97% SO2 removal efficiency, forecasted energy demand, 3.3 lbs SO2/Mbtu coal on scrubbed units, and 1.2 lbs SO2/Mbtu coal on others

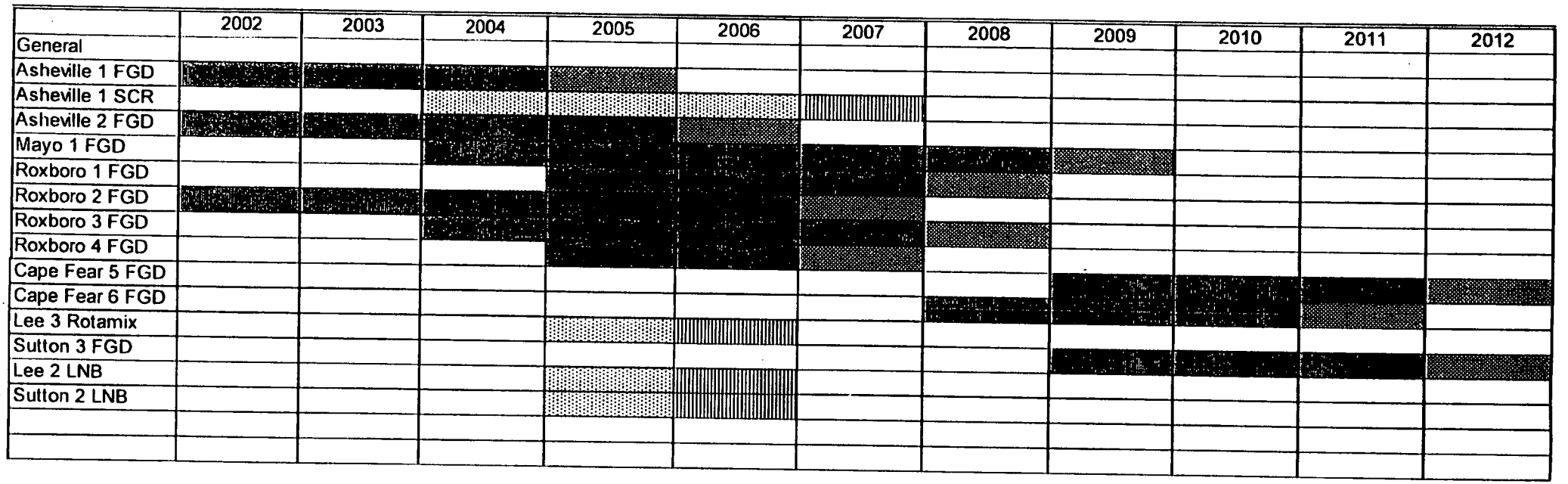
Appendix B

PEC's Actual Costs Through 2[illegible] and Projected Costs Through 2013 for Clean Smokestacks Compliance (thousands)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Asheville 1 FGD	$100	$9,652	$33,574	$35,769	$3,141	$0	$0	$0	$0	$0	$0	$0	$82,235
Asheville 1 SCR	$0	$0	$688	$1,423	$17,278	$16,363	$0	$0	0	0	0	$0	$35,752
Asheville 2 FGD	$100	$7,742	$28,390	$24,238	$10,806	$0	$0	$0	$0	$0	$0	$0	$71,277
Asheville FGD Common	$467	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$467
Mayo 1 FGD	$187	$0	$276	$644	$16,024	$63,680	$78,655	$38,649	$4,462	$0	$0	$0	$202,578
Roxboro FGD Common	$403	$5,561	$10,033	$51,717	$56,598	$10,483	$10,365	$1,670	$0	$0	$0	$0	$146,830
Roxboro 1 FGD	$0	$0	$0	$3,135	$14,805	$23,978	$35,070	$3,670	$0	$0	$0	$0	$80,657
Roxboro 2 FGD	$120	$3,574	$6,848	$30,782	$45,196	$10,783	$1,117	$0	$0	$0	$0	$0	$98,420
Roxboro 3 FGD	$0	$0	$244	$10,628	$42,069	$30,823	$11,522	$0	$0	$0	$0	$0	$95,285
Roxboro 4 FGD	$0	$0	$0	$9,075	$33,745	$35,090	$6,384	$0	$0	$0	$0	$0	$84,294
Cape Fear 5 FGD	$0	$0	$0	$0	$0	$0	$0	$528	$24,065	$33,006	$25,283	$0	$82,881
Cape Fear 6 FGD	$0	$0	$0	$0	$0	$0	$528	$20,751	$32,695	$24,666	$0	$0	$78,640
Lee 3 ROFA	$0	$0	$0	$198	$14,603	$0	$0	$0	$0	$0	$0	$0	$14,800
Sutton 3 FGD	$0	$0	$0	$0	$536	$0	$0	$9,988	$57,407	$58,805	$42,200	$6,309	$175,244
Lee 2 LNB	$0	$0	$133	$273	$2,723	$57	$0	$0	$0	$0	$0	$0	$3,187
Sutton 2 LNB	$0	$0	$0	$236	$1,822	$59	$0	$0	$0	$0	$0	$0	$2,117
Asheville WWT	$0	$0	$0	$12,365	$0	$0	$0	$0	$0	$0	$0	$0	$12,365
Mayo WWT	$0	$0	$0	$0	$0	$1,415	$14,415	$3,461	$0	$0	$0	$0	$19,291
Cape Fear WWT	$0	$0	$0	$0	$0	$0	$0	$3,271	$12,344	$739	$0	$0	$16,353
Roxboro WWT	$0	$0	$0	$791	$26,791	$12,602	$1,710	$0	$0	$0	$0	$0	$41,895
Sutton WWT	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,849	$13,821	$1,055	$17,724
Total	$1,377	$26,529	$80,186	$181,274	$286,137	$205,334	$159,765	$81,987	$130,972	$120,064	$81,303	$7,364	$1,362,293
Estimated AFUDC							$4,000	$10,000	$9,000	$20,000	$21,000	$800	$64,800

Note: Excludes Power Agency ownership: 16.17% of Mayo, 3.77% of Roxboro Common, and 12.94% of Roxboro 4

Appendix C
PEC Clean Smokestacks Compliance Plan



Schedule as of 4/1/2006

Scrubber Design and Construction
Scrubber in service
NOx Controls Design and Construction
NOx Controls in service

ATTACHMENT B
PAGE 20 OF 20

NORTH CAROLINA
PUBLIC STAFF
UTILITIES COMMISSION

FILED
MAY 22 2006
Clerk's Office
N.C. Utilities Commission

May 22, 2006.

Ms. Renne Vance, Chief Clerk
North Carolina Utilities Commission
4325 Mail Service Center
Raleigh, North Carolina 27699-4325

Re: Docket No. E-7, Sub 718
Duke Power Company, LLC, d/b/a Duke Energy Carolinas, LLC

Dear Ms. Vance:

Enclosed herewith for filing in the above-referenced docket are twenty-one (21) copies of the Report of the Public Staff on Costs Incurred and Amortized by Duke Energy Carolinas, LLC ("Duke") in Compliance with Session Law 2002-4 ("the Clean Smokestacks Act" or "the Act"). This report presents the results of the Public Staff's review of environmental compliance costs incurred and amortized by Duke through the end of calendar year 2005.

Sincerely,

Antoinette R. Wike
Chief Counsel

ARW/bll

Enclosure

cc: Robert W. Kaylor
Lara Nichols

Executive Director 733-2435	Communications 733-2810	Economic Research 733-2902	Legal 733-6110	Transportation 733-7766
Accounting 733-4279	Consumer Services 733-9277	Electric 733-2267	Natural Gas 733-4326	Water 733-5610

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REPORT OF THE PUBLIC STAFF ON COSTS INCURRED AND AMORTIZED BY DUKE ENERGY CAROLINAS, LLC IN COMPLIANCE WITH SESSION LAW 2002-4

Docket No. E-7, Sub 718

May 22, 2006

Section 14 of Session Law 2002-4 ("the Clean Smokestacks Act" or "the Act") requires the Department of Environment and Natural Resources ("DENR") and the Utilities Commission ("Commission") to report, by June 1 of each year, on the implementation of the Act to the Environmental Review Commission and the Joint Legislative Utility Review Committee. The May 30, 2003, report of DENR and the Commission states that the Public Staff will audit the books and records of the investor owned utilities on an ongoing basis in regard to the costs incurred and amortized in compliance with the Act. The Public Staff has undertaken such a review, focusing on the verification of costs related to complying with the Act, the amortization of those costs, and the operating results of emission reduction equipment installed by Duke Power Company, LLC, d/b/a Duke Energy Carolinas, LLC ("Duke"). This report is a continuation of the Public Staff's ongoing review and presents the Public Staff's findings for the twelve months ended December 31, 2005.

I. Work To Be Performed

Duke's original plan to install Selective Non-catalytic Reduction ("SNCR") technology to remove NO_x and flue-gas desulfurization technology ("scrubbers") to remove SO_2 to comply with the Act remains practically the same with only minor changes to the compliance schedule and plan. Duke continues to evaluate SNCR technology and has indicated that it will continue to deploy this technology at least through the initial compliance dates approved in the plan. If additional NO_x removal is required, Duke will likely deploy Selective Catalytic Reduction ("SCR") technology on specific units that have yet to be determined.

II. Environmental Compliance Costs

Duke is required by the Act to submit a report to the Commission and to DENR on or before April 1 of each year containing its actual environmental compliance costs incurred during the previous calendar year. As defined by G.S. 62-133.6(a)(2), "environmental compliance costs" include only capital costs.

In its Compliance Plan Annual Update for 2006 ("2006 Compliance Update"), Duke reported that its actual environmental compliance costs in calendar year 2005 were $346,420,000. The cumulative environmental compliance costs incurred by Duke through 2005 were $473,396,146, as follows:

Year 2001	$ 692,433
Year 2002	1,024,223
Year 2003	18,424,921
Year 2004	106,834,479
Year 2005	346,420,000
Total	$473,396,155

Duke's expenditures to date involve emission reduction technologies at its Allen, Belews Creek, Buck, Cliffside, Dan River, Marshall, and Riverbend facilities. Environmental compliance costs were incurred for project studies and investigations, engineering, equipment procurement, and contracting.

As part of its review, the Public Staff requested information from Duke on the project costs, invoices documenting costs, and the purpose of the costs. Duke provided project cost sheets delineating actual project costs by year into the following categories: (1) direct labor costs; (2) labor loads; (3) contract costs; (4) material costs; (5) overhead costs; and, (6) other costs. These costs are as follows:

Direct Labor	$ 3,335,962
Labor Loads	1,440,489
Contracts	329,203,068
Materials	2,882,645
Overheads	491,855
Other	9,065,981
Total	$ 346,420,000

The project cost sheets were supported by project detail reports that incorporated all expenditures for a particular category or group. The Public Staff selected invoices in each category from the detailed spreadsheets and requested Duke to provide specific information on the selected costs. The Public Staff also had extensive discussions with Duke personnel to gain a better understanding of the cost items charged to each specific project. Duke provided documentation to support each selected cost.

Duke has estimated its environmental compliance costs at $1,731,510,400, as set forth on Exhibit C in its 2006 Compliance Update. This represents an increase of $231,510,400 or 15.4% over Duke's original estimate of $1,500,000,000, as set forth in G.S. 62-133.6(b). According to Duke personnel, several factors have contributed to the increase in the estimate, including industry-wide initiation of similar environmental compliance work nationwide and its effect on labor availability, and the increases in the prices for materials. These cost increases have been mitigated by refinement in the SNCR work scope and the proposal concerning the retirement of Cliffside Units 1-4. While no decisions have yet been made to retire Cliffside Units 1-4, Duke 's total project amount of $1,731,510,400 does not include the costs associated with NO_x removal for these units.

The Public Staff will continue to monitor the factors causing increases in the environmental compliance cost estimates.

III. Amortization of Costs

In Section 9 of the Act [G.S. 62-133.6(b)], the investor owned utilities are allowed to accelerate the recovery of their estimated environmental compliance costs over a seven-year period, beginning January 1, 2003, and ending December 31, 2009. The statute requires that a minimum of 70% of the environmental compliance costs be amortized before December 31, 2007, when the rate freeze period expires. In Duke's case, this amount is $1,050,000,000. The annual levelized amount is $214,285,714. The maximum amount that can be amortized in any given year is 150% of the annual levelized environmental compliance costs or $321,428,000.

Using the protocols established by the Act and subsequent Commission orders, Duke reported that its environmental compliance costs amortization for 2005 is $311,236,000. The Public Staff reviewed Duke's quarterly amortization filings and supporting journal entries and concluded that the amounts appear to be accurate. The cumulative amortization to date is $637,429,142.

IV. Contracts

No contracts were reviewed during this audit period. Contracts in 2003 and 2004 are still in effect, with changes relating only to cost increases and schedules.

V. Site Inspections

On March 8, 2006, the Public Staff conducted another inspection of Duke's Marshall Steam Station in Mooresville, North Carolina. Specifically, the Public Staff inspected the construction of the scrubbers and associated wastewater and gypsum handling facilities. The Public Staff confirmed that the installation of scrubbers, stack, conveyor systems ductwork, and wastewater treatment systems is progressing on schedule. No other facilities were inspected. It is the intent of the Public Staff to continue inspections of other coal-fired generating facilities as Duke continues to install emission reduction equipment in its boiler units.

NORTH CAROLINA
PUBLIC STAFF
UTILITIES COMMISSION

FILED

May 22, 2006

Ms. Renne Vance, Chief Clerk
North Carolina Utilities Commission
4325 Mail Service Center
Raleigh, North Carolina 27699-4325

Re: Docket No. E-2, Sub 815
Progress Energy Carolinas, Inc.

Dear Ms. Vance:

Enclosed herewith for filing in the above-referenced docket are twenty-one (21) copies of the Report of the Public Staff on Costs Incurred and Amortized by Progress Energy Carolinas, Inc. ("PEC") in Compliance with Session Law 2002-4 ("the Clean Smokestacks Act" or "the Act"). This report presents the results of the Public Staff's review of environmental compliance costs incurred and amortized by PEC through the end of calendar year 2005.

Sincerely,

Antoinette R. Wike
Chief Counsel

ARW/bll

Enclosure

cc: Len S. Anthony

Executive Director 733-2435	Communications 733-2810	Economic Research 733-2902	Legal 733-6110	Transportation 733-7766
Accounting 733-4279	Consumer Services 733-9277	Electric 733-2267	Natural Gas 733-4326	Water 733-5610

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REPORT OF THE PUBLIC STAFF ON COSTS INCURRED AND AMORTIZED BY PROGRESS ENERGY CAROLINAS, INC. IN COMPLIANCE WITH SESSION LAW 2002-4

Docket No. E-2, Sub 815

May 22, 2006

Section 14 of Session Law 2002-4 ("the Clean Smokestacks Act" or "the Act") requires the Department of Environment and Natural Resources ("DENR") and the Utilities Commission to report, by June 1 of each year, on the implementation of the Act to the Environmental Review Commission and the Joint Legislative Utility Review Committee. The May 30, 2003, report of DENR and the Commission states that the Public Staff will audit the books and records of the investor owned utilities on an ongoing basis in regard to the costs incurred and amortized in compliance with the Act. The Public Staff has undertaken such a review, focusing on the verification of costs related to complying with the Act, the amortization of those costs, and the operating results of emission reduction equipment installed by Progress Energy Carolinas, Inc. ("PEC"). This report is a continuation of the Public Staff's ongoing review and presents the Public Staff's findings for the twelve months ended December 31, 2005.

I. Work Being Performed

PEC's original plan to install Selective Catalytic Reduction ("SCR") technology to remove NO_x and flue-gas desulfurization technology ("scrubbers") to remove SO_2 to comply with the Act remains practically the same with only minor changes to the compliance schedule and plan.

Substantial work has been accomplished at the Asheville and Roxboro plants. The scrubber on Asheville Unit 1 was placed into operation in November 2005. Work is steadily progressing to complete the scrubber on Asheville Unit 2. It is scheduled to become operational in the spring of 2006. Substantial work is also being done at Asheville to construct an SCR, which is expected to be online in 2007.

The Roxboro plant construction is also well underway. New coal and limestone handling facilities have been completed. Scrubbers on all four units are in varying stages of completion.

II. Environmental Compliance Costs

PEC is required by the Act to submit a report to the Commission and to DENR on or before April 1 of each year containing the actual environmental compliance costs incurred during the previous calendar year. As defined by G.S. 62-133.6(a)2, "environmental compliance costs" include only capital costs.

In its calendar year 2005 Progress Report ("2005 Report"), PEC reported that its actual environmental compliance costs in calendar year 2005 were $181,274,000. The cumulative environmental compliance costs incurred by PEC through 2005 are $289,365,900, as follows:

Year 2002	$ 1,377,417 [1]
Year 2003	26,528,942
Year 2004	80,185,975
Year 2005	181,273,566
Total	$289,365,900 [2]

PEC's expenditures to date involve emission reduction technologies at its Asheville, Mayo, Roxboro, Lee, and Sutton facilities. Environmental compliance costs were incurred for project studies and investigations, engineering, contracting, and equipment acquisition.

As part of its review, the Public Staff requested information from PEC on the project costs, invoices documenting costs, and the purpose of the costs. PEC provided project cost sheets delineating actual project costs by year into the following categories: (1) company labor costs; (2) materials costs; (3) outside services costs; (4) burdens; and (5) other costs. These costs are as follows:

Company Labor	$ 2,721,834
Material	109,853,444
Outside Services	65,488,943
Labor Loads/Overheads	2,737,459
Other	471,886
Total	$181,273,566

The project cost sheet was supported by detailed spreadsheets for a particular category. The Public Staff selected invoices in each category from the detailed spreadsheets and requested PEC to provide specific information on the selected costs. The Public Staff had discussions with PEC personnel regarding the cost items charged to projects. PEC provided documentation to support the selected costs.

PEC has estimated its environmental compliance costs at $1,362,293,000, as set forth on Appendix B in its 2005 Report. This represents an increase of $549,293,000

[1] Per Appendix B, costs for 2002, 2003 and 2004 are slightly different than the costs reported for those years in previous reports. For 2004, a majority of the difference relates to a Company adjustment to include Asheville wastewater treatment (WWT) costs in the FGD line items for Asheville. In 2005, PEC began reporting WWT project costs separately.

[2] PEC's estimated and reported environmental compliance costs exclude certain costs attributable to the portions of its Mayo and Roxboro facilities that are owned by the NC Eastern Municipal Power Agency ("NCEMPA). According to PEC's FERC Form No. 1 for 2005, PEC entered into an agreement with NCEMPA in 2005 to limit its aggregate cost associated with PEC's environmental compliance costs to approximately $38 million.

or 67.6% over PEC's original estimate of $813,000,000, as set forth in G.S. 62-133.6(b). According to PEC personnel, several factors have contributed to the increase in the estimate, including its decision in 2003 to use wet scrubber technology instead of dry scrubbers, a significant increase in the price of materials, an increase in equipment costs due to the limited number of suppliers available, and adjustments of future costs based on actual costs of projects already completed or substantially completed.

Conversion to wet scrubber technology instead of the originally proposed dry scrubber technology has resulted in several modifications to the design and size of scrubber equipment, including the need for wastewater treatment. PEC has explained that the use of wet scrubber technology provides PEC greater flexibility in the types of coal it can burn. This will increase PEC's options with regard to minimizing the operational costs associated with Clean Smokestacks compliance. The Public Staff will continue to monitor this matter to determine the operational value of wet scrubbers as compared to their higher capital costs.

III. Amortization of Costs

In Section 9 of the Act [G.S. 62-133.6(b)], the investor owned utilities are allowed to accelerate the cost recovery of their estimated environmental compliance costs over a seven-year period, beginning January 1, 2003, and ending December 31, 2009. The statute requires that a minimum of 70% of the environmental compliance costs be amortized before December 31, 2007, when the rate freeze period expires. In PEC's case, this amount is $569,100,000. The annual levelized amount is $116,142,857. The maximum amount that can be amortized in any given year is 150% of the annual levelized environmental compliance costs or $174,214,285.

Using the protocols established by the Act and subsequent Commission orders, PEC reported that its environmental compliance costs amortization for 2005 is $147,000,000. The Public Staff reviewed PEC's quarterly amortization filings, as well as the journal entries recorded, and concluded that the reported amounts appear to be accurate. The cumulative amortization to date is $395,218,808.

IV. Contracts

No contracts were reviewed during this audit period. Contracts reviewed in 2004 are still in effect, with only changes relating to cost increases and schedules.

V. Site Inspections

On April 5, 2006, the Public Staff conducted a site inspection of PEC's Asheville Steam Station at Arden, North Carolina. The Public Staff confirmed the operation of the Unit 1 scrubber and related equipment. The Public Staff observed the significant work in progress associated with the unit 2 scrubber and the SCR. The Public Staff also toured the new plant control room, which was updated in conjunction with the installation of the scrubbers and SCR.

On April 7, 2006, the Public Staff conducted a site inspection of PEC's Roxboro Steam Station at Roxboro, North Carolina. The Public Staff was able to confirm that significant progress had been made on the scrubbers for all four units, as well as the relocation of coal and limestone handling facilities. Similar control room improvements and updates were made on the unit 2 console, with plans to update other unit consoles in the near future. The Public Staff also observed measures being taken by PEC to provide redundancy and reliability in the operation of the units. These measures are intended to allow the Roxboro Station to continue operations in the event a scrubber related piece of equipment become inoperable.

It is the intent of the Public Staff to continue inspections of other coal-fired generating facilities as PEC continues to install emission reduction equipment in its boiler units.

VI. Other Issues

At the filing of this report, the Public Staff is still reviewing data responses received from PEC. The Public Staff will address any significant issues that arise in its next report to the Commission.

EXHIBIT D

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 733-2578
FAX: (919) 715-5460

SUSAN S. IDDINGS
ASSISTANT COMMISSION COUNSEL
401 LEGISLATIVE OFFICE BUILDING
(919) 733-6660

JENNIFER L. McGINNIS
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

DOROTHY M. WAUGAMAN
COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 715-2525
FAX: (919) 754-3232

JEFF W. HUDSON
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

JENNIFER R.F. MUNDT
COMMISSION ANALYST
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

9 October 2006

MEMORANDUM

To: Members of the Environmental Review Commission
From: Jennifer Mundt, Commission Analyst
Re: Reports to the Commission

The following reports have been submitted to the Environmental Review Commission by State agencies since the last reports distribution on 15 May 2006 are designated as read only. Copies of the reports are attached to this memorandum.

1. *Implementation of S.L. 2002-4 (Clean Smokestacks Act).* North Carolina Utilities Commission and the Department of Environment and Natural Resources. 1 June 2006. Statutory Authority: S.L. 2002-4, Sec. 11.

2. *Status report on the study of potential costs and benefits of enacting a renewable energy portfolio standard (RPS) in this State.* North Carolina Utilities Commission. 30 June 2006. Authority: Request of Environmental Review Commission in at its 24 January 2006 meeting.

The following three reports have been submitted to the Environmental Review Commission by State agencies since the last reports distribution on 15 May 2006 are being held for distribution in conjunction with potential agenda items at future Commission meetings:

1. *Progress in developing and implementing Coastal Habitat Protection Plans.* Coastal Resources Commission, Environmental Review Commission, and the Marine Fisheries Commission. Statutory Authority: (G.S.143B-279.8(e)).

2. *Activities and allocations from the Parks and Recreation Trust Fund from the prior fiscal year.* Parks and Recreation Authority. Statutory Authority: (G.S. 113-44.15(c)).

3. *Pilot program for inspection of animal waste management systems.* Statutory Authority: S.L. 1999-329(3.3), S.L. 2001-254(6), S.L. 2002-176(1.2).

The following two reports have been submitted to the Environmental Review Commission by the Environmental Management Commission and are distributed in connection with agenda Item 5:

1. and 2. *Quarterly report by the EMC as to its operations, activities, programs, and progress during the previous quarter (G.S. 143B-282(b)).* Environmental Management Commission. 1 July 2006 and 1 October 2006. Statutory Authority: G.S. 143B-282(b).

Please contact George Givens, Jeff Hudson, Jennifer McGinnis, or Jennifer Mundt at (919) 733-2578 if you have any questions or comments.

EXHIBIT D-2

State of North Carolina
Utilities Commission

4325 Mail Service Center
Raleigh, NC 27699-4325

COMMISSIONERS
JO ANNE SANFORD, Chair
ROBERT V. OWENS, JR.
SAM J. ERVIN, IV

COMMISSIONERS
LORINZO L. JOYNER
JAMES Y. KERR, II
HOWARD N. LEE
WILLIAM T. CULPEPPER, III

June 30, 2006

Sen. Charlie Albertson, Co-Chair
Sen. Daniel G. Clodfelter, Co-Chair
Rep. Pryor A. Gibson III, Co-Chair
Environmental Review Commission
545 Legislative Office Building
300 North Salisbury Street
Raleigh, North Carolina 27603

Dear Messrs. Albertson, Clodfelter, and Gibson:

On January 24, 2006, the Environmental Review Commission (ERC) of the North Carolina General Assembly adopted a motion requesting the North Carolina Utilities Commission (Commission) to undertake a study of the potential costs and benefits of enacting a renewable energy portfolio standard (RPS) in this State. The process proposed to and adopted by the ERC requires the Commission to issue a request for proposals (RFP) and to ultimately contract with an experienced consultant to perform the study under the direction and guidance of the Commission.

On February 23, 2006, we received a letter from George Givens, ERC Counsel, memorializing the above request. In his letter, Mr. Givens requested that the Commission provide the ERC with a status report on the study no later than July 1, 2006, and a final report on the study no later than December 1, 2006. We are pleased to provide the ERC with this status report of our progress to date, and we remain committed to provide our final report by December 1, 2006, as requested.

From the beginning, the Commission has recognized the importance of working with interested stakeholders and soliciting their input. Prior to the January 2006 ERC meeting, the Commission met with utility and environmental representatives to discuss options for performing a cost/benefit study. After the ERC meeting, the Commission formed an advisory group representing various stakeholder interests, including ratepayers, utilities, and environmental groups, to assist it in preparing its report for the legislature. The following nine persons have agreed to serve on the RPS Advisory Group:

Mitch Williams, Progress Energy
David Beam, North Carolina Electric Membership Corporation
Ivan Urlaub, North Carolina Sustainable Energy Association
Kris Coracini, Environmental Defense
Sue Gouchoe, North Carolina Solar Center
Preston Howard, Manufacturers and Chemical Industry Council of NC
Dr. Ed Erickson, Professor of Economics, North Carolina State University
James McLawhorn, Public Staff-NCUC
Len Green, North Carolina Attorney General's Office

Because this project involves the expenditure of State funds, it was necessary to solicit competitive bids from consultants willing to perform the cost/benefit study. The Commission's initial task, therefore, was to prepare a memorandum for the Department of Commerce (Commerce) to seek approval from the Department of Administration, Division of Purchasing and Contracts (Administration), to issue a request for proposals (RFP) to engage an experienced consultant to perform the required study. This memorandum was prepared and sent to Commerce on March 10, 2006. Approval to issue an RFP was received on April 6, 2006.

While awaiting approval to issue an RFP, the Commission, with the assistance of the RPS Advisory Group, drafted an RFP. After reviewing efforts undertaken in other states, Commission Staff prepared a draft RFP and circulated it to the RPS Advisory Group for comment. A final draft RFP was sent to Commerce on April 21, 2006. Additional changes were made, and the final RFP was sent to Administration on April 27, 2006.

After approval by Administration, the RFP was posted on May 12, 2006, with bids due on June 5, 2006. A copy of the final RFP is enclosed. Notice of the issuance of the RFP was posted on the Commission's web site. In addition, based upon input from the RPS Advisory Group and inquiries from press reports, nineteen individuals representing sixteen consulting firms were specifically notified by email and invited to bid. The Commission ultimately received five bids in response to the RFP.

To most efficiently complete the evaluation process, the following balanced, representative subset of the RPS Advisory Group was selected to assist the Commission with evaluating the bids submitted in response to the RFP: James McLawhorn, Ivan Urlaub, Mitch Williams, and Dr. Ed Erickson. All members of the RPS Advisory Group, however, will participate and lend their expertise in the remaining phases of this project, both in providing input to define the parameters of the study as well as in reviewing the work performed.

The evaluators met on May 26, 2006, before the bids were due, to determine the criteria against which the bids would be evaluated. The group decided that technical merits

of the bids would be primarily evaluated against the non-cost criteria stated in Section 4.I of the RFP – "completeness, content, experience with similar projects, the ability of the offeror and its staff, proposed plan of action to carry out the requirements set forth herein" – and the bidder's references. The group further decided that bids would be evaluated by the group as a whole, rather than individually by each evaluator.

On June 6, 2006, copies of the bidders' proposals were distributed to evaluators, who then met on June 9, 2006, to evaluate the proposals. Based upon the results of the evaluation, a memorandum was sent to Commerce on June 15, 2006, requesting that the costs proposals be opened for those bidders who successfully passed the technical review. The required two days' notice was sent to those bidders on June 20, 2006, and the cost proposals were opened on June 23, 2006. Based upon a review of the cost proposals, a memorandum was sent to Commerce on June 23, 2006, recommending a bidder with which the contract should be awarded. The recommendation is currently being reviewed by Administration and a contract should be awarded shortly.

The Commission will meet with the consultant and the RPS Advisory Group within two weeks after the contract is awarded to discuss and determine the specifics of the study to be performed, including the analytical methods and models to be used, sources of data to be used as input for the study, assumptions to be made and used in the study, scenarios to be analyzed in the study, and sensitivity analyses to be performed as part of the study. Knowledgeable input from the consultant based upon prior similar research will be vital in determining the specific scope and details of the study and in maximizing the usefulness of the study to the legislature in its deliberations. The Commission expects the consultant, in gathering data for the study, to confer, to the greatest extent possible, with the State Energy Office, the North Carolina Solar Center, NC GreenPower, utilities, and others who have previously investigated or attempted to inventory the potential for renewable energy production in North Carolina. However, the consultant shall endeavor to independently verify the reasonableness of all data and assumptions used in the study.

The consultant shall deliver to the Commission an initial draft report, incorporating the results of the cost/benefit analysis, within twelve weeks after the contract has been awarded. The draft report will be circulated to members of the RPS Advisory Group for comment and critique. The consultant shall meet in Raleigh with the Commission and members of the RPS Advisory Group to discuss comments received and to determine final revisions necessary to the report, and shall deliver to the Commission a final report within three weeks thereafter. Lastly, the consultant shall assist the Commission in presenting the

results of the study to the ERC and shall remain available to meet with the Commission and others to present and discuss the results of the study.

Please feel free to contact me if you have any questions. With warmest personal regards, I am

Very truly yours,

James Y. Kerr, II

JYK/LSW

Enclosure

cc: Environmental Review Commission Members
RPS Advisory Group Members
George F. Givens
Steven J. Rose
Robert P. Gruber
Commissioners

NORTH CAROLINA DEPARTMENT OF COMMERCE
REQUEST FOR PROPOSALS
May 12, 2006

RFP #43-22111004-06

TITLE: Consulting Services on a Renewable Energy Portfolio Standards Study

USING AGENCY: North Carolina Utilities Commission

CLOSING DATE: 3:00 p.m., June 5, 2006

Sealed proposals subject to the conditions made a part thereof will be received until the specified closing date and time specified above, for furnishing services described herein.

Mailing Instructions:

IF DELIVERED BY US POSTAL SERVICE, ADDRESS AS BELOW:

RFP #43-22111004-06
NC Department of Commerce
Purchasing Office
ATTN: Brenda Allen
4302 Mail Service Center
Raleigh, NC 27699-4302

IF DELIVERED BY ANY OTHER METHOD, ADDRESS AS BELOW:

RFP #43-22111004-06
NC Department of Commerce
Purchasing Office
ATTN: Brenda Allen
301 N. Wilmington St., Rm. 586
Raleigh, NC 27601

It is the sole responsibility of the offeror to have the proposal in this office by the specified time and date of closing.

IMPORTANT: Indicate firm name ("Technical Proposal" or "Cost Proposal") *(if applicable)* and RFP number on the front of each sealed proposal envelope or package, along with the date for receipt of proposal specified above. **Technical and cost proposals** must be sealed separately within this package.

IMPORTANT: NO QUESTIONS CONCERNING THE TECHNICAL SPECIFICATIONS IN THIS RFP WILL BE ANSWERED VERBALLY. QUESTIONS MAY BE FAXED OR E-MAILED UNTIL 5:00 P.M., MAY 22, 2006. QUESTIONS RECEIVED AFTER THIS DATE WILL NOT BE CONSIDERED. A WRITTEN SUMMARY OF ALL QUESTIONS RECEIVED IN ACCORDANCE WITH THE AFOREMENTIONED DEADLINE WILL BE ANSWERED AND POSTED ON THE INTERNET AS AN ADDENDUM TO THIS RFP NO LATER THAN 5:00 P.M., MAY 26, 2006. IT IS THE SOLE RESPONSIBILITY OF THE OFFEROR TO ACCESS THE INTERNET FOR ADDENDA TO THIS RFP. ACCESS THE INTERNET AS FOLLOWS:

WEB ADDRESS: www.ips.state.nc.us/ips/pubmain.asp
CLICK ON BIDS BY DEPARTMENT
CLICK ON DEPARTMENT OF COMMERCE
CLICK ON BID #43-22111004-06

QUESTIONS MAY BE FAXED OR E-MAILED TO:

BRENDA ALLEN
Purchasing Officer
FAX # (919) 733-8802
E-MAIL: ballen@nccommerce.com

WITHIN TWO (2) DAYS AFTER NOTIFICATION OF AWARD OF THIS CONTRACT, THE SUCCESSFUL VENDOR MUST REGISTER WITH NC E-PROCUREMENT @ YOUR SERVICE (http://vendor.ncgov.com). MORE INFORMATION ON THIS REQUIREMENT IS IN THE BODY OF THIS DOCUMENT.

GENERAL INFORMATION ON SUBMITTING PROPOSALS

1. **EXCEPTIONS: All proposals are subject to the terms and conditions outlined herein. All responses shall be controlled by such terms and conditions and the submission of other terms and conditions, price lists, catalogs, and/or other documents as part of an offeror's response will be waived and have no effect either on this Request for Proposals or on any contract that may be awarded resulting from this solicitation.**
   Offeror specifically agrees to the conditions set forth in the above paragraph by signature to the proposal.

2. **CERTIFICATION:** By executing the proposal, the signer certifies that this proposal is submitted competitively and without collusion (G.S. 143-54), that none of our officers, directors, or owners of an unincorporated business entity has been convicted of any violations of Chapter 78A of the General Statutes, the Securities Act of 1933, or the Securities Exchange Act of 1934 (G.S. 143-59.2), and that we are not an ineligible vendor as set forth in G.S. 143-59.1. False certification is a Class I felony.

3. **ORAL EXPLANATIONS:** The State shall not be bound by oral explanations or instructions given at any time during the competitive process or after award.

4. **REFERENCE TO OTHER DATA:** Only information which is received in response to this RFP will be evaluated; reference to information previously submitted shall not be evaluated.

5. **ELABORATE PROPOSALS:** Elaborate proposals in the form of brochures or other presentations beyond that necessary to present a complete and effective proposal are not desired.

   In an effort to support the sustainability efforts of the State of North Carolina we solicit your cooperation in this effort.

   It is desirable that all responses meet the following requirements:
   - All copies are printed **double sided**.
   - All submittals and copies are printed on **recycled paper with a minimum post-consumer content of 30%** and indicate this information accordingly on the response.
   - Unless absolutely necessary, all proposals and copies should **minimize or eliminate use of non-recyclable or non re-usable materials** such as plastic report covers, plastic dividers, vinyl sleeves, and GBC binding. Three-ringed binders, glued materials, paper clips, and staples are acceptable.
   - Materials should be submitted in a format which allows for **easy removal and recycling** of paper materials.

6. **COST FOR PROPOSAL PREPARATION:** Any costs incurred by offerors in preparing or submitting offers are the offerors' sole responsibility; the State of North Carolina will not reimburse any offeror for any costs incurred prior to award.

7. **TIME FOR ACCEPTANCE:** Each proposal shall state that it is a firm offer which may be accepted within a period of 90 days. Although the contract is expected to be awarded prior to that time, the 90 day period is requested to allow for unforeseen delays.

8. **TITLES:** Titles and headings in this RFP and any subsequent contract are for convenience only and shall have no binding force or effect.

9. **CONFIDENTIALITY OF PROPOSALS:** In submitting its proposal the offeror agrees not to discuss or otherwise reveal the contents of the proposal to any source outside of the using or issuing agency, government or private, until after the award of the contract. Offerors not in compliance with this provision may be disqualified, at the option of the State, from contract award. Only discussions authorized by the issuing agency are exempt from this provision.

10. **RIGHT TO SUBMITTED MATERIAL:** All responses, inquiries, or correspondence relating to or in reference to the RFP, and all other reports, charts, displays, schedules, exhibits, and other documentation submitted by the offerors shall become the property of the State when received.

11. **OFFEROR'S REPRESENTATIVE:** Each offeror shall submit with its proposal the name, address, and telephone number of the person(s) with authority to bind the firm and answer questions or provide clarification concerning the firm's proposal.

12. **SUBCONTRACTING:** Offerors may propose to subcontract portions of the work provided that their proposals clearly indicate what work they plan to subcontract and to whom and that all information required about the prime contractor is also included for each proposed subcontractor.

13. **PROPRIETARY INFORMATION:** Trade secrets or similar proprietary data which the offeror does not wish disclosed to other than personnel involved in the evaluation or contract administration will be kept confidential to the extent permitted by NCAC T01:05B.1501 and G.S. 132-1.3 if identified as follows: Each page shall be identified in boldface at the top and bottom as "CONFIDENTIAL". Any section of the proposal which is to remain confidential shall also be so marked in boldface on the title page of that section. Cost information may not be deemed confidential. In spite of what is labeled as confidential, the determination as to whether or not it is shall be determined by North Carolina law.

14. **HISTORICALLY UNDERUTILIZED BUSINESSES:** Pursuant to General Statute 143-48 and Executive Order #150, the Agency invites and encourages participation in this procurement process by businesses owned by minorities, women, disabled, disabled business enterprises and non-profit work centers for the blind and severely disabled.

15. **PROTEST PROCEDURES:** When an offeror wants to protest a contract awarded by the Secretary of Administration or by an agency over $25,000 resulting from this solicitation, they must submit a written request to the State Purchasing Officer at Purchase and Contract, 1305 Mail Service Center, Raleigh, NC 27699-1305. This request must be received in the Division of Purchase and Contract within thirty (30) consecutive calendar days from the date of the contract award. When an offeror wants to protest a contract awarded by an agency or university resulting from this solicitation that is over $10,000 but less than $25,000 for any agency, or any contract awarded by a university, they must submit a written request to the issuing procurement officer at the address of the issuing agency. This request must be received in that office within thirty (30) consecutive calendar days from the date of the contract award. Protest letters must contain specific reasons and any supporting documentation for the protest. Note: Contract award notices are sent only to those actually awarded contracts, and not to every person or firm responding to this solicitation. Contract status and Award notices are posted on the Internet at http://www.state.nc.us/pandc/. All protests will be handled pursuant to the North Carolina Administrative Code, Title 1, Department of Administration, Chapter 5, Purchase and Contract, Section 5B.1519. (See Protest Information at http://www.doa.state.nc.us/PandC/protests.pdf for more information.)

16. **TABULATIONS:** The Division has implemented an Interactive Purchasing System (IPS) that allows the public to retrieve bid tabulations electronically from our Internet web site: http://www.state.nc.us/pandc/. Click on the IPS BIDS icon, click on Search for Bid, enter the RFP number, and then search. Tabulations will normally be available at this web site not later than one working day after opening. Lengthy tabulations may not be available on the Internet, and requests for these verbally or in writing cannot be honored.

17. **VENDOR REGISTRATION AND SOLICITATION NOTIFICATION SYSTEM:** Vendor Link NC allows vendors to electronically register free with the State to receive electronic notification of current procurement opportunities for goods and services available on the Interactive Purchasing System. Online registration and other purchasing information are available on our Internet web site: http://www.state.nc.us/pandc/.

18. **RECIPROCAL PREFERENCE:** G.S. 143-59 establishes a reciprocal preference law to discourage other states from applying in-state preferences against North Carolina's resident offerors. The "Principal Place of Business" is defined as the principal place from which the trade or business of the offeror is directed or managed.

Section 1

Background

The North Carolina Utilities Commission (Commission) is an agency of the State of North Carolina created by the General Assembly to regulate the rates and services of all public utilities in North Carolina. The purpose of regulation of public utilities is to protect the interest of the public to the end that adequate service may be provided at reasonable rates. The Commission's authority to regulate public utilities throughout the State is set forth in Chapter 62 of the North Carolina General Statutes, the Public Utilities Act. The Commission's seven members are appointed by the Governor and confirmed by the General Assembly.

Section 2

Introduction

A renewable energy portfolio standard (RPS) policy is a requirement that retail electric suppliers within a given jurisdiction include a minimum amount of renewable energy in their supply portfolios. While various means have been employed, utility compliance with an RPS is often accomplished through either self-generation using renewable energy resources, such as wind, solar, geothermal, biomass, and hydropower, or the purchase of renewable energy credits (RECs) from other renewable energy generators. At least one other state has also allowed electric suppliers to apply substantial and meaningful energy efficiency measures toward the RPS requirement. Numerous states have adopted an RPS, and the debate over whether to adopt an RPS in North Carolina has been ongoing for the past several years.

At its January 24, 2006 meeting, the Environmental Review Commission (ERC) of the North Carolina General Assembly requested that the North Carolina Utilities Commission (Commission) undertake a study of the potential costs and benefits of enacting an RPS in this State. The process proposed to and adopted by the ERC requires the Commission to issue a Request for Proposals (RFP) and to ultimately contract with an experienced consultant to perform the study under the direction and guidance of the Commission. As a part of this process, the Commission intends to work closely with interested stakeholders and has formed a nine-member RPS Advisory Group representing various stakeholder interests, including ratepayers, utilities, and environmental groups.

The request by the General Assembly for an economic cost/benefit analysis is beyond the normal scope of work handled by the Commission, and the Commission is not adequately staffed to handle this work. Current staff is fully engaged in day-to-day operations of the Commission. There is no ability within current staff to take on a new project of this magnitude, and the time and cost to develop such expertise and analytical tools within the agency would not allow the Commission to timely respond to the legislature's request. The Commission, therefore, must secure the services of a consultant that has the appropriate expertise and experience to perform the requested analysis of the potential costs and benefits of an RPS in North Carolina.

Section 3

Scope of Work

The following outlines the specific components that will comprise the entire work being requested of Contractor:

1. **Produce a research report suitable for delivery to the North Carolina General Assembly on the potential costs and benefits of the adoption of an RPS in North Carolina.**

   The report shall present and explain the results of a detailed analysis performed by the consultant of the potential quantitative and qualitative costs and benefits of reasonable RPS scenarios compared to the status quo based upon those proposed in North Carolina and those adopted in other states. The analysis and report shall explicitly address both the impact of various RPS scenarios on electric rates and the range of costs and benefits beyond impacts to electricity rates. In addition to addressing other issues relevant to consideration of an RPS, the report shall include a quantitative analysis and discussion of the potential capacity and feasibility by resource (i.e., solar, wind, biomass, etc.) for renewable energy generation in North Carolina. The report shall identify any policy, regulatory, or legislative issues which might impede further development of renewable energy and implementation of an RPS in North Carolina. The cost/benefit analysis underlying the report shall be based upon sound economic modeling techniques, and all assumptions shall be clearly expressed and explained.

   The consultant shall meet in Raleigh with the Commission and members of the RPS Advisory Group within two (2) weeks after the contract has been awarded to discuss and determine the specifics of the study to be performed, including the analytical methods and models to be used, sources of data to be used as input for the study, assumptions to be made and used in the study, scenarios to be analyzed in the study, and sensitivity analyses to be performed as part of the study. Knowledgeable input from the consultant based

upon prior similar research is vital in determining the specific scope and details of the study and in maximizing the usefulness of the study to the legislature in its deliberations.

The consultant shall, in gathering data for the study, confer, to the greatest extent possible, with the State Energy Office, the North Carolina Solar Center, NC GreenPower, electric utility companies, and others who have previously investigated or attempted to inventory the potential for renewable energy production in North Carolina. However, the consultant shall endeavor to independently verify the reasonableness of all data and assumptions used in the study.

The consultant shall deliver to the Commission an initial draft report, incorporating the results of the cost/benefit analysis, within twelve (12) weeks after the contract has been awarded. The draft report shall be circulated to members of the RPS Advisory Group for comment and critique. The consultant shall meet in Raleigh with the Commission and members of the RPS Advisory Group to discuss comments received and to determine final revisions necessary to the report.

The consultant shall deliver to the Commission a final report within three (3) weeks of the meeting with the Commission and members of the RPS Advisory Group to discuss comments on the initial draft report.

2. **Coordinate with Commission to present overview of report and results of underlying cost/benefit analysis to members of ERC.**

The consultant shall work with the Commission to prepare and present a final presentation to members of the North Carolina General Assembly. The consultant shall deliver to the Commission a PowerPoint slide presentation at least one (1) week in advance of any such presentation and shall travel to Raleigh to assist the Commission with presenting the results of the study. It is anticipated that such a presentation may be scheduled for January 2007; however, the timing is at the discretion of the legislature.

The consultant shall remain available to meet with the Commission and others to present and discuss the results of the study.

Contractor Requirements:

Awarded Contractor: It is the general intent to award this contract to a single overall bidder on all items outlined in the Request for Proposal. Offer will submit a proposal on all components as a whole. The contract requirements will not be split into multiple components due to the connectivity of the project.

Experience:

Offeror must have a broad base of experience in all work areas. Preferably, the offeror will have national, state and local experience in:

- Generation, transmission, and distribution of electric power
- Production of electricity from non-renewable and renewable energy sources
- Forecasting changes in the cost of fuel and cost of electric generation from non-renewable and renewable energy sources
- Evaluating electric demand offset by use of energy efficiency measures
- Ratemaking methodology
- Economic modeling of costs and benefits of public policy decisions
- Working with state utility commissions
- Working with diverse stakeholder groups

The Commission will evaluate the proposal on the following factors, in addition to other evaluation criteria noted in Section 4, I :

- Extent of prior experience modeling costs and benefits of RPS; **bidder must have experience providing at least one (1) OBJECTIVE RSP cost/benefit analysis to a governmental regulatory or legislative client.**
- Quality of previously performed and published economic costs/benefit analyses.
- Organization capacity to produce the required work product within the desired time frame.
- Technical approach of project
- Reasonable cost structuring in light of the tasks to be accomplished and the national experience sought.

Approach to Work: Offeror must be able to work with a wide range of audiences and stakeholders including public sector and private sector, elected officials, and community advocates. Groups may have competing agendas and the bidder must be able to bring a common vision to the groups.

Availability: Offeror should have sufficient staff to meet all requirements of the work within the agreed timeframes, and have the flexibility to respond to the demands of the work to meet the timeframes.

Reports/Meetings: The Contractor will be required to provide written monthly progress reports to the Commission.

Section 4

Procurement Process

A. Offerors are urged to submit a proposal for establishing and performing the services described herein. All proposals must be submitted strictly in accordance with the requirements of the Request for Proposal. Failure to furnish any required information with your proposal is grounds for rejection, at the option of the State.

B. Each offeror shall demonstrate in its proposal that the firm, its management and employees are experienced and competent and has the background, training and experience to perform the services required by this Request for Proposal.

C. Proposals in one original and seven (7) copies will be received from each offeror in two separate sealed packages – the Technical Proposal and the Cost Proposal. Each original shall be signed and dated by an official authorized to bind the firm. Unsigned proposals will not be considered.

NOTE: No technical information shall be contained in the cost proposal. No cost information shall be contained in the technical proposal. If any cost information is included in the technical proposal and/or if any technical information is included in the cost proposal, the offeror's entire proposal shall be rejected.

D. All proposals must be received by the issuing agency not later than the date and time specified on the cover sheet of this RFP. Refer to the cover page for mailing/delivery instructions.

E. At that date and time, the package containing the **technical proposals** from each responding firm will be publicly opened and the name of each offeror announced publicly. A notation will also be made whether a separate sealed cost proposal has been received. Cost proposals will be placed in safekeeping until opened at a later date.

F. Technical proposals will be evaluated first.

G. Upon completion of the technical evaluation, the cost proposals of those firms whose technical proposals have been deemed acceptable will be publicly opened. The total cost offered by each firm will be tabulated and become a matter of public record. Interested parties are cautioned that these costs and their components are subject to further evaluation for completeness and correctness and therefore may not be an exact indicator of an offeror's pricing position.

H. At their option, the evaluators may request oral presentations or discussion with any or all offerors for the purpose of clarification or to amplify the materials presented in any part of the proposal. However, offerors are cautioned that the evaluators are not required to request clarification; therefore, all proposals should be complete and reflect the most favorable terms available from the offeror.

I. Proposals will be evaluated according to completeness, content, experience with similar projects, the ability of the offeror and its staff, proposed plan of action to carry out the requirements set forth herein, and cost. Award of a contract to one offeror does not mean that the other proposals lacked merit, but that, all factors considered, the selected proposal was most advantageous to the State.

In addition to any other evaluation criteria identified in the State agency's solicitation document, the agency shall, for purposes of evaluating proposed or actual contract performance outside of the United States, consider the following factors to ensure that any award will be in the best interest of the State:

Total cost to the State
Level of quality provided by the vendor
Contractor Experience – Address all areas listed in Contractor Requirements Section, Page 5
Process capability across multiple jurisdictions
Protection of the State's information and intellectual property
Availability of pertinent skills
Ability to understand the State's business requirements and internal operational culture
Risk factors such as the security of the State's information technology
Relations with citizens and employees
Contract enforcement jurisdictional issues

J. Offerors are cautioned that this is a request for offers, not a request to contract, and the State reserves the unqualified right to reject any and all offers when such rejection is deemed to be in the best interest of the State.

K. **NOTE:** This is a service contract and the 1.75% fee described therein will not be assessed. **However, if your firm is the successful vendor as a result of this solicitation, formal award will not be finalized until your firm has completed the vendor registration process with the Statewide E-Procurement Service.** This registration is necessary in order for the Department to have the capability to issue purchase orders for the services described herein. Electronic registration can be accessed at http://vendor.ncgov.com. If you experience any problems with the registration process, contact E-Procurement Customer Service by phone at 1-888-211-7440 or e-mail at ephelpdesk@ncmail.net.

Section 5

Proposal Requirements

Proposals shall be submitted in a sealed package. The package shall be labeled "PROPOSAL" and must bear the name of the Division, the RFP number and closing date. Technical proposals and cost proposals **must** be sealed separately within this package.

The proposal must contain the following information:

Table of Contents
Corporate Background and Experience
References
Project Staffing and Organization
Technical Approach (see Section 3)
Outsourcing
Cost **(must be submitted in a separate sealed package)**
Execution Page
Service Location Page
Report Samples

Corporate Background and Experience
This section will include background information on the organization and should give details of experience in conducting economic modeling and cost/benefit analyses, particularly with regard to energy policy or renewable energy renewable portfolios. Include list of clients for whom you have provided similar services. See Contractor Requirements, Page 5.

References
A list of references (including a minimum of 3 contact persons and telephone numbers) for whom similar work has been performed must be included.

Project Staffing and Organization
This section must include the proposed staffing, deployment and organization of personnel to be assigned to this account. The offeror shall provide information regarding the qualifications and experience of all executive, managerial, legal and professional personnel to be assigned to this project, including resumes citing education, experience with similar projects and the responsibilities to be assigned to each person.

Technical Approach
This section shall include, in narrative, outline, and or/graph form the offeror's approach to accomplishing the tasks outlined in the Scope of Work section of this RFP. A description of each task and deliverable and the schedule for accomplishing each shall be included. Indicate what services, if any, could not be done in-house and would have to be subcontracted.

Outsourcing
The Vendor must detail the manner in which it intends to utilize resources or workers located outside of the United States, and the State of North Carolina will evaluate the additional risks, costs and other factors associated with such utilization to make the award for this proposal as deemed by the awarding authority to be in the best interest of the State.

For any proposed or actual utilization or contract performance outside of the United States, the offeror's proposal must include:

- The location of work performed under a state contract by the vendor, any subcontractors, employees, or other persons performing the contract.

- The corporate structure and location of corporate employees and activities of the vendors, its affiliates or any subcontractors.

The State may initiate proceedings to debar a vendor from participation in the RFP process and from contract award as authorized by North Carolina law, if it is determined that the vendor has refused to disclose or has falsified any information provided herein.

Cost Proposal
The Cost Proposal shall be submitted in a separate, sealed package and contain:

Personnel Costs (including hourly rates and total hours)
Travel and Subsistence Expenses
Subcontractor Costs (if any)
Other Costs (e.g., office expenses)
TOTAL COST A total not to exceed cost representing the maximum amount for all work to be performed must be clearly indicated under this heading.

NOTE: Award will be made based on Not To Exceed (NTE) amount, but billing shall be based on the hourly rates plus expenses.

Execution Page
The Execution Page (SEE PAGE 9) must be included in your proposal.

Service Location Page
The Service Location Page (SEE PAGE 10) must be included in your proposal.

Report Samples
Offeror should submit copies of any analyses/reports/studies relevant to the experience outlined in this RFP. Offeror is requested to submit at least one report sample and no more than three different samples. Five copies of each sample should be submitted.

Section 6
Contract Term
The term of this contract will be on or about July 1, 2006 through June 30, 2007. The Department reserves the right to extend this contract for two additional one-year periods. Total contract term will not exceed three years. Any extensions will be made by written amendments duly executed by the Contractor and the Department.

Contract Administrator
The Department shall designate one person as the Contract Administrator for this contract. This person will be responsible for the following duties:

1. The Contract Administrator and liaison for the contract will be Sam Watson. The Contract Administrator will approve the work schedule. Any documents that may be generated as a result of this contract will be submitted to the Contract Administrator for approval.

2. Determination as to whether the Contractor is satisfactorily performing the services delineated in the contract shall be at the discretion of the Contract Administrator. In the event performance is unsatisfactory, the Contract Administrator shall be responsible for initiating notifications to the Contractor as outlined in the contract. Any desired change in the contract must be approved by the Department's Purchasing Officer.

Contract Document

The contract shall be deemed to include, by verbatim incorporation, the following documents:
1. The Request for Proposal, dated May 12, 2006.
2. The offeror's proposal.
3. The acceptance of proposal.
4. Any written amendments to the contract which may be issued. Changes to the contract, or any of its terms and conditions, may be made only by written amendments stipulating the changes to be made and the effective date. Each amendment must be signed by both the Contractor and the Department with prior approval being granted by the Departmental Purchasing Office and the State Division of Purchase and Contract.

EXECUTION OF PROPOSAL

By submitting this proposal, the potential contractor certifies the following:

This proposal is signed by an authorized representative of the firm.

It can obtain insurance certificates as required within 10 calendar days after notice of award.

The cost and availability of all equipment, materials, and supplies associated with performing the services described herein have been determined and included in the proposed cost.

All labor costs, direct and indirect, have been determined and included in the proposed cost.

The offeror can and will provide the specified performance bond or alternate performance guarantee (if Applicable).

The potential contractor has read and understands the conditions set forth in this RFP and agrees to them with no exceptions.

The offeror is registered in NC E-Procurement @ Your Service or agrees to register within two days after notification of contract award.

Therefore, in compliance with this Request for Proposals, and subject to all conditions herein, the undersigned offers and agrees, if this proposal is accepted within 90 days from the date of the opening, to furnish the subject services.

OFFEROR: _____

ADDRESS: _____

CITY, STATE, ZIP: _____

TELEPHONE NUMBER: _____ FAX NUMBER:_____

E-MAIL ADDRESS: _____

FEDERAL EMPLOYER IDENTIFICATION NUMBER: _____

Principal Place of Business if different from above (See General Information on Submitting Proposals, Item 18):

_____

Will any of the work under this contract be performed outside the United States? _____Yes _____No
(If yes, describe in technical proposal)

BY: _____ TITLE: _____ DATE: _____
(Signature)

_____ E-MAIL ADDRESS: _____
(Typed or printed name)

****

ACCEPTANCE OF PROPOSAL
NORTH CAROLINA DEPARTMENT OF COMMERCE

BY: _____ TITLE: _____ DATE: _____

THIS PAGE MUST BE SIGNED AND INCLUDED IN YOUR PROPOSAL

Where Service Contracts Will Be Performed

In accordance with NC General Statute 143-59.4 (Session Law 2005-169), this form is to be completed and submitted with the offeror's (technical) proposal/bid.

Issuing Agency: North Carolina Department of Commerce **Solicitation #43-22111004-06**
Agency Contact: Brenda Allen (919) 715-5615

Solicitation Title / Type of Services: Consulting Services

OFFEROR: _____
City & State: _____

Location(s) from which services will be performed by the contractor:

Service	City/Province/State	Country

Location(s) from which services are anticipated to be performed outside the U.S. by the contractor:

Location(s) from which services will be performed by subcontractor(s):

Service	Subcontractor	City/Province/State	Country

Location(s) from which services are anticipated to be performed outside the U.S. by the subcontractor(s):

(Attach additional pages if necessary.)

NORTH CAROLINA GENERAL CONTRACT TERMS AND CONDITIONS

1. **GOVERNING LAW:** This contract is made under and shall be governed and construed in accordance with the laws of the State of North Carolina.

2. **SITUS:** The place of this contract, its situs and forum, shall be North Carolina , where all matters, whether sounding in contract or tort, relating to is validity, construction, interpretation and enforcement shall be determined

3. **INDEPENDENT CONTRACTOR:** The Contractor shall be considered to be an independent contractor and as such shall be wholly responsible for the work to be performed and for the supervision of its employees. The Contractor represents that it has, or will secure at its own expense, all personnel required in performing the services under this agreement. Such employees shall not be employees of, or have any individual contractual relationship with the Agency.

4. **KEY PERSONNEL:** The Contractor shall not substitute key personnel assigned to the performance of this contract without prior written approval by the Agency's Contract Administrator. The individuals designated as key personnel for purposes of this contract are those specified in the Contractor's proposal.

5. **SUBCONTRACTING:** Work proposed to be performed under this contract by the Contractor or its employees shall not be subcontracted without prior written approval of the Agency's Contract Administrator. Acceptance of an offeror's proposal shall include any subcontractor(s) specified therein.

6. **PERFORMANCE AND DEFAULT:** If, through any cause, the Contractor shall fail to fulfill in timely and proper manner the obligations under this agreement, the Agency shall thereupon have the right to terminate this contract by giving written notice to the Contractor and specifying the effective date thereof. In that event, all finished or unfinished deliverable items under this contract prepared by the Contractor shall, at the option of the Agency, become its property, and the Contractor shall be entitled to receive just and equitable compensation for any satisfactory work completed on such materials. Notwithstanding, the Contractor shall not be relieved of liability to the Agency for damages sustained by the Agency by virtue of any breach of this agreement, and the Agency may withhold any payment due the Contractor for the purpose of setoff until such time as the exact amount of damages due the Agency from such breach can be determined.

   In case of default by the Contractor, the State may procure the services from other sources and hold the Contractor responsible for any excess cost occasioned thereby. The State reserves the right to require performance bond or other acceptable alternative guarantees from successful offeror without expense to the State.

   Upon the entering of a judgment of bankruptcy of insolvency by or against the Contractor, the Agency may terminate this contract for cause.

   In addition, in the event of default by the Contractor under this contract, the State may immediately cease doing business with the Contractor, immediately terminate for cause all existing contracts the State has with the Contractor, and de-bar the Contractor from doing future business with the State. Upon the Contractor filing a petition for bankruptcy or the entering of a judgment of bankruptcy by or against the Contractor, the State may immediately terminate, for cause, this contract and all other existing contracts the Contractor has with the State, and de-bar the Contractor from doing future business with the State.

   Neither party shall be deemed to be in default of its obligations hereunder if and so long as it is prevented from performing such obligations by any act of war, hostile foreign action, nuclear explosion, riot, strikes, civil insurrection, earthquake, hurricane, tornado, or other catastrophic natural event or act of God.

7. **TERMINATION:** The Agency may terminate this agreement at any time by *60 days* notice in writing from the Agency to the Contractor. In that event, all finished or unfinished deliverable items prepared by the Contractor under this contract shall, at the option of the Agency, become its property. If the contract is terminated by the Agency as provided herein, the Contractor shall be paid for services satisfactorily completed, less payment or compensation previously made.

8. **PAYMENT TERMS:** Payment terms are Net not later than 30 days after receipt of correct invoice(s) or acceptance of services, whichever is later, or in accordance with any special payment schedule identified in this RFP. The using agency is responsible for all payments to the Contractor under the contract. Payment by some agencies may be made by procurement card and it shall be accepted by the Contractor for payment if the Contractor accepts that card (Visa, Mastercard, etc.) from other customers. If payment is made by procurement card, then payment may be processed immediately by the Contractor.

9. **AVAILABILITY OF FUNDS:** Any and all payments to the Contractor are dependent upon and subject to the availability of funds to the Agency for the purpose set forth in this agreement.

10. **CONFIDENTIALITY:** Any information, data, instruments, documents, studies or reports given to or prepared or assembled by the Contractor under this agreement shall be kept as confidential and not divulged or made available to any individual or organization without the prior written approval of the Agency.

11. **CARE OF PROPERTY:** The Contractor agrees that it shall be responsible for the proper custody and care of any property furnished it for use in connection with the performance of this contract or purchased by it for this contract and will reimburse the State for loss of damage of such property.

12. **COPYRIGHT:** No deliverable items produced in whole or in part under this agreement shall be the subject of an application for copyright by or on behalf of the Contractor.

13. **ACCESS TO PERSONS AND RECORDS:** The State Auditor shall have access to persons and records as a result of all contracts or grants entered into by State agencies or political subdivisions in accordance with General Statute 147-64.7.
The Contractor shall retain all records for a period of three years following completion of the contract.

14. **ASSIGNMENT:** No assignment of the Contractor's obligations nor the Contractor's right to receive payment hereunder shall be permitted. However, upon written request approved by the issuing purchasing authority , the State may:
    a. Forward the contractor's payment check(s) directly to any person or entity designated by the Contractor, or
    b. Include any person or entity designated by Contractor as a joint payee on the Contractor's payment check(s).
In no event shall such approval and action obligate the State to anyone other than the Contractor and the Contractor shall remain responsible for fulfillment of all contract obligations.

15. **COMPLIANCE WITH LAWS:** The Contractor shall comply with all laws, ordinances, codes, rules, regulations, and licensing requirements that are applicable to the conduct of its business, including those of federal, state, and local agencies having jurisdiction and/or authority.

16. **AFFIRMATIVE ACTION:** The Contractor shall take affirmative action in complying with all Federal and State requirements concerning fair employment and employment of people with disabilities, and concerning the treatment of all employees without regard to discrimination by reason of race, color, religion, sex, national origin, or disability.

17. **INSURANCE:** During the term of the contract, the contractor at its sole cost and expense shall provide commercial insurance of such type and with such terms and limits as may be reasonably associated with the contract. As a minimum, the contractor shall provide and maintain the following coverage and limits:

    a. Worker's Compensation - The contractor shall provide and maintain Worker's Compensation Insurance, as required by the laws of North Carolina, as well as employer's liability coverage with minimum limits of $150,000.00, covering all of Contractor's employees who are engaged in any work under the contract.
    If any work is subcontracted, the contractor shall require the subcontractor to provide the same coverage for any of its employees engaged in any work under the contract.

    b. Commercial General Liability - General Liability Coverage on a Comprehensive Broad Form on an occurrence basis in the minimum amount of $500,000.00 Combined Single Limit. (Defense cost shall be in excess of the limit of liability.

    c. Automobile - Automobile Liability Insurance, to include liability coverage, covering all owned, hired and non-owned vehicles, used in connection with the contract. The minimum combined single limit shall be $150,000.00 bodily injury and property damage; $150,000.00 uninsured/under insured motorist; and $1,000.00 medical payment.

    Providing and maintaining adequate insurance coverage is a material obligation of the contractor and is of the essence of this contract. All such insurance shall meet all laws of the State of North Carolina. Such insurance coverage shall be obtained from companies that are authorized to provide such coverage and that are authorized by the Commissioner of Insurance to do business in North Carolina. The contractor shall at all times comply with the terms of such insurance policies, and all requirements of the insurer under any such insurance policies, except as they may conflict with existing North Carolina laws or this contract. The limits of coverage under each insurance policy maintained by the contractor shall not be interpreted as limiting the contractor's liability and obligations under the contract.

18. **ADVERTISING:** Contractor agrees not to use the existence of this contract, the name of the agency, or the name of the State of North Carolina as part of any commercial advertising.

19. **ENTIRE AGREEMENT:** This contract and any documents incorporated specifically by reference represent the entire agreement between the parties and supersede all prior oral or written statements or agreements. This Request for Proposals, any addenda thereto, and the offeror's proposal are incorporated herein by reference as though set forth verbatim.

    All promises, requirements, terms, conditions, provisions, representations, guarantees, and warranties contained herein shall survive the contract expiration or termination date unless specifically provided otherwise herein, or unless superseded by applicable Federal or State statutes of limitation.

20. **AMENDMENTS:** This contract may be amended only by written amendments duly executed by the Agency and the Contractor. The NC Division of Purchase and Contract shall give prior approval to any amendment to a contract awarded through that office.

21. **TAXES:** G.S. 143-59.1 bars the Secretary of Administration from entering into contracts with vendors if the vendor or its affiliates meet one of the conditions of G. S. 105-164.8(b) and refuse to collect use tax on sales of tangible personal property to purchasers in North Carolina. Conditions under G. S. 105-164.8(b) include: (1) Maintenance of a retail establishment or office, (2) Presence of representatives in the State that solicit sales or transact business on behalf of the vendor and (3) Systematic exploitation of the market by media-assisted, media-facilitated, or media-solicited means. By execution of the bid document the vendor certifies that it and all of its affiliates, (if it has affiliates), collect(s) the appropriate taxes.

22. **YEAR 2000 COMPLIANCE/WARRANTY:** Vendor shall ensure the product(s) and service(s) furnished pursuant to this agreement ("product" shall include, without limitation, any piece of equipment, hardware, firmware, middleware, custom or commercial software, or internal components, subroutines, and interfaces therein) which perform any date and/or time data recognition function, calculation, or sequencing, will support a four digit year format, and will provide accurate date/time data and leap year calculations on and after December 31, 1999, at the same level of functionality for which originally acquired without additional cost to the user. This warranty shall survive termination or expiration of the agreement.

23. **GENERAL INDEMNITY:** The contractor shall hold and save the State, its officers, agents, and employees, harmless from liability of any kind, including all claims and losses accruing or resulting to any other person, firm, or corporation furnishing or supplying work, services, materials, or supplies in connection with the performance of this contract, and from any and all claims and losses accruing or resulting to any person, firm, or corporation that may be injured or damaged by the contractor in the performance of this contract and that are attributable to the negligence or intentionally tortious acts of the contractor provided that the contractor is notified in writing within 30 days that the State has knowledge of such claims. The contractor represents and warrants that it shall make no claim of any kind or nature against the State's agents who are involved in the delivery or processing of contractor goods to the State. The representation and warranty in the preceding sentence shall survive the termination or expiration of this contract.

24. **OUTSOURCING:** Any vendor or subcontractor providing call or contact center services to the State of North Carolina shall disclose to inbound callers the location from which the call or contact center services are being provided.
    If, after award of a contract, the contractor wishes to outsource any portion of the work to a location outside the United States, prior written approval must be obtained from the State agency responsible for the contract.

    Vendor must give notice to the using agency of any relocation of the vendor, employees of the vendor, subcontractors of the vendor, or other persons performing services under a state contract outside of the United States.

2/28/2006

EXHIBIT D-3

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 733-2578
FAX: (919) 715-5460

SUSAN S. IDDINGS
ASSISTANT COMMISSION COUNSEL
401 LEGISLATIVE OFFICE BUILDING
(919) 733-6660

JENNIFER L. McGINNIS
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

DOROTHY M. WAUGAMAN
COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 715-2525
FAX: (919) 754-3232

JEFF W. HUDSON
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

JENNIFER R. F. MUNDT
COMMISSION ANALYST
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

9 October 2006

To: Members of the Environmental Review Commission

From: George F. Givens, Commission Counsel

Re: Status of recommended legislation

The following table lists legislation recommended by the Environmental Review Commission to the 2006 Regular Session of the 2005 General Assembly, and the status of the recommended legislation. Recommendations that were enacted are followed by Session Law number, bill number, and short title. Recommendations not enacted are designated as such.

LEGISLATIVE RECOMMENDATIONS

#	Short Title		
1.	Environmental Technical Corrections 2006.		
	2006-79	HB 2165	Env. Tech Corrects/Reporting Reqs.
2.	Amend Environmental Laws 2006.		
	2006-255	SB 1587	Amend Env. & Nat. Resources Laws.
3.	Amend Natural Resource Laws 2006.		
	2006-255	SB 1587	Amend Env. & Nat. Resources Laws.
4.	Environmental Reports Consolidation 2006.		
	2006-79	HB 2165	Env. Tech Corrects/Reporting Reqs.
5.	Delay CWMTF Provisions.		
	2006-178	HB 2208	CWMTF Amendments.
6.	Extend Legislative Commission on Global Climate Change.		
	2006-73	SB 1591	Extend Climate Change Commission.

7. Fund Stream Mapping.
Not Enacted

8. State Parks System Additions.
2006-138 HB 2127 State Parks System Additions.

9. Tax Credits For Certain Real Property Donations.
Not Enacted

10. Mercury Switch Amendments.
2006-255, Sec. 5 SB 1587 Amend Env. & Nat. Resources Laws.

11. Underground Storage Tank Amendments 2006.
Not Enacted

12. Underground Storage Tank Program Funds.
2006-200 SB 1584 Underground Storage Tank Prgm. Adm. Funds.

13. Stormwater Management 2006.
2006-246 SB 1566 Stormwater Management 2006.

14. Low-Emission Vehicles/Funds.
Not Enacted

15. Childhood Lead Poisoning - Clarification of DENR Authority.
2006-255, PART III SB 1587 Amend Env. & Nat. Resources Laws.

16. Radiation Protection Program Fee Amendments.
Not Enacted

17. Amend Sanitary District Authority.
2006-214 HB 2164 Amend Sanitary District Authority.

18. Well Construction Fund/Grants for Local Prgms.
Not Enacted

19. Private Drinking Water Wells/Local Well Programs.
2006-255, Sec. 5.2 SB 1587 Amend Env. & Nat. Resources Laws.

20. Clarify Animal Waste Technical Specialist Certification Requirements.
2006-38 SB 1598 Clarify Animal Waste Tech Specialist Cert Rqs.

21. Community Conservation Assistance Program.
2006-78 HB 2129 Community Conservation Assistance Program.

22. Amend Solid Waste Franchise Statutes.
2006-256 SB 1564 Amend Solid Waste Franchise Statutes.

23. Exempt Certain Greenhouses from Building Code.
Not Enacted

24. Fertilizer Spreaders Exempt from Registration.
Not Enacted

25. Land Disturbing Activities near Trout Streams.
Not Enacted

Chapter 10
Environment and Natural Resources

Tim Dodge (TD), George Givens (GFG), Jeff Hudson (JH), Jennifer McGinnis (JLM), and Jennifer Mundt (JRM)

Enacted Legislation

Animal Waste Management

Clarify Animal Waste Management System Technical Specialist Certification Requirements

S.L. 2006-38 (SB 1598) extends from July 1, 2006 to September 1, 2007 the period of time that an animal waste management system technical specialist may provide the current level of services related to an animal waste management system and holds constant the requirements for approval as a technical specialist. The act directs the Department of Environment and Natural Resources (DENR) to evaluate the training and qualification requirements for technical specialists to determine whether the current approval process ensures an appropriate level of knowledge and expertise. In conducting the evaluation, DENR must consult with representatives from interested parties and organizations. DENR must submit a report of its findings, including any legislative recommendations, to the Environmental Review Commission on or before November 15, 2006.

This act became effective July 1, 2006. (TD)

Climate Change

Extend Climate Change Commission

S.L. 2006-73 (SB 1591) extends the period of time during which the Legislative Commission on Global Climate Change (Commission) may meet and prepare its final report, including any legislative recommendations, from November 1, 2006, to April 15, 2008. The act directs the Commission to submit an interim report to the General Assembly and the Environmental Review Commission no later than January 15, 2007, and authorizes the Commission to submit additional reports at its discretion.

This act became effective July 10, 2006. (TD)

Coastal Development

Increase Penalties for CAMA Violations

S.L. 2006-229 (HB 1523) increases the maximum civil penalty that may be assessed for a minor development violation under Coastal Area Management Act of 1974 (CAMA) from $250 to $1,000, and increases the maximum civil penalty that may be assessed for a major development violation under the Act from $2,500 to $10,000. In addition, the act authorizes the Coastal Resources Commission to assess reasonable costs of any investigation, inspection, or monitoring

that results in the assessment of a civil penalty for minor and major development violations under CAMA.

This act becomes effective December 1, 2006, and applies to violations and offenses committed on or after that date. (TD)

Environmental Health

Certify On-Site Wastewater Contractors

S.L. 2006-82 (HB 688) requires the construction, installation, repair, and inspection of on-site wastewater systems in the State to be conducted by a certified on-site wastewater contractor or inspector. To be certified, an individual must be at least 18 years old, submit a completed application and fee, and meet certain training and experience requirements. The act exempts certain individuals from the certification requirements including: an employee or contractor working under the direct and personal supervision of a certified contractor or inspector; a landowner who constructs, installs, or repairs a single septic system so long as it is intended for use by that person and members of that person's immediate family; a licensed general contractor who constructs or installs an on-site wastewater system ancillary to the building being constructed; and other qualified individuals.

The act establishes the On-Site Wastewater Contractors and Inspectors Certification Board (Board). The Board consists of nine members, three appointed by the Governor, three by the General Assembly upon recommendation of the President Pro Tem of the Senate, and three by the General Assembly upon recommendation of the Speaker of the House of Representatives. The members of the Board serve staggered four-year terms. The Board has administrative and disciplinary powers, and may determine eligibility requirements, establish grades of certification, develop and administer exams, and establish fees, not to exceed the following statutory maximums:

Purpose of Fee	Fee Amount
Application for basic certification	$150.00
Application for each step grade	$50.00
Certification renewal	$100.00
Reinstatement of revoked or suspended certification	$500.00
Application for on-site wastewater system inspector certification	$200.00
Replacement of a certificate	$25.00
Late renewal	$25.00

The certification requirements, continuing education requirements, and disciplinary powers of the Board become effective January 1, 2008. The remaining provisions of the act became effective July 10, 2006. (TD)

Wastewater System Approvals/Small Counties

S.L. 2006-136 (HB 1094) establishes a pilot program to modify the approval process for an on-site wastewater system in certain counties. To be eligible to participate in the pilot program, a county must meet all of the following criteria:

- The population of the county must not exceed 25,000 according to the most recent federal decennial census.

- The county must have more than 900 applications for improvement permits or authorizations to construct that are pending before the local health department as of July 19, 2006.
- The board of county commissioners and the local board of health for the county must both approve a resolution requesting to participate in the pilot program

The pilot program expands the authority to conduct soil and site evaluations as part of the process for issuance of an improvement permit to include licensed soil scientists, as well as agents of the local health department or the Department of Environment and Natural Resources (DENR). A licensed soil scientist who submits an application for an improvement permit or an authorization to construct must carry errors and omissions insurance or other appropriate liability insurance with a policy limit of not less than $1,000,000, and must include certain identifying information on each improvement permit or an authorization to construct that is prepared by or based on work provided by the licensed soil scientist. A local board of health may impose an additional fee not to exceed $200 for the costs of review and consideration of applications for an improvement permit or an authorization to construct that has been prepared by a licensed soil scientist. DENR must evaluate the effectiveness of the program and report its findings annually to the Environmental Review Commission. The pilot program began August 1, 2006 and expires July 1, 2011.

This act became effective July 19, 2006. (TD)

Fisheries

Oyster Shell Tax Credit

S.L. 2006-66, Sec. 24.18 (SB 1741, Sec. 24.18). See **Finance**.

Striped Bass Permit

S.L. 2006-254 (SB 1242) authorizes the Marine Fisheries Commission to adopt rules to establish gear specific permits to take striped bass from the Atlantic Ocean; limit the number and type of these permits that may be issued to a person; and establish a fee to compensate the Division of Marine Fisheries for the administrative costs associated with the permits, not to exceed ten dollars ($10.00).

This act is effective when it becomes law. (JH)

Miscellaneous

Community Conservation Assistance Program

S.L. 2006-78 (HB 2129) establishes the Community Conservation Assistance Program (Program) in the Department of Environment and Natural Resources. Similar to the Agriculture Cost-Share Program for Nonpoint Source Pollution Control, the Program's primary focus is to reduce nonpoint source pollution into the waters of the State. The Program applies statewide, however, and is not limited to reducing agricultural nonpoint source pollution.

The Soil and Water Conservation Commission must establish priority designations for inclusion in the Program for State funding, and is also responsible for the allocation of cost share and technical assistance funds under the Program. To be eligible for priority designation, a project must be evaluated before and after the project is completed to determine the impact of

the project on water quality. The Soil and Water Conservation Commission must report annually to the Environmental Review Commission on the implementation and effectiveness of the Program.

This act became effective July 10, 2006. (TD)

Environmental Technical Corrections/Reporting Requirements

S.L. 2006-79 (HB 2165) makes technical amendments to various environmental laws and amends or repeals various environmental reporting requirements.

This act became effective July 10, 2006. (TD)

Schoolchildren's Health Act

S.L. 2006-143 (HB 1502). See **Education**.

Amend Boating Safety/Vessel Titling Law

S.L. 2006-185 (SB 948). See **Agriculture and Wildlife**.

Underground Storage Tank Program Administer Funds

S.L. 2006-200 (SB 1584) appropriates up to $137,106 from the Commercial Fund and up to $137,106 from the Noncommercial Fund to the Department of Environment and Natural Resources to cover increased program operating costs and the costs of any legislative salary increase for Program personnel. The appropriations are in addition to similar appropriations made in the 2003 Appropriations Act (S.L. 2003-284) and in the 2004 Appropriations Act (S.L. 2004-124). This act states that it is the General Assembly's intent that the funds appropriated are recurring funds.

This act became effective July 1, 2006. (TD) (JRM)

Amend Sanitary District Authority

S.L. 2006-214 (HB 2164) authorizes a sanitary district to require an owner of improved real property located within the district with existing residential units or commercial establishments to connect to water or sewer service if the property is located within a reasonable distance of a waterline or sewer collection line that is owned, operated, or leased by the sanitary district without a determination by the local health director. Previously, a determination by the health director that the health of the people residing in the district would be endangered by a failure to connect was required to mandate a connection.

The act also authorizes a sanitary district to fix charges for connection to water and sewer service. In the case of improved property that would qualify for the issuance of a building permit for the construction of residential units or commercial establishments, and where the district has installed water or sewer lines that are directly available to the property, a sanitary district may require payment of a periodic availability charge, provided that the availability charge does not exceed the minimum service charge for properties that are connected.

These provisions are similar to the authority currently available for cities, counties, water and sewer authorities, and other local government entities. The power granted by the act may be exercised by a sanitary district only to the extent that the service to be provided by the district

is not currently being provided to the property by any other political subdivision or by a regulated public utility.

This act becomes effective September 1, 2006. (TD)

Enhance Local Government Administration of Environmental Programs

S.L. 2006-250 (HB 1413) makes the following changes to the administration of environmental programs by local governments:

Self-Inspection. – The act requires the inspection of the area covered by an erosion and sedimentation control plan (plan) after each phase of the plan has been completed and after establishment of temporary groundcover. The landowner, financially responsible party, or their agent must perform each inspection and maintain and make available a record of the inspection at the site. The record must indicate whether the erosion control measures required by the plan were installed and are being maintained in accordance with the plan. The report must also indicate if there was any deviation from the approved plan, measures required to correct the deviation, and document the completion of those measures.

Jurisdiction of the Sedimentation Control Commission. – The act clarifies that the Sedimentation Control Commission has concurrent jurisdiction with local governments that administer a delegated program. The act authorizes the Commission to: (i) review plan approvals made by a delegated program and to require a revised plan if the Commission determines that the plan does not comply with the Sedimentation Pollution Control Act of 1974 and rules adopted pursuant to the Act; and (ii) review the compliance activities of a delegated program and take appropriate action upon determination that the delegated program has failed to take appropriate compliance action.

Authorization of Limited Local Programs. – The act authorizes a local government to request that the Commission approve and delegate a limited program that allows the local government to only inspect land-disturbing activities, and assess and collect appropriate fees. Local governments may adopt ordinances and regulations necessary to establish a limited program, which must at least meet and may exceed the minimum requirements regarding the inspection of land-disturbing activities under the Act and the associated rules. If the Commission approves a limited local program, the Commission would retain responsibility for administering all components of the program, other than the inspection of land-disturbing activities. Local governments that adopt a limited program must establish a fee for the review of a plan and related compliance activities, not to exceed $100.00, and submit a portion of the fee to the Commission to compensate the Commission for the costs associated with the administration and enforcement of other parts of the program.

Local Government Fee Authority Not Impaired. – The act clarifies that G.S. 143-215.3D, which provides the fee schedule for water quality permits, does not limit the authority of a local government to collect a fee for the review of a permit application or mitigation plan, or inspection of a site.

Local Permit Programs for Reclaimed Water Utilization Systems. – The act authorizes local governments to establish and administer their own permit program, in lieu of required State permits, for construction, operation, alteration, extension, or change of a reclaimed water utilization system. The statute already authorizes local government permit programs for these activities with regard to sewer systems.

Civil Penalties for Violations. – The act provides that local governments certified and approved by the EMC to enforce stormwater or riparian buffer protection programs may assess civil penalties for violations of the respective programs.

The act also authorizes local governments to regulate solicitation of charitable contributions within the local government's municipal corporate limits. For additional information on this authorization, see **Local Government.**

The provisions of this act related to local government administration of environmental programs become effective September 1, 2006. (TD)

Amend Environment & Natural Resources Laws

S.L. 2006-255 (SB 1587) makes the following changes to environment and natural resource laws:

- Clarifies the requirement that motor vehicles operated on a federal installation in an emissions county are subject to emissions inspection requirements.
- Clarifies the requirement that land disturbing activity be conducted in accordance with an approved erosion and sedimentation control plan.
- Authorizes the Environmental Review Commission and the Joint Legislative Commission on Seafood and Aquaculture to contract for consultants upon the prior approval of the Legislative Services Commission
- Authorizes a person who manufactures, installs, repairs, or pumps septic systems to also purchase and install approved effluent filters.
- Delays by one year the effective date of certain provisions of S.L. 2005-384, an act to require the removal, collection, and recovery of mercury switches from certain motor vehicles. This provision became effective July 1, 2006.
- Authorizes septage management firms to land apply septage generated from small wastewater systems, so long as the land application complies with existing State and federal requirements for septage management.
- Establishes the Emergency Drinking Water Fund in the Department of Environment and Natural Resources (DENR). The Fund may be used to pay for notification of persons supplied water from a private drinking water well that is located within 1,500 feet of, and at risk from, known groundwater contamination. The Fund may also be used for the costs of testing private drinking water wells for contamination and for the provision of alternative water supplies to persons whose drinking water well is contaminated.
- Provides that donations of real property under the Riparian Buffer Protection Program is required to be located within the same basin as the riparian buffer that is lost, but is not required to be located on the same stream as the riparian buffer that is lost. This provision became effective August 1, 2006 and expires September 1, 2007.
- Exempts certain air quality permits that are submitted and determined to be administratively complete by August 1, 2006, from recent changes in air quality rules that were adopted by the Environmental Management Commission. In order to be eligible for this exemption, the permitted facility must meet specific performance criteria established in the act.
- Removes deer and elk from consideration as livestock in the definition of agriculture that is used for agricultural development and farmland preservation purposes.
- Clarifies that the For Hire Blanket Coastal Recreational Fishing License is issued for the for hire boat rather than the boat captain.
- Clarifies that the Special Landholder and Guest Fishing License only applies when the guests are invited to fish at no charge.
- Increases the types of licenses that the Wildlife Resources Commission may establish as personalized licenses.
- Clarifies that the Lifetime Unified Inland/Coastal Recreational Fishing License is a resident only license.

- Provides that personal identifying information obtained by the Wildlife Resources Commission, the Marine Fisheries Commission, or the Division of Marine Fisheries of DENR must be treated as provided in the statute that governs the treatment of such information by State agencies generally. The provision in the act contains a broader definition of protected identifying information.
- Authorizes the Marine Fisheries Commission to exempt certain organized fishing events from license requirements.
- Clarifies the authority of DENR and the Secretary of Environment and Natural Resources to carry out certain responsibilities related to the prevention and control of lead poisoning in children.

Except as otherwise provided, this act became effective August 23, 2006. (GFG, TD)

Redevelopment of Certain Manufacturing Districts

S.L. 2006-264, Sec. 99.5 (SB 602, Sec. 99.5) amends S.L. 2005-462 by providing for expiration of the act on 1 September 2008 if the Secretary of State has not approved at least one certification by a new operator of a manufacturing facility that is required to establish a manufacturing redevelopment district prior to 1 September 2008.

This section became effective August 27, 2006. (JRM)

Parks and Public Spaces

State Parks System Additions

S.L. 2006-138 (HB 2127) authorizes the Department of Environment and Natural Resources (DENR) to add Mountain Bog State Natural Area and Sandy Run Savannas State Natural Area to the State Parks System, and directs the Division of Parks and Recreation (DPR) of DENR to study the establishment of a new State Park at Cabin Lake.

- Mountain Bog State Natural Area: This unit is proposed to include two nationally significant mountain bogs in Avery County, Sugar Mountain Bog and Pineola Bog. Rare species found at one or both of the bogs include the bog turtle, bog rose, bog fern, cranberry, gray's lily, large purple-fringed orchid, purple-leaf willowherb, four-toed salamander, and Baltimore checkerspot (a butterfly).
- Sandy Run Savannas State Natural Area: This unit is proposed to comprise a cluster of nationally significant savannas along the border of Pender and Onslow counties. Rare species known to occur in the project area include Venus flytrap, golden sedge, red-cockaded woodpecker, Cooley's meadowrue, yellow fringeless orchid, Carolina goldenrod, and rough-leaf loosestrife.
- Study of new State Park at Cabin Lake: The act directs DPR to study the feasibility and the desirability of acquiring land and establishing a State Park at Cabin Lake, and report its findings and recommendations, including any legislative proposals, to the Environmental Review Commission on or before January 15, 2007. Cabin Lake (sometimes referred to as Cottage Lake) is a county park located in Duplin County consisting of approximately 167 acres, 69 acres of which is a lake.

This act became effective July 19, 2006. (JLM)

Solid/Hazardous Waste

Public-Private Solid Waste Collection

S.L. 2006-193 (SB 951). See **State Government**.

Landfill Moratorium and Studies

S.L. 2006-244 (SB 353) does the following:

Moratorium Established. – The act establishes a moratorium on consideration of applications for a permit and on issuance of permits to construct new landfills for a period of one-year beginning August 1, 2006 and ending on August 1, 2007. The act provides certain exceptions from the moratorium, to allow consideration of applications for or issuance of:

- An amendment, modification, or other change to a permit for a landfill issued on or before 1 June 2006.
- A permit for a horizontal or vertical expansion of the landfill permitted on or before 1 June 2006.
- A permit to construct a new landfill within the facility boundary identified in the facility plan of a landfill permitted on or before 1 June 2006.
- A permit to operate a new landfill if a permit to construct the new landfill was issued on or before 1 June 2006.
- A permit for a sanitary landfill used only to dispose of waste generated by a coal-fired generating unit that is owned or operated by an investor-owned utility subject to the requirements of G.S. 143-215.107D.
- A permit for a sanitary landfill determined to be necessary by the Secretary of Environment and Natural Resources in order to respond to an imminent hazard to public health or a natural disaster.

ERC Study on Solid Waste Issues. – The act directs the Environmental Review Commission (ERC) to study issues related to solid waste and report its findings and any legislative recommendations to the 2007 General Assembly upon its convening.

Establishment of Joint Select Committee on Environmental Justice. – The act establishes a 12 member Committee on Environmental Justice to study the impact of the siting of landfills in low-income and minority communities in the State, and directs the Committee to report its findings and any legislative recommendations to the ERC and the General Assembly on or before February 1, 2007.

This act became effective August 14, 2006. (JLM)

Amend Solid Waste Franchise Statutes

S.L. 2006-256 (SB 1564) makes the following changes to the solid waste franchise statutes: (i) clarifies that local governments may, but are not required to, award a franchise for a sanitary landfill; (ii) authorizes the award of preliminary franchises as well as franchises, and specifies the information to be included therein; (iii) requires additional measures to enhance public notice and public participation prior to award of a preliminary franchise or franchise; (iv) provides that franchises are to be awarded only after public notice of the proposed landfill location; and (v) increases information required as part of an application for a franchise.

This act became effective August 23, 2006, and applies to any application for a preliminary franchise or franchise that is filed with a local government on or after that date. The act does not affect any franchise that has been awarded as of August 23, 2006, unless the franchise provides for a final vote of the governing board of the local government on the franchise and the final vote occurs on or after November 1, 2006, in which case the provisions of G.S. 130A-294(b1), as amended by the act, apply. (JLM)

Water Quality/Quantity/Groundwater

Private Well-Water Testing Fee

S.L. 2006-66, Sec. 10.20 (SB 1741, Sec. 10.20) authorizes the Secretary of Health and Human Services to charge a fee of up to $55.00 for analyzing private well water samples sent to the State Laboratory of Public Health by local health departments.

This section became effective July 1, 2006. (JLM)

Increase Certain Public Water Systems Annual Operating Permit Fees/Impose Fees for Review of Engineering Plans and Specifications for the Construction or Alteration of Public Water Systems

S.L. 2006-66, Sec. 11.7 (SB 1741, Sec. 11.7) expands the types of water systems that must obtain a permit and pay a fee under G.S. 130A-328 to include non transient non-community water systems. Section 11.7 also:

- Increases annual operating permit fees for certain public water systems.
- Establishes fees for the review of engineering plans and specifications for the construction or alteration of public water systems.
- Establishes an administrative fee for late payment of annual operating permit fees.
- Provides that the Department of Environment and Natural Resources may phase in the increased annual operating permit fees.

This section becomes effective January 1, 2007. (JH)

Funds for Stormwater Projects

S.L. 2006-66, Sec. 21.14 (SB 1741, Sec. 21.14) directs $15,000,000 of the funds available to the Department of Transportation be transferred to the Department of Environment and Natural Resources during the 2006-2007 fiscal year for a stormwater pilot project to clean up State-maintained ocean outfalls and associated outlets through new and innovative technologies and filtering mechanisms

This section became effective July 1, 2006. (JRM)

Brownfields Property Reuse Act Amendments

S.L. 2006-71 (SB 1121) makes the following changes to the Brownfields Property Reuse Act of 1997:

- Excludes properties that are on the National Priorities List from the definition of "brownfields properties" and specifically prohibits the Department of Environment and Natural Resources from entering into a brownfields agreement for a property that is on the National Priorities List. Properties that are listed on the National Priorities List are generally those that are the most serious uncontrolled or abandoned hazardous waste sites that have been identified for possible long-term remediation under the federal Superfund program.
- Clarifies that "unrestricted use standards" are contaminant concentrations that are acceptable for all uses of a property.
- Clarifies that "prospective developer" is a person with a "bona fide, demonstrable desire" to buy or sell a brownfields property for the purpose of redevelopment.
- Reduces the period for public comment on a proposed brownfields agreement from 60 to 30 days.
- Reduces the time periods involved in requesting and noticing a public meeting on a proposed brownfields agreement from 30 to 15 days.

This act becomes effective January 1, 2007. (JH)

Safe Drinking Water/Private Wells

S.L. 2006-202 (HB 2873) establishes permitting, inspection, and water quality testing requirements for new private drinking water wells. This act provides for consistent statewide enforcement of regulations governing the location, construction, operation, repair, maintenance, and abandonment of private drinking water wells. This act excludes repair or replacement of a well pump from the requirement to obtain a permit.

Definition of Private Drinking Water Well. – Means any excavation that is cored, bored, drilled, jetted, dug, or otherwise constructed to obtain groundwater for human consumption and that serves or is proposed to serve 14 or fewer service connections or that serves or is proposed to serve 24 or fewer individuals. The definition also includes a well that supplies drinking water to a transient noncommunity water system as defined in 40 Code of Federal Regulations §141.2 (July 1 2003 Edition).

Clarification of Environmental Management Commission Authority. – The Commission is authorized to adopt rules governing the permitting and inspection of private drinking water wells with a designed capacity of 100,000 gallons per day or greater. Private drinking water wells with a designed capacity of 100,000 gallons per day or greater will be subject to permitting and inspection by the Commission, and not by a local health department. Local health departments will be authorized to permit and inspect all other private drinking water wells.

Permitting, Inspection, and Testing Requirements. – Each county, through its local health department, must implement and administer a private drinking water well permitting, inspection, and testing program:

- Permits are required for the construction or repair of a private drinking water well. A repair permit is not required for private drinking water well maintenance that does not involve breaking or opening the well seal or for the repair or replacement of a pump.
- The local health department is required to conduct a field investigation to evaluate the proposed site of the private drinking water well and issue a construction permit if it determines that the proposed well can be constructed in compliance with the General Statutes. Construction or repair permits are valid for 5 years and may be revoked by the local health department if material changes in fact upon which the permit has been issued have been made.
- The local health department will issue a "certificate of completion" when a new or repaired private drinking water well is inspected and determined to have been

constructed or repaired in compliance with the applicable permit. Without a certificate of completion, a private drinking water well must not be placed into service.

- The local health department will test the drinking water from a newly constructed drinking water well for the presence of 19 pollutants within 30 days after it issues the certification of completion. S.L. 2006-66, Sec. 10.20.(a) authorizes the Secretary of Health and Human Services to charge a fee of up to $55.00 for analyzing private well water samples sent to the State Laboratory of Public Health by local health departments.
- The Commission for Health Services will adopt rules governing sampling, testing, and reporting and will allow local health departments to designate third-parties to collect and test samples and report results. Test results will be provided to the owner of the newly constructed private drinking water well, and to the extent practicable, to any leaseholder of a dwelling unit or other facility served by the well at the time the water is sampled.
- The local health department must retain a registry identifying the location of each private drinking water well and a record of the results of all tests until the well is properly closed.

Impose Fees for Services Rendered. – The local health department is authorized to impose fees for services rendered under this act.

Defense of Local Sanitarians. – Local health department sanitarians who enforce the rules of the Environmental Management Commission are to be defended by the Attorney General and be protected from civil and criminal liability for acts done or omissions made in the scope of enforcing the Commission's rules. Existing State law provides this same protection for sanitarians enforcing rules of the Commission for Health Services.

The provisions concerning permitting, inspections and testing of private drinking water wells by local health departments will become effective July 1, 2008. All other provisions under this act including the Commission for Health Services authorization to adopt rules became effective August 7, 2006. (GG) (JRM)

Clean Water Management Trust Fund Amendments

S.L. 2006-178 (HB 2208): (i) eliminates the requirement that certain criteria receive priority as applied to grants and loans made for wastewater collection system projects, wastewater treatment works projects, and stormwater collection projects; (ii) eliminates an authorization to the Board of Trustees of the Clean Water Management Trust Fund (CWMTF) to require up to a 20% match of the amount awarded to grant recipients; (ii) and provides that no member of the Board of Trustees of the CWMTF (Board) may serve more than two consecutive four-year terms or a total of ten years.

The section of the act pertaining to limitation of terms for Board members became effective July 1, 2006. The term limitation does not apply to any person who is a member of the Board on June 30, 2006. The remainder of the act became effective retroactively to January 1, 2006. (JLM)

Nutrient Offset Payments

S.L. 2006-215 (SB 1862) temporarily sets the per pound factors for nitrogen and phosphorous under the Nutrient Offset Fee Program at $11 per pound of nitrogen per year and at $11 per tenth of a pound of phosphorous per year. Under rules adopted by the Environmental Management Commission in March 2006, the fees would have been raised from $11 per pound of

nitrogen per year to $57 and would have been set at $45 per tenth of a pound of phosphorous per year. The act directs the Environmental Review Commission (ERC) to study issues related to nutrient offset payments and to report its findings to the General Assembly upon the convening of the 2007 Regular Session.

2006-218 (SB 927) amends S.L. 2006-215 to provide that the Department of Environment and Natural Resources (DENR) must not be required to accept a nutrient offset payment for phosphorous as a means of fulfilling any requirement of the nutrient sensitive waters management strategy for the Tar Pamlico River Basin if DENR finds that the payment is not sufficient to cover the full costs of nutrient reduction measures needed to comply with the nutrient sensitive waters management strategy. If DENR declines to accept a nutrient offset payment for phosphorous, DENR must provide an estimate of the full cost of the nutrient reduction measures required for compliance with the nutrient sensitive waters management strategy. The act also authorizes DENR to negotiate and enter into contracts to provide nutrient reduction measures needed to fulfill any requirement of the nutrient sensitive waters management strategy for phosphorous for the Tar Pamlico River Basin based on the full cost of providing the nutrient reduction measures.

These acts became effective August 1, 2006, and expire September 1, 2007. (GFG, TD)

Professional Engineering Services for Public Water Systems

S.L. 2006-238 (HB 1099) clarifies that a local government, commission, authority, or board may either employ a licensed engineer ***or contract with a licensed engineer*** in order to meet the statutory requirement that a local approval program for water system plans have adequate "engineering staff" in order to be certified by the Department of Environment and Natural Resources.

This act became effective August 13, 2006. (JLM)

Stormwater Management 2006

S.L. 2006-246 (SB 1566) provides for the implementation of the federal Phase II stormwater management requirements.

Phase II Stormwater Management Background

In the early 1990's, the United States Environmental Protection Agency (USEPA) adopted regulations to require large municipalities to obtain a National Pollutant Discharge Elimination System (NPDES) stormwater management permit for stormwater discharges from municipal separate storm sewer systems (MS4s). In 1999, under "Phase II" of these regulations, USEPA extended the NPDES stormwater management permit requirements to small and medium sized communities.

Based on federal census data, the USEPA identified 123 cities and 33 counties in North Carolina where permits for stormwater management would be required. In order to obtain a NPDES stormwater management permit, the USEPA regulations require the development of a stormwater management program that includes certain minimum stormwater management measures, is sufficient to control stormwater pollution to the maximum extent practicable, and protects water quality standards.

The USEPA has delegated to the State the authority to issue NPDES stormwater management permits. In 1999, the Division of Water Quality (DWQ) of the Department of Environment and Natural Resources (DENR) and the Environmental Management Commission (EMC) initiated a rulemaking process in response to the Phase II regulations adopted by USEPA. On October 10, 2002, the EMC adopted temporary Phase II stormwater management rules that

became effective November 1, 2002. On July 10, 2003, the EMC adopted two permanent Phase II stormwater management rules that would have become effective August 1, 2004. One of the permanent rules would have required municipalities to obtain a Phase II NPDES stormwater management permits; the other would have required urbanized counties to obtain a comparable State stormwater management permit.

On January 15, 2004, the Rules Review Commission (RRC) reviewed the permanent Phase II stormwater management rules. The RRC returned the rules to the EMC for failure to comply with the Administrative Procedure Act and objected to the rules based on ambiguity and lack of statutory authority. The RRC's return of the permanent Phase II stormwater management rules caused the temporary rules to expire and prevented the permanent rules from becoming effective on August 1, 2004. The EMC subsequently sued the RRC over the return of the permanent rules. In June of 2005, a Wake County Superior Court ruled in the EMC's favor, finding that the RRC erred, acted arbitrarily, and exceeded its statutory authority in unilaterally returning the rules to the EMC. The Court remanded the rules to the RRC for further review in a manner consistent with the court's decision. The RRC subsequently approved the EMC rules.

While the case was pending and there were no Phase II stormwater management rules in effect, the General Assembly enacted S.L. 2004-163 (Phase II Stormwater Management), which provided for the temporary implementation of the federal stormwater requirements. S.L. 2004-163 adopted many of the provisions of the EMC temporary rules and also established a number of new and different requirements for stormwater management. S.L. 2004-163 became effective in August of 2004.

S.L. 2006-246 disapproves the EMC's permanent Phase II stormwater management rules; sunsets S.L. 2004-163 effective July 1, 2006; and provides for the implementation of the Phase II stormwater management requirements as follows.

Areas Covered by Phase II Stormwater Management Requirements

S.L. 2006-246 provides that development that cumulatively disturbs one acre or more of land located in the unincorporated area of a county must comply with the post-construction stormwater management standards beginning July 1, 2007 if the new development or redevelopment is located in:

- An area that is federally designated as an urbanized area in the most recent federal census.
- Certain unincorporated areas of counties that extend one, two, or three miles outside of a municipality that has been designated as an urbanized area under the most recent federal census.
- An unincorporated area of a county that is delineated as a regulated coverage area. An unincorporated area is delineated as a regulated coverage area based on its geographical proximity to a municipality and the environmental impact of stormwater discharges within or from the area.
- A county in which the unduplicated sum of: (i) the area that is federally designated urbanized area; (ii) certain unincorporated areas of the county that extend outside of a municipality that has been designated as an urbanized area; (iii) the area delineated as a regulated coverage area; (iv) the jurisdiction of a designated regulated entity; (v) the area that is regulated by a NPDES stormwater management permit required pursuant to the petition process; and (vi) areas of the county that are subject to any stormwater management program administered by DWQ equals or exceeds seventy-five percent (75%) of the total geographic area of the county.
- A county that contains an area that is designated as an urbanized area under the 1990 or 2000 federal census and that has an actual population growth rate that exceeded the State population growth rate for the period 1995 through 2004.

In addition to establishing stormwater management requirements for certain unincorporated areas, S.L. 2006-246 provides that development that cumulatively disturbs one

acre or more of land located in the incorporated areas of a county that is covered by the stormwater management standards that are not designated as an urbanized are under the federal census must comply with the post-construction stormwater management standards beginning July 1, 2007.

S.L. 2006-246 also provides a designation process and a petition process by which additional local governments and other entities may be required to obtain a NPDES stormwater management permit.

Exclusions from Phase II Stormwater Management Requirements

S.L. 2006-246 provides that the post-construction stormwater management requirements will not apply to:

- Development that is conducted pursuant to one of the following authorizations that was obtained prior to the effective date of the post-construction stormwater control requirements:
    - A building permit.
    - A site-specific development plan.
    - For an area where the EMC implements post-construction requirements, a phased development plan approved by a county that provides certain types of information based on the phase of the development.
    - A vested right under statutory or common law.

  Development is defined as land-disturbing activity that increases the amount of impervious or partially pervious cover or that otherwise decreases the infiltration of precipitation into the soil.

- Redevelopment. Redevelopment is defined as any land-disturbing activity that does not result in a net increase in impervious or partially pervious cover and that provides equal or greater stormwater control than the previous development.

S.L. 2006-246 also authorizes DENR or a local government to grant exceptions from certain stormwater management requirements to development that meets certain criteria; exempts a municipality with a population of less than 1,000 from NPDES stormwater management permit requirements if the municipality is not contributing to the impairment of State waters; and authorizes DENR to waive the NPDES stormwater management permit requirement for certain small municipalities.

Post-Construction Stormwater Management Requirements

S.L. 2006-246 provides that certain existing water quality programs will satisfy the post-construction requirements. The legislation also provides that a number of different strategies may be used by an entity that implements a stormwater program to satisfy the post-construction requirements as long as the chosen strategy meets the federal post-construction requirements to minimize the water quality impacts of stormwater.

S.L. 2006-246 provides that stormwater controls should be based on a project's level of density and its proximity to Shellfish Resource Waters. Shellfish Resource Waters are waters classified by the EMC as Class SA waters (shellfish growing waters) that contain an average concentration of 500 parts per million of natural chloride ion (saltwater). The specific requirements are as follows:

- Low Density Projects: A project that is located within one-half mile of and draining to Shellfish Resource Waters is a low density project if it contains no more than 12% built-upon area. A project that is not located within one-half mile of Shellfish Resource Waters is a low density project if it contains no more than 24% built-upon area or no more than two dwelling units per acre. Low density projects must use vegetated conveyances to the maximum extent practicable to transport stormwater runoff from the project.

- High Density Projects: A project that is located within one-half mile of and draining to Shellfish Resource Waters is a high density project if it contains more than twelve percent (12%) built-upon area. A project that is not located within one-half mile of Shellfish Resource Waters is a high density project if it contains more than twenty-four percent (24%) built-upon area or more than two dwelling units per acre. High density projects must use structural stormwater management systems that will control and treat runoff from the first one inch of rain unless the project is in a coastal county, in which case the project must use structural stormwater management systems that will control and treat runoff from the first one and one-half inches of rain. In addition, projects that are located within one-half mile and draining to Shellfish Resource Waters must control and treat the difference in the stormwater runoff from the pre-development and post-development conditions for the one-year, twenty-four hour storm as well as meet certain design standards.

S.L. 2006-246 also provides for a number of other requirements that must be met by an entity that implements a stormwater management program.

Implementation Schedule

S.L. 2006-246 provides that a regulated entity must:

- Apply for a NPDES stormwater management permit within 18 months of being notified that it is a regulated entity subject to the requirements of this act.
- Implement its post-construction program no later than 24 months from the date the permit is issued.
- Fully implement its permitted program within five years of permit issuance.

Environmental Management Commission Rulemaking Authority

S.L. 2006-246 authorizes the EMC to adopt rules to replace the disapproved rules. If the EMC does adopt rules, the rules must be substantively identical to the provisions of this act and will be automatically subject to review by the General Assembly and not subject to review by the RRC.

Construction of the Act

S.L. 2006-246 provides that:

- Except as provided in the express rulemaking authority granted by the legislation, nothing in this act will alter the authority of the EMC or a local government.
- Federal exemptions from NPDES stormwater management permit requirements for agriculture and silviculture apply to the legislation.
- The legislation does not affect any delegation of power or duty to the EMC or DENR.
- The definitions of "development" and "redevelopment" set out in the legislation do not alter the definition of "redevelopment" set out in the Coastal Area Management Act (CAMA).
- The phrase "common plan of development or sale" as used in the legislation, will be interpreted and implemented consistent with the July 24, 2006 memorandum from the Director of the Division of Water Quality of the Department of Environment and Natural Resources to Interested Parties referenced as "Guidance Interpreting Phase II Stormwater Requirements". This memorandum describes how the Division and Department currently interpret and implement the phrase "common plan of development or sale".

This act became effective retroactively to July 1, 2006. The substantive provisions of the act expire when permanent rules to replace them have become effective. (JH)

Nutrient Management Strategy

S.L. 2006-259, Sec. 31. (SB 1523, Sec. 31.) amends the date from 1 July 2008 to 1 July 2009 for the Environmental Management Commission to develop and implement a nutrient management strategy for drinking water supply reservoirs. This section requires the Commission to report its progress in developing and implementing nutrient management strategies for reservoirs to the Environmental Review Commission on 1 April of each year beginning 1 April 2006.

This section became effective August 23, 2006. (JRM)

Renewable Energy/Alternative Fuels

Ethyl Alcohol Tax Credit

S.L. 2006-66, Sec. 24.7 (SB 1741, Sec. 24.7). See **Finance**.

Tax Credit for Biodiesel Producer

S.L. 2006-66, Sec. 24.8 (SB 1741, Sec. 24.8). See **Finance.**

State Energy Use Planning/Energy Assistance

S.L. 2006-206 (SB 2051) makes the following changes to energy and water conservation policies in the State:

Reduce and Displace Petroleum Products in State Fleets: The act directs the Department of Administration (Department) to develop a plan for the targeted conversion of fuel dispensing facilities to provide greater availability of biodiesel, ethanol, and other alternative fuels for State-owned fleets. The purpose of this plan is to promote attainment of the twenty percent (20%) reduction or displacement of petroleum products consumed in State-owned vehicle fleets by January 1, 2010, as required by Section 19.5 of the 2005 Appropriations Act (S.L. 2005-276).

The Department must submit the plan to the Joint Legislative Committee on Governmental Operations no later than November 1, 2006, and will report annually on progress in implementing the plan as part of its existing reporting requirement on the 20% reduction goal.

Provide Energy Assistance for Low-Income Persons: The act codifies the North Carolina Energy Assistance Program for Low-Income Persons. This program, implemented by the Office of Economic Opportunity of the Department of Health and Human Services, includes a number of programs related to weatherization assistance, heating and air conditioning repair and replacement, and other energy-related assistance programs for low-income persons in existing housing. The act authorizes the Office of Economic Opportunity and the Secretary of Administration to exercise a number of powers and duties to implement the program, including the adoption of rules, the creation of a Policy Advisory Council, and administration of any grants or funds to implement the program for the benefit of low-income persons in existing housing.

Biofuels Industry Strategic Plan: The act establishes the North Carolina Biofuels Industry Strategic Plan Work Group in order to develop a strategic plan for expansion of biofuels as an industry in North Carolina. The Work Group must include representatives of the College of Agriculture and Life Sciences at North Carolina State University, The School of Agriculture and Environmental Sciences at North Carolina Agricultural and Technical State University, the North Carolina Biotechnology Center, and the Rural Economic Development Center, Inc. The Work

Group will consult with a number of additional stakeholders in the development of the plan. The Work Group must submit the strategic plan, including any legislative proposals, to the Environmental Review Commission and the General Assembly no later than February 1, 2007.

Study Energy and Water Use in State Facilities: The act directs the Joint Legislative Oversight Committee on Capital Improvements (Committee) to study the costs and benefits of reducing energy and water use in State facilities by 20% by January 1, 2012. The Committee must consider the following factors: (1) the role of repair and renovation investments for existing facilities; (2) the construction and design of new facilities; (3) The State's method of funding utility costs for State facilities; (4) the State's method of funding and planning capital projects in order to improve the integration of long-term operating costs into the design of the facilities; (5) the costs and benefits of constructing green buildings; (6) the relationship of guaranteed energy savings contracts to the State's investments in capital facilities; and (7) any other issue the Committee determines is pertinent to the reduction of water and energy use in State-owned facilities. The Committee must report its findings to the 2007 General Assembly no later than February 1, 2007.

This act became effective August 8, 2006. (TD)

Studies

New/Independent Studies/Commissions

Land and Water Conservation Study

S.L. 2006-223 (SB 1122) establishes the Land and Water Conservation Commission to: (i) identify and evaluate existing sources of funding for land and water conservation, historic preservation, and economic and community development tied to conservation and preservation; (ii) collect research and information on tools and techniques for land conservation; (iii) hold at least three public meetings across the State; and (iv) prepare a report concerning the funding needs and other issues affecting land and water conservation in the State. The Commission must report its findings and recommendations to the General Assembly and the Environmental Review Commission on or before February 1, 2007

This act became effective August 10, 2006. (JLM)

Landfill Moratorium and Studies

S.L. 2006-244, Sec. 5 (SB 353, Sec. 5) establishes the Joint Select Committee on Environmental Justice to study the impact of the siting of landfills in low-income and minority communities in the State, and report its findings and any legislative recommendations to the ERC and the General Assembly on or before February 1, 2007. The act directs the Committee to study:

- The location of landfills in the State, and identification of landfills located in proximity to minority and low-income communities.
- The impacts that landfills located in proximity to minority and low-income communities have on these communities with regard to human health, the environment, and economic development.
- Factors, including economic factors, that may have caused landfills to be concentrated in minority and low-income communities in the State.

- Past enforcement actions taken at landfills in the State in order to assess whether enforcement practices for violations at these sites have resulted in uneven enforcement outcomes, and to determine if alternative or stronger enforcement measures could be taken, or in the alternative if other methods could be used to allocate resources, in order to more equitably serve minority and low-income communities.
- Statutes, rules, and policies used by State, regional, and local governments, and a review of the role played by these entities to influence or make siting and land-use decisions concerning landfills in the State.
- Data and methodologies by which State, regional, and local governments might become more specifically aware of situations in which neighborhoods are at particularly high risk for potential threats to human health and the environment from the siting of landfills.
- Approaches to ensure consideration of environmental justice and equity issues when formulating and implementing policies, procedures, and legislation within governmental agencies and other institutions.

This act became effective August 14, 2006. (JLM)

Waterfront Access Study Committee

S.L. 2006-248, Secs. 45.1 through 45.6 (HB 1723, Sec. Sec. 45.1 through 45.6) establishes the Waterfront Access Study Committee. The Committee consists of 21 members and will study the degree of loss and potential loss of the diversity of uses along the coastal shoreline of North Carolina and how these losses impact access to the public trust waters of the State. The Committee will gather information about land-use management and zoning, current shoreline development trends, and local tax rates; collect research and information from North Carolina and other states and jurisdictions regarding incentive-based techniques and management tools to preserve waterfront diversity; and assess the applicability of such tools to North Carolina's shorelines. The Committee may submit an interim report of its study to the Joint Legislative Commission on Seafood and Aquaculture, the Marine Fisheries Commission, and the Coastal Resources Commission no later than January 15, 2007. The Committee must submit a final report and recommendations to these Commissions on or before April 15, 2007 at which time the Committee will terminate.

This section became effective August 16, 2006. (JH) (JRM)

Referrals to Existing Commissions/Committees

Landfill Moratorium and Studies

S.L. 2006-244, Sec. 4 (SB 353, Sec. 4) directs the Environmental Review Commission ERC to study issues related to solid waste, including: financial responsibility requirements for landfills; application of franchise requirements and local government approval for landfill permits, siting, design, and operational requirements for landfills that are proposed in areas susceptible to flooding from natural disasters, areas with high water tables, and other environmentally sensitive areas; traffic considerations for proposed landfills; regulatory oversight and staffing for permitting and compliance of solid waste landfills; compliance with statutory prohibitions on disposal of certain types of solid waste; ways to reduce the amount of solid waste disposed of within North

Carolina landfills. The ERC is directed to report its findings and any legislative recommendations to the 2007 General Assembly upon its convening.

This act became effective August 14, 2006. (JLM)

Mercury Reduction and Education

S.L. 2006-248, Sec. 8.2 (HB 1723, Sec. 8.2) authorizes the Environmental Review Commission to study measures to reduce the quantity of mercury that is released into the environment, that impacts natural resources, and that harms the public health of the citizens of the State. If the Commission undertakes this study, it may refer to the mercury reduction and education measures set out in the First Edition of H1513 and mercury reduction and education measures adopted by other states. If the study is conducted, the Commission must report its findings and recommended legislation to the 2007 General Assembly upon its convening.

This section became effective August 16, 2006. (JRM)

Abandoned Mobile Homes

S.L. 2006-248, Sec. 8.3 (HB 1723, Sec. 8.3) authorizes the Environmental Review Commission to study issues related to abandoned manufactured homes. The Commission may establish a subcommittee of the Commission to facilitate the study. Nonlegislative subcommittee members with special knowledge or expertise on this issue will be appointed in consultation with the President Pro Tempore of the Senate and the Speaker of the House of Representatives. If the study is conducted, the Commission must report its findings and recommended legislation to the 2007 General Assembly upon its convening.

This section became effective August 16, 2006. (JLM) (JRM)

Merger of Ecosystem Enhancement Program and Clean Water Management Trust Fund

S.L. 2006-248, Sec. 16 (HB 1723, Sec. 16) directs the Environmental Review Commission and the Joint Legislative Transportation and Oversight Committee to jointly study the merger of the organization and functions of the Ecosystem Enhancement Program and the Clean Water Management Trust Fund. The Commission and Committee may hire consultants to assist with this study. The final report must be made to the 2007 General Assembly.

This section became effective August 16, 2006. (JRM)

Management of Menhaden and Atlantic Thread Herring

S.L. 2006-248, Sec. 37 (HB 1723, Sec. 37) authorizes the Joint Legislative Commission on Seafood and Aquaculture to study the management of menhaden and Atlantic thread herring, including whether it should be unlawful to take menhaden or Atlantic thread herring with a purse seine off the shore of Brunswick and New Hanover Counties during all or part of each year. If the study is conducted, the Commission must report its findings and recommendations, including legislative proposals, to the 2007 General Assembly.

This section became effective August 16, 2006. (JH) (JRM)

Referrals to Departments, Agencies, Etc.

Measures to Prevent or Mitigate Potential Flooding in Certain Areas

S.L. 2006-248, Sec. 30 (HB 1723, Sec. 30) directs the Department of Environment and Natural Resources to study the causes of the flooding in Canton, Biltmore Village, Blue Ridge Paper Company, and the City of Newland to determine what measures can be taken to prevent or mitigate the flooding potential in those areas. The Department must report its findings to the 2007 General Assembly.

This section became effective August 16, 2006. (JRM)

Study Inherently Dangerous Animals

S.L. 2006-248, Secs. 32.1 through 32.3 (HB 1732, Sec. Secs. 32.1 through 32.3). **See Agriculture and Wildlife.**

Costs and Benefits of Reducing Motor Vehicle Emissions

S.L. 2006-248, Sec. 43 (HB 1723, Sec. 43) directs the Division of Air Quality of the Department of Environment and Natural Resources to study the costs and benefits of reducing emissions of oxides of nitrogen, particulate matter, and greenhouse gases from motor vehicles in this State. The Division must evaluate the desirability and air quality benefits of adopting motor vehicle emissions standards adopted in other states. The Division must submit an interim report on its findings and recommendations, including legislative proposals, no later than January 15, 2007 and must submit a final report no later than April 1, 2007 to the Environmental Review Commission and the Legislative Commission on Global Climate Change.

This section became effective August 16, 2006. (JRM)

Studies to be Conducted by the Environmental Review Commission

Organized by topics: air quality, coastal issues, environmental health, fishing, general, hazardous substances, land quality, parks and conservation, solid waste, water quality, water quantity, wetlands

hazardous waste

ERC	Report To/ Authority	Report Due
May study measures to reduce the quantity of mercury that is released into the environment, that impacts natural resources, and that harms the public health of the citizens of the State, ...	2007 General Assembly S.L. 2006-248, sec. 8.2	Upon its convening

solid waste

ERC	Report To/ Authority	Report Due
May study issues related to abandoned mobile homes.	2007 General Assembly S.L. 2006-248, sec. 8.3(a)	Upon its convening

ERC, with DWM (DENR)	Report To/ Authority	Report Due
Shall study issues related to solid waste (specific measures listed in SL)	2007 General Assembly SL 2006-244, Sec. 4(c)	Upon its convening

water quality

ERC and JLTOC	Report To/ Authority	Report Due
Shall jointly study the merger of the organization and functions of the Ecological Enhancement Program with the Clean Water Management Trust Fund.	2007 General Assembly S.L. 2006-248, sec. 16	Upon its convening

ERC, with DWQ (DENR)	Report To/ Authority	Report Due
Shall study issues related to the nutrient offset payment program. The Commission shall specifically study the costs associated with providing nutrient controls that are adequate to offset point source and nonpoint source discharges of ...	2007 General Assembly S.L. 2006-215, Sec. 2	Upon its convening

* "oral" indicates oral report was given to ERC or S+A; "mail" indicates the report was mailed to members; "in" indicates that the report has been received but not yet distributed.

Status of Reports to the ERC Required by Law

Organized by topics: air quality, coastal issues, env. health, fishing, general, hazardous substances, land resources, parks and conservation, solid waste, water quality, water quantity, wetlands

air quality

DAQ	Report To/ Authority	Report Due	Status*
Study issues related to monitoring emissions of mercury and the development and implementation of standards and plans to implement programs to evaluate available control technologies; shall estimate the benefits and costs of alternative strategies to	EMC, ERC S.L. 2002-4, Section 12	Annually (Interim 1 Sep 2003) (Findings 1 Sep 2005)	Sep 03 distrib 2/24/04 Sep 04 oral 11/19/04 Oct 05 oral 11/22/05
Study issues related to the development and implementation of standards and plans to implement programs to control emissions of carbon dioxide (CO2) from coal-fired generating units and other stationary sources; evaluate available control technologies and	EMC, ERC S.L. 2002-4, Section 13	Annually (Interim 1 Sep 2003) (Findings 1 Sep 2005)	Sep 03 distrib 2/24/04 Sep 04 oral 11/19/04 Oct 05 oral 11/22/05

DAQ (DENR)	Report To/ Authority	Report Due	Status*
Shall study the costs and benefits of reducing emissions of oxides of nitrogen, particulate matter, and greenhouse gases from motor vehicles in this State. Shall also consider standards adopted in other states.	ERC, LCGCC S.L. 2006-248, Sec. 43	Interim : 15 Jan 2007 Final; 1 April 2007	

DENR	Report To/ Authority	Report Due	Status*
Cost of the Title V program	ERC, Fiscal Research GS 143-215.3A(c)	Annually (1 Nov)	Mar 00 mail 3/29/00 May 02 oral 5/21/02 Jan 04 distrib 2/24/04 Nov 04 oral 11/19/04 Nov 05 distrib 3/8/06

DENR, Utilities Commission	Report To/ Authority	Report Due	Status*
Implementation of SL 2002-4 (Clean Smokestacks)	ERC, Joint Legislative Utility Review Committee S.L. 2002-4, Section 14	Annually (1 Jun 2003)	28 Jan 03 30 May 03 distrib 2/24/04 June 04 oral 11/19/04 June 05 distrib 11/05 June 06 distrib 10/09/06

Department of Transportation (DOT)	Report To/ Authority	Report Due	Status*
Evaluation/ adjustment of region served by each Metropolitan Planning Organization	ERC, Joint Legislative Transportation Oversight Committee GS 136-202(d)	Nov 1 of each year regions evaluated and adjusted (every 5 years, including year following federal census)	Oct 04 oral 11/19/04
Plan developed with DOA, Commerce, DENR to reduce VMT & vehicle emissions from private sector employee travel.	ERC, Joint Legislative Transportation Oversight Committee GS 143-215.107C(e)	Annually (Oct 1)	02/02/04 distrib 3/25/04 Included in TDM Program Oral 1/13/05 Jan 06 distrib 2/14/06

* "oral" indicates oral report was given to ERC or S+A; "mail" indicates the report was mailed to members; "in" indicates that the report has been received but not yet distributed.

EXHIBIT D-6

DOT	Report To/ Authority	Report Due	Status*
Plan developed with DOA, DOT, DENR to reduce VMT & vehicle emissions from State employee travel.	ERC, Joint Legislative Transportation Oversight Committee SL 1999-328(4.6) G.S. 143-215.107C(d)	Annually (Oct 1)	Mar 02 Distrib 5/21/02 Letter distrib 02/24/04 Oral 1/13/05 Jan 06 distrib 2/14/06

EMC	Report To/ Authority	Report Due	Status*
Desirability of requiring and the feasibility of obtaining reductions in emissions of oxides of nitrogen (Nox) and sulfur dioxide (SO2) beyond those required by G.S. 143-215.107D.	ERC, General Assembly SL 2002-4, Section 11; S.L. 2006-79	Annually, starting 2007 (Sep 1)	Mar 06 distrib 4/11/06

climate change

Joint Legislative Commission on Climate Change	Report To/ Authority	Report Due	Status*
Report of findings and recommendations by the Commission	General Assembly and ERC S.L. 2005-442, Sec. 11; S.L. 2006- 73, Sec. 1	Interim: 15 Jan 2007 Final: 15 April 2008	

coastal issues

CRC	Report To/ Authority	Report Due	Status*
Evaluate the impacts on water quality and other environmental impacts from the new urban waterfront area development authorized by this act and evaluate the costs and benefits from the development to the area in which the development is located.	ERC S.L. 2004-117, Sec. 4	Annually (beginning 1 Oct 05). Final report due 1 Oct 2010.	

fishing

CRC, EMC, and MFC	Report To/ Authority	Report Due	Status*
Progress in developing and implementing Coastal Habitat Protection Plans	ERC, S&A GS 143B-279.8(e)	Annually (Sep 1)	Sep 01 distrib 01/30/02 Sep 03 distrib 2/06/04 Sep 04 distrib 11/18/04 Feb 06 distrib 3/8/06 Oct 06

DENR	Report To/ Authority	Report Due	Status*
Fish kills within the preceding year	ERC GS 143B-279.7(c)	Annually (Dec 1)	Feb 02 oral 2/21/02 Jan 04 distrib 2/24/04 Jan 05 distrib 1/13/05 Jan 06 distirb 2/14/06

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DENR (Secretary)	Report To/ Authority	Report Due	Status*
Individual Coastal Habitat Protection Plans	ERC, S&A GS 143B-279.8(f)	30 days after complete or substantially revise draft plan	Aug 04 distrib 11/05

General

Community Conservation Assistance Program Advisory Committ	Report To/ Authority	Report Due	Status*
Findings of its program review	Speaker, President Pro Tem, Appropriations chairs, ERC, FRD S.L. 2006-78, Sec. 5	31 March 2007	

DENR	Report To/ Authority	Report Due	Status*
Findings on the success of the Express Review Program	Fiscal Research and ERC 143B-279.13(c)	Annually (1 March)	April 06 oral 4/11/06
Cost of State's environmental permitting program	ERC, Fiscal Research GS 143-215.3A(c)	Annually (Nov 1)	April 00 distrib
Cost of implementing the Mining Act of 1971	ERC GS 74-54.1(c)	Annually (Sep 1)	Jan 02 distrib 01/30/02 Aug 03 distrib 02/06/04 Oct 04 distrib 10/21/04 Sep 05 distrib 11/22/05
One-Stop Permit Assistance Program - # of environmental permits subject to this section that took more than 90 days to issue or deny, the types of permits those were, the reasons for the extended processing time of those permits, ...	ERC, NER subcommittees, Fiscal Research S.L. 2000-67(13.7) S.L. 2001-424 (19.6) S.L. 2004-124, Sec. 12.12	Annually (beginning 1 March 07)	29 July 2003 oral 5/05/04 Oct 04 oral 10/21/04 Dec 05 oral 12/20/05

DENR (Secretary)	Report To/ Authority	Report Due	Status*
State of the Environment Report	General Assembly,ERC GS 143B-279.5(a)	Feb 15 of each odd-numbered year	Feb 1, 2000

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EMC	Report To/ Authority	Report Due	Status*
EMC operation, activities, programs, and progress (see also other reports with "EMC Quarterly Report" noted at the end of the topic line)	ERC GS 143B-282(b)	Quarterly (Jan 15, Apr 15, Jul 15, Oct 15); upon request	Apr 03 distrib 2/6/04 Jan 04 oral 2/6/04 July 04 distrib 10/21/04 Oct 04 oral 10/21/04 Jan 05 distrib 1/13/05 Apr 05 oral 11/22/05 Jul 05 oral 11/22/05 Oct 05 oral 11/22/05 Jan, April 06 oral 4/11/06 June, Oct 06 oral 10/9/06

Soil and Water Conservation Commission (DENR)	Report To/ Authority	Report Due	Status*
Report on the Community Conservation Assistance Program, including asummary of projects that received State funding pursuant to the Program, the results of the evaluation conducted pursuant to, and a summary of the effectiveness of the Program.	ERC, FRD G.S. 143-215.74M(e)	Annually (beginning 31 January 2007)	

State Water Infrastructure Commission	Report To/ Authority	Report Due	Status*
Recommendations by the Commission	General Assembly and ERC G.S. 159G-67	Annually (1 November)	

Study Commission on Beneficial Uses of Industrial Hemp	Report To/ Authority	Report Due	Status*
Shall study the many beneficial industrial uses of industrial hemp, including the use of industrial hemp oil as an alternative fuel and the use of industrial hemp fiber in construction and paper products.	2007 General Assembly and ERC S.L. 2006-248, Sec. 55	1 December 2006	

hazardous substances

DENR	Report To/ Authority	Report Due	Status*
Implementation of the Resident Inspectors Program at commercial hazardous waste facilities	ERC GS 130A-295.02(m); SL 2006-79	Annually (Oct 1)	Oct 2002 (distrib 1/16/03) Sep 03 distrib 02/24/04 Sep 04 distrib 10/21/04 Jan 06 distrib 1/24/06
Evaluation of effectiveness of Brownfields Property Reuse Act	ERC GS 130A-310.40	Annually (Oct 1)	Feb 02 oral 2/21/02 Jan 03 oral 1/28/03 Jan 04 oral 2/24/04 Oct 04 distrib 10/21/04 Jan 06 oral 1/24/06

DENR (Division of Waste Management)	Report To/ Authority	Report Due	Status*
Implementation of comprehensive hazardous waste management plan; implementation of the comprehensive hazardous waste plan, including an evaluation of how well the State and private parties are managing and cleaning up hazardous waste.	ERC GS 130A-294(i) SL 2002-148, Sec. 4	Annually (1 Oct)	5 Oct 03 distrib 02/24/04 July 04 distrib 10/21/04 Jan 06 distrib 1/24/06

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DENR (Secretary)	Report To/ Authority	Report Due	Status*
Inactive Hazardous Waste Sites Program	ERC GS 130A-310.10	Annually (Oct 1)	Jan 03 oral 1/28/03 Sep 03 oral 2/24/04 Oct 04 distrib 10/21/04 Jan 06 oral 1/24/06

DENR, Office of State Budget and Management	Report To/ Authority	Report Due	Status*
Amount and source of available funds used for 10% cost share required for Superfund cleanup of NPL sites, the o&m costs associated w/ these cleanups, and the cleanup of priority inactive hazardous substance or waste sites	ERC, Gov Ops SL 1999-237(15.6)(b)	30 days after spend Superfund/ Inactive Haz Sites funds	Sep 03 distrib 2/24/04 June 04 distrib 10/21/04 May 05 distrib 11/22/05 Aug 05 distrib 11/22/05 Jan 06 oral 1/24/06

land resources

DENR	Report To/ Authority	Report Due	Status*
Annual report and analysis of how the implementation of SPCA is affecting activities that contribute to the sedimentation of streams, rivers, lakes, and other waters of the State; shall also review effectiveness of local programs	ERC G.S. 113A-67; S.L. 2004-195, Sec. 2.1	Annually (beginning 1 Oct 05)	Dec 05 oral 12/20/05

Onsite wastewater

DENR	Report To/ Authority	Report Due	Status*
Shall evaluate whether: (i) the program resulted in a reduction in the length of time improvement permits or authorizations to construct are pending in the participating counties	ERC S.L. 2006-136, Sec. 3	Annually (beginning 1 October 2007)	

parks and conservation

DENR	Report To/ Authority	Report Due	Status*
Report on the conservation easement program + inventory of all conservation easements held by DENR	ERC GS 113A-235(c) SL 2004-195, Sec. 2.2	Annually (Oct 1)	Jan 03 oral 1/16/03 Dec 03 oral 4/22/04 Oct 04 oral 1/13/05 Mar 06 oral 3/14/06
Shall study vehicle use at Fort Fisher State Recreation Area, including consideration of: the demand for vehicle access to the beach during different times of the year; the impact of vehicles on sea turtles and nesting birds;...	ERC S.L. 2004-124, Secs. 12.3.(b) and 12.3.(c)	1 Feb 2005	Mar 05 distrib 3/8/06

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DENR (North Carolina Parks and Recreation Authority)	Report To/ Authority	Report Due	Status*
Activities and allocations from the Parks and Recreation Trust Fund from the prior fiscal year	ERC, Gov Ops, NER, Fiscal Research GS 113-44.15(c)	Annually (Oct 1) + progress (March 15)	Mar 03 distrib 03/20/03 Oct 03 oral 4/22/04 Oct 04 oral 1/13/05 Mar 05 distrib 4/22/05 Mar 06 oral 3/14/06 Oct 06

DENR (Secretary)	Report To/ Authority	Report Due	Status*
Acquisitions made with funds from the Natural Heritage Trust Fund	ERC, NHTF Trustees, Gov Ops, NER, Fiscal Research GS 113-77.9(e)	Semiannually, within 30 days of each revision	Nov 03 oral 4/22/04 Sep 04 oral 1/13/05 Sep 05 distrib 3/14/06
Progress towards attaining the State's goal of protecting one million acres of farmland, open space, and conservation lands	ERC, Governor GS 113A-241(c) S.L. 2004-195, Sec. 2.3	Annually (Oct 1)	Jan 03 oral 1/16/03 Dec 03 oral 4/22/04 Sep 04 oral 1/13/05 Mar 06 oral 3/14/06

Division of Parks and Recreation of DENR	Report To/ Authority	Report Due	Status*
Study the feasibility and the desirability of acquiring land and establishing a State Recreation Area at Blewett Falls Lake. The study shall include estimates of the cost of developing the proposed recreation area.	ERC S.L. 2004-24, Sec. 2	1 December 2005	Dec 05 distrib 3/8/06

Parks and open space

Land and Water Conservation Study Committee	Report To/ Authority	Report Due	Status*
Shall report its findings and recommendations	ERC S.L. 2006-223, Sec. 11	1 Feb 2007	

Parks and Recreation

DPR (DENR)	Report To/ Authority	Report Due	Status*
shall study the feasibility and the desirability of acquiring land and establishing a State Park at Cabin Lake.	ERC S.L. 2006-138, Sec. 3	On or before 15 January 2007	

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Renewable Energy

Biofuels Energy Strategic Plan Work Group	Report To/ Authority	Report Due	Status*
Shall report on the development of the strategic plan, including any preliminary findings, recommendations, and legislative proposals	ERC S.L. 2006-206, Sec. 3.2	Interim: 15 Jan 2007 Final: 1 April 2007	

solid waste

DENR	Report To/ Authority	Report Due	Status*
Solid Waste Management Annual Report (see also other reports with "SWM Annual Report" noted at the end of the topic line)	Governor, ERC GS 130A-309.06(c)	Annually (Jan 15)	Jan 02 oral 1/30/02 Jan 03 oral 1/28/03 Jan 04 oral 3/25/04 Jan 05 oral 1/13/05 Jan 06 oral 1/24/06
Assessment of the recycling industry and recyclable materials market (SWM Annual Report)	ERC GS 130A-309.06(c)(6)	Annually (Jan 15)	Jan 02 oral 1/30/02 Jan 03 oral 1/28/03 Jan 04 oral 3/25/04 Jan 05 oral 1/13/05 Jan 06 oral 1/24/06
Condition and use of funds in the Solid Waste Management Trust Fund (SWM Annual Report)	ERC GS 130A-309.12(c) GS 130A-309.06(c)(8)	Annually (Jan 15)	Jan 04 oral 3/25/04 Jan 05 oral 1/13/05 Jan 06 oral 1/24/06
Scrap Tire Disposal Account (SWM Annual Report)	ERC GS 130A-309.63(e) GS 130A-309.06(c)(10)	Annually (Jan 15)	Jan 02 oral 1/30/02 Jan 03 oral 1/28/03 Jan 04 oral 3/25/04 Jan 05 oral 1/13/05 Jan 06 oral 1/24/06
Management of white goods (SWM Annual Report)	ERC, Revenue Laws Study Committee GS 130A-309.85 GS 130-309.06(c)(11)	Annually (Jan 15)	Jan 03 oral 1/28/03 Jan 04 oral 3/25/04 Jan 05 oral 1/13/05 Jan 06 oral 1/24/06
Recycled materials specified or used in DOT contracts (SWM Annual Report) (DPPEA portion)	ERC, Gov Ops, Trans Oversight GS 136-28.8(g) GS 130A-309.06(c)(12)	Annually (Jan 15)	Jan 03 oral 1/28/03 Jan 04 oral 3/25/04 Jan 05 oral 1/13/05 Jan 06 oral 1/24/06
Purchase of materials and supplies with recycled content by State institutions (SWM Annual Report) (DPPEA portion)	ERC, Gov Ops GS 143-58.2(f) GS 130A-309.06(c)(13)	Annually (Jan 15)	Jan 02 oral 1/30/02 Jan 03 oral 1/28/03 Jan 04 oral 3/25/04 Jan 05 oral 1/13/05

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DOT and DOA	Report To/ Authority	Report Due	Status*
Bid procedures and the purchase and use of reusable, refillable, repairable, more durable, and less toxic supplies and products (SWM Annual Report)	ERC GS 130A-309.14(a1)(3) GS 130A-309.06(c)(9) S.L. 2003-340, Sec. 1.6	Annually (Jan 15)	Jan 02 oral 1/30/02 Jan 03 oral 1/28/03 Jan 05 oral 1/13/05

Governor	Report To/ Authority	Report Due	Status*
Litter enforcement, prevention, and removal efforts.	ERC, JLTOC, NER Subcommittees SL 2001-512, Sec. 9 and 10 GS 147-12(b); SL 2006-79, Sec. 15	Annually (March 1)	Mar 02 oral 3/21/02 Dec 03 oral 4/20/04 Oct 04 distrib 10/21/04 Mar 06 oral 5/3/06

State Board of Education	Report To/ Authority	Report Due	Status*
Recycling efforts of public schools in the State	ERC, Joint Legislative Education Oversight Committee SL 2001-512, Sec. 11	Annually by Dec 15 (2003-2007)	Dec 03 distrib 04/20/04 Dec 04 distrib 1/13/05 Dec 05 distrib 3/8/06

Water Quality

DENR	Report To/ Authority	Report Due	Status*
Shall evaluate the training and qualification requirements for approval as an animal waste management systems technical specialist pursuant to G.S. 139 4(d)(11)	ERC S.L. 2006-38, Sec. 2	15 November 2006	

water quality - general

Catawba/Wateree River Basin Advisory Commission	Report To/ Authority	Report Due	Status*
Annual report, including any recommendations.	Governor of NC, ERC, Governor of SC, SC General Assembly G.S. 77-117	Annually (1 Oct)	

Clean Water Management Trust Fund (Chair, Board of Trustees)	Report To/ Authority	Report Due	Status*
Implementation of the Clean Water Management Trust Fund; Projects awarded grants	ERC, Gov Ops, NER Subcommittees, Fiscal Research GS 113-145.6A(a) SL 2002-148 (Sec. 3)	Annually (Dec 1)	Jan 03 oral 1/16/03 Dec 03 oral 4/22/04 Jan 05 oral 1/13/05 Mar 06 oral 3/14/06

Commission for Health Services	Report To/ Authority	Report Due	Status*
Shall evaluate the desirability and feasibility of developing and implementing a pilot program whereby any individual seeking to use an innovative wastewater system that employs peat based technology, at the individual's residence must meet certain reqs.	NER Committees, Fiscal Research, ERC S.L. 2004-161, sec. 8.1	15 Jan 05	

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DENR	Report To/ Authority	Report Due	Status*
Status of permitting and inspecting animal waste management systems/ Animal Waste Compliance Report	ERC, Fiscal Research GS 143-215.10M SL 2002-148 (Sec. 6)	Annually (Oct 1)	Oct 03 oral 3/25/04 Oct 04 oral 10/21/04 Dec 05 oral 3/8/06
Shall evaluate the need for and availability of information that identifies poultry facilities that may be subject to regulation under G.S. 143-215.10C, or options for obtaining this information.	ERC S.L. 2004-176, sec. 7	1 Jan 05	1/20/05
Wastewater Discharge Elimination System program	ERC, Fiscal SL 2001-452(2.9)	Annually (15 Oct)	Dec 03 distrib 02/06/04 19 Nov 04 oral Dec 05 oral 12/20/05
Whether to continue pilot program for inspection of animal waste management systems.	ERC, General Assembly SL 2005-276, Sec. 12.7(c)	Oct 15, 2005	Dec 05 distrib 3/8/06

DENR (Division of Water Quality)	Report To/ Authority	Report Due	Status*
Compliance/ enforcement of water quality laws for facilities that discharge into surface waters	ERC, Fiscal Research GS 143-215.9A SL 2002-148(Sec. 5)	Annually (Oct 1)	Dec 03 oral 3/25/04 Oct 04 distrib 11/19/04 Sep 05 distrib 3/8/06

DENR (Divisions of Water Quality, Soil & Water Conservation)	Report To/ Authority	Report Due	Status*
Pilot program for inspection of animal waste management systems, including a comparison of the costs of conducting operations reviews and inspections under the pilot program with the costs of conductng ors and insps pursuant to 143-215.10D and 143-215.10F	ERC, Fiscal Research,NER SL 1999-329(3.3) SL 2001-254(6) SL 2002-176 (1.2)	Semiannual: 15 April and 15 Oct	Oct 03 oral 3/25/04 Oct 04 distrib 11/18/04 Dec 05 distrib 3/8/06 Oct 06

DENR (Soil and Water Conservation Commission)	Report To/ Authority	Report Due	Status*
Effectiveness of projects funded under the Agriculture Cost-Share Program for Nonpoint Source Pollution Control	ERC, Fiscal Research GS 143-215.74(e)	Annually (Jan 31)	21 March 2002 Dec 03 distrib 2/24/04 Mar 06 distrib 3/8/06

DENR, EMC	Report To/ Authority	Report Due	Status*
Basinwide Water Quality Management Plans	ERC GS 143-215.8B(d)	Annually (Oct 1)	Oct 03 oral 2/6/04 Oct 04 oral 10/21/04 Feb 06 distrib 02/14/06

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EMC	Report To/ Authority	Report Due	Status*
Progress in developing and implementing wastewater collection system permit program (EMC Quarterly Report)	ERC 143-215.9B	Quarterly (Jan 15, Apr 15, Jul 15, Oct 15)	Apr 03 distrib 2/6/04 Apr 03 oral 2/24/04 April 04 oral 3/25/04 July 04 distrib 10/21/04 Oct 04 oral 10/21/04 Apr 05 oral 11/22/05 Jul 05 oral 11/22/05 Oct 05 oral 11/22/05 Jan, April 06 oral 4/11/06 June, Oct 06 oral 10/9/06
Implementation of stormwater runoff rules and programs	ERC GS 143-214.7(e)	Annually (Oct 1)	Dec 03 oral 2/6/04 Update 3/25/04 Oct 04 oral 10/21/04 Oct 05 oral 11/22/05
Extent to which facilities seeking new or modified discharge permits are funded with public funds; their impact on water quality; whether there are cost-effective alt. technologies that would achieve greater water quality benefit (EMC Quarterly Report)	ERC GS 143-215.1(h)	Quarterly (Jan 15, Apr 15, Jul 15, Oct 15)	Apr 03 distrib 2/6/04 Apr 03 oral 2/24/04 April 04 oral 3/25/04 July 04 distrib 10/21/04 Oct 04 oral 10/21/04 Apr 05 oral 11/22/05 Jul 05 oral 11/22/05 Oct 05 oral 11/22/05 June, Oct 06 oral 10/9/06
Study water quality in drinking water supply reservoirs in the State to determine whether the reservoirs meet current water quality standards	ERC S.L. 2005-190, Sec. 2.(a)	1 May 06	Mar 06 oral 4/11/06
Findings on identification and adoption of control criteria necessary to prevent excess nutrient loading in drinking water supply reservoirs; adoption of nutrient management strategy and permanent rules; (EMC Quarterly Rpt)	ERC S.L. 2005-190, Sec. 2.(b), Sec. 3.(e) and (f)		Jan, April 06 oral 4/11/06 June, Oct 06 oral 10/9/06
Progress in developing and implementing nutrient management strategies for water supply reservoirs identified in Sec. 3 of act.	ERC S.L. 2005-190, Sec. 4	Annually beginning 1 April 2006	April 06 oral 4/11/06
Progress in developing engineering standards to allow regional interconnection of municipal and domestic wastewater collection systems (EMC Quarterly Report)	ERC SL 1999-329(11.1)	Quarterly (Jan 15, Apr 15, Jul 15, Oct 15)	Apr 03 oral 2/24/04 April 04 oral 3/25/04 July 04 distrib 10/21/04 Oct 04 oral 10/21/04 Apr 05 oral 11/22/05 Jul 05 oral 11/22/05 Oct 05 oral 11/22/05 Jan, April 06 oral 4/11/06 June, Oct 06 oral 10/9/06

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Roanoke River Basin Bi-State Commission	Report To/ Authority	Report Due	Status*
Annual report, including any recommendations.	Governor of NC, ERC, Governor of VA, General Assembly of VA G.S. 77-98	Annually	

Upper Neuse River Basin Association	Report To/ Authority	Report Due	Status*
Activities and programs to develop cooperative, comprehensive, integrated State-local watershed management plan for the Upper Neuse Rier Basin to serve as a model watershed management approach	ERC, Gov Ops, Fiscal Research SL 1998-212(14.15)	Mar 1 each year until plan is complete (begin 1999)	Oct 03 distrib 02/06/04

Water Quality Workgroup (DENR & NCSU)	Report To/ Authority	Report Due	Status*
Status of tasks: Synth current science on water quality;Identify knowledge gaps, fill with projects;Maintain water quality data website; Org & eval existing water quality databases; Prioritize knowledge gaps for $; Develop Rivernet mon syst.	ERC, NER Chairs, Chancellor of NCSU G.S. 143-215.8D	Annually (Jan 30)	Jan 02 oral 2/21/02 Present to SAENR 6/04

Water Resources Research Institute	Report To/ Authority	Report Due	Status*
Modeling and Monitoring of the Neuse River - Final report	ERC S.L. 2005-386, Sec. 2.3	1 November 2005	

Yadkin/Pee-Dee River Basin Advisory Commission	Report To/ Authority	Report Due	Status*
Annual report, including any recommendations.	Governor of NC, ERC, Governor of SC, SC General Assembly G.S. 77-117	Annually (1 Oct)	

water quality - ground

DENR	Report To/ Authority	Report Due	Status*
Implementation of Pay for Performance Program (in UST report)	ERC SL 2001-442, SL 2003-340, Sec. 2	Annually 1 Sept (ending Oct 1, 2006)	21 Mar 2002 16 Jan 2003 Mar 04 oral 5/05/04 Jan 05 1/13/05

DENR (Secretary)	Report To/ Authority	Report Due	Status*
Contamination, site, and fiscal information related to the Dry-Cleaning Solvent Cleanup Act of 1997	ERC GS 143-215.104U	Annually (Oct 1)	Jan 02 oral 2/21/02 Dec 03 distrib 3/25/04 Sep 04 distrib 10/25/04 Jan 06 oral 4/11/06

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Leaking Petroleum Underground Storage Tank Cleanup Program	ERC GS 143-215.94M SL 2002-148(Sec. 7)	Annually (1 Sept)	Jan 03 oral 1/16/03 Jan 04 oral 4/22/04 Oct 04 oral 10/21/04 (no written)

DENR (Secretary) and Commissioner of Agriculture	Report To/ Authority	Report Due	Status*
Results of study and progress in developing a coordinated regional approach to the phaseout of MTBE as an additive to motor fuel	ERC S.L. 2005-93, Sec. 4	Interim 1 March 06 Final 1 March 07	Mar 06 distrib 3/8/06

water quantity

DENR	Report To/ Authority	Report Due	Status*
Evaluate water conservation measures being implemented in the State and identify incentive programs and other voluntary programs that can help foster water conservation and reuse.	ERC, EMC SL 2002-167, Sec. 5; SL 2004-195, Sec. 4	Interim 15 Mar 03 Final 15 Feb 04	25 Aug 03 oral 3/25/04

DENR (Division of Water Resources)	Report To/ Authority	Report Due	Status*
Implementation of State Water Supply Plan	ERC, Gov Ops GS 143-355(n)	Annually (Sep 1)	Sep 03 oral 2/24/04 Nov 04 oral 11/19/04 Nov 05 oral 11/22/05

Drought Management Advisory Council	Report To/ Authority	Report Due	Status*
Shall report on implementation of act; include review of drought advisories issued by the Council and any recommendations to improve coordination among local, State, and federal agencies; public water systems; and water users	Secretary of ENR, Governor, and ERC G.S. 143 355.1(g); S.L. 2004-195, Sec. 2.5	Annually (beginning 1 Oct 05)	Oct 05 oral 11/22/05

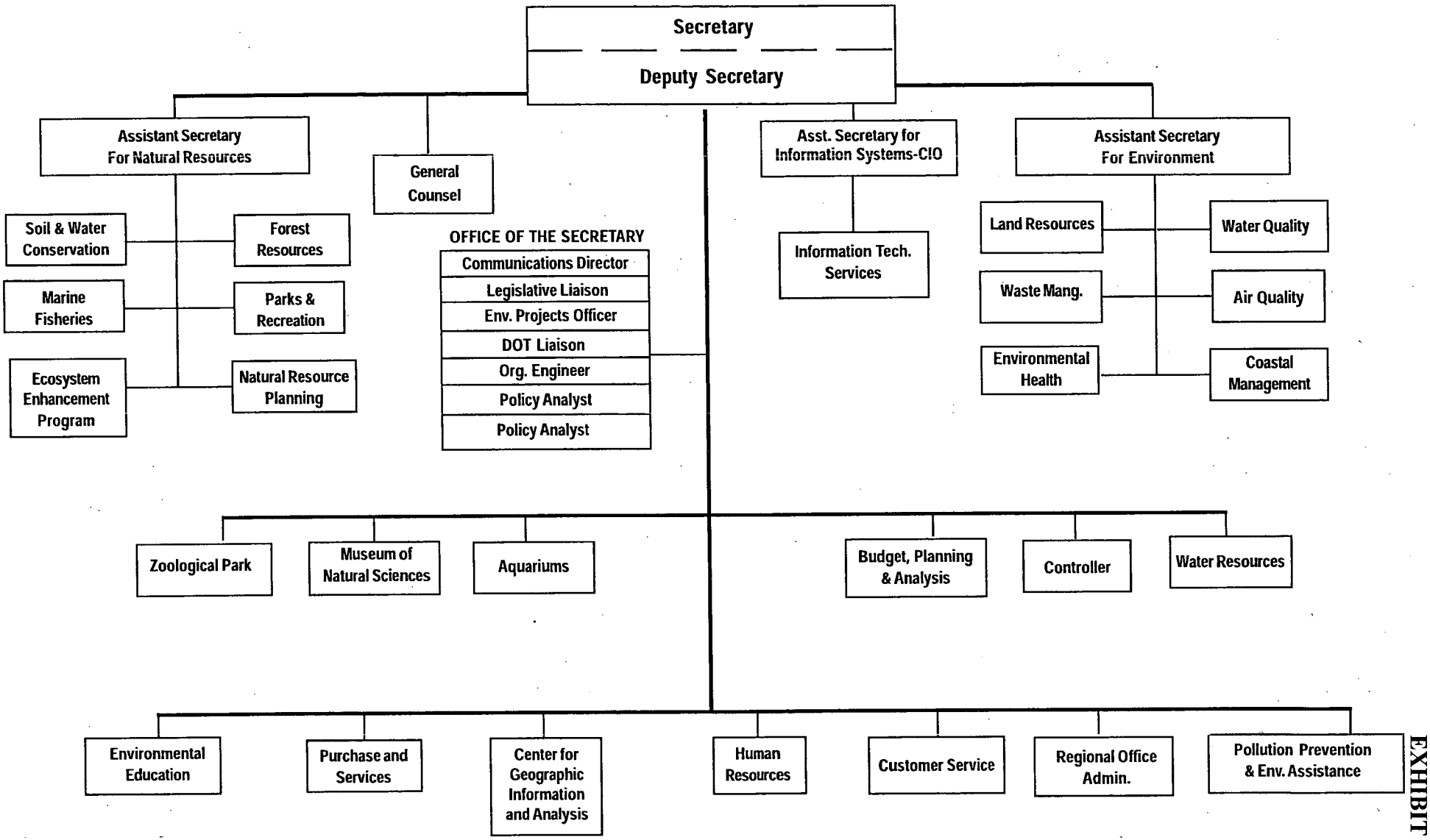
wetlands

DENR	Report To/ Authority	Report Due	Status*
Implementation of Ecosystem Enhancement Program and use of Ecosystem Enhancement Fund, including inventory of property and easements	ERC GS 143-214.13	Annually (Nov 1)	Dec 01 oral 01/30/02 Jan 03 oral 1/28/03 Dec 03 oral 5/5/04 Jan 04 oral 01/20/05 Dec 05 oral 12/20/05

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North Carolina Department of Environment and Natural Resources

Organization Chart



NCDENR

EXHIBIT E

09.06

Clean Air Mercury Rule

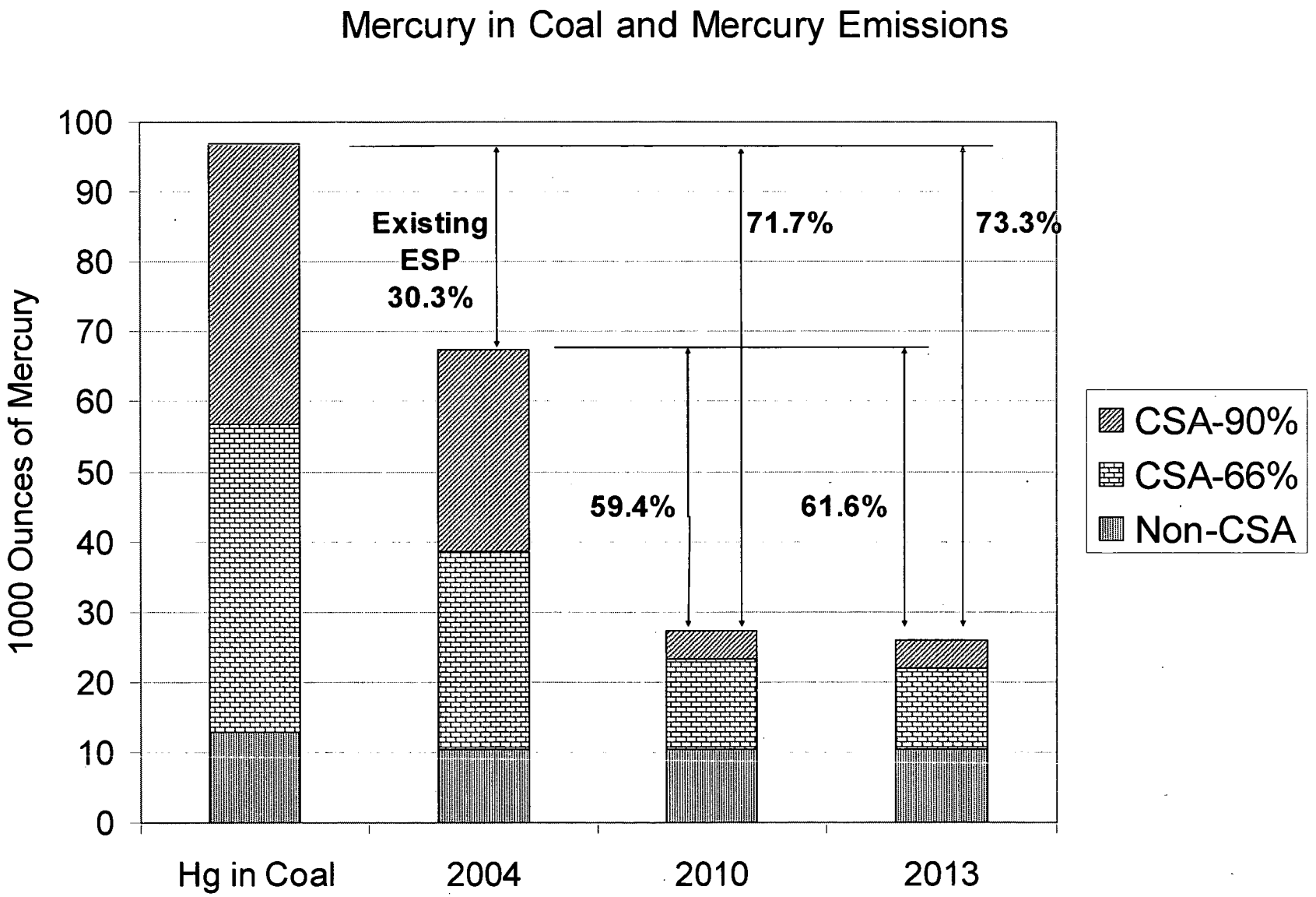
- Issued May 2005 – states have 18 months to submit SIP
- USEPA estimates the federal rule will reduce national mercury emissions by about 20 percent in 2010 and 70 percent in 2018.
- Mercury regulated as a cap and trade program
- USEPA estimates emission reduction by about 20 percent in 2010 and 70 percent in 2018.
- EMC approved draft rule March 2006
- Public hearings held
  - May 25, 2006 Charlotte
  - June 1, 2006 Raleigh
  - June 8, 2006 Winterville.

EXHIBIT F

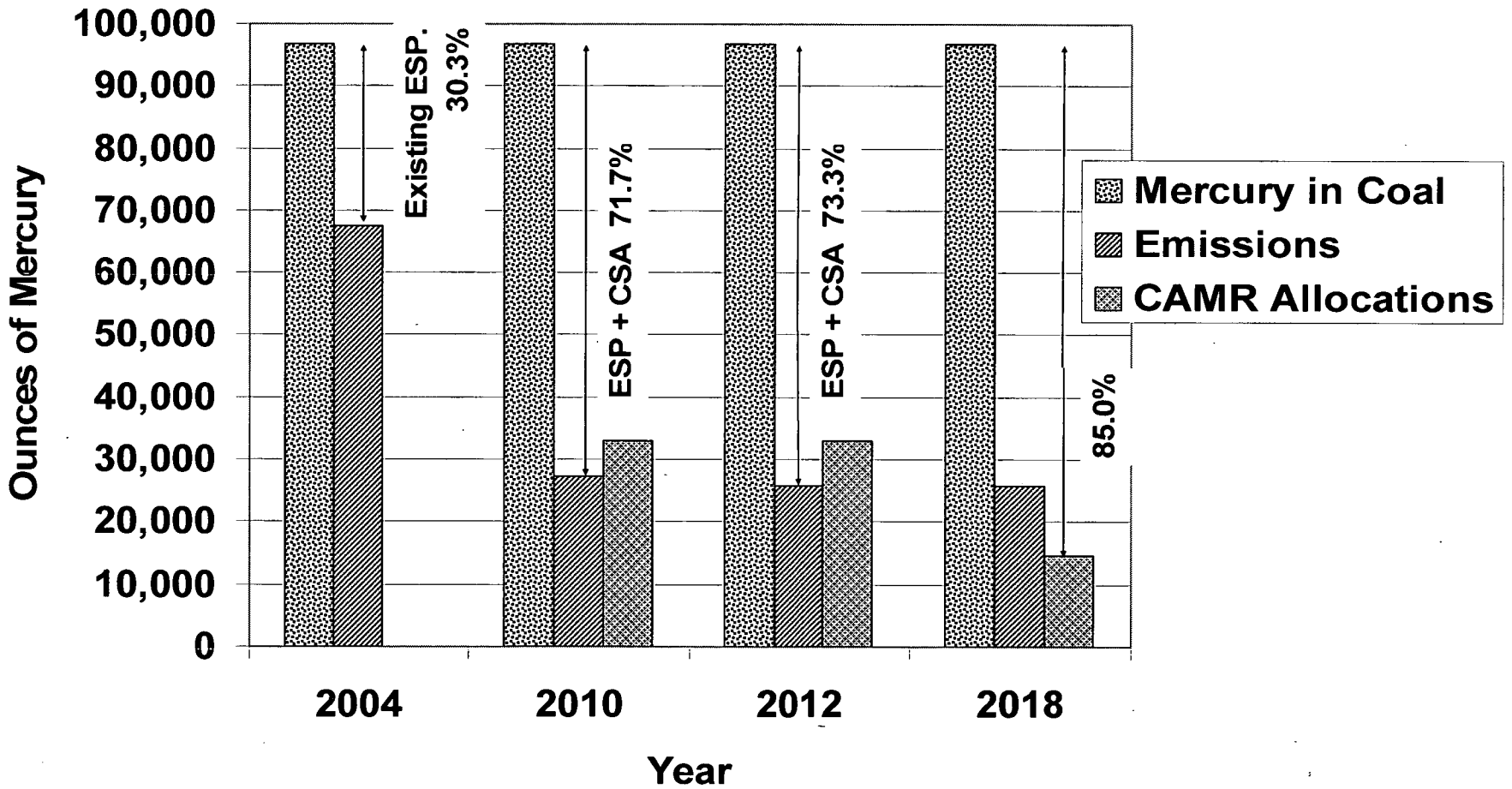
- North Carolina's Cap
  - Duke & Progress allocated about 33,700 ounces of credits for 2010-2017
  - Duke & Progress allocated about 14,000 ounces of credits for 2018 and beyond
- If annual emissions exceed allocated credits, must purchase credits on national markets
- Floor set for performance of new sources

Issues

- New source performance standard
  - federal or more stringent
- Emission limits for North Carolina
  - federal or more stringent
- Use of national trading program
- Handling growth and new facilities with respect for the cap

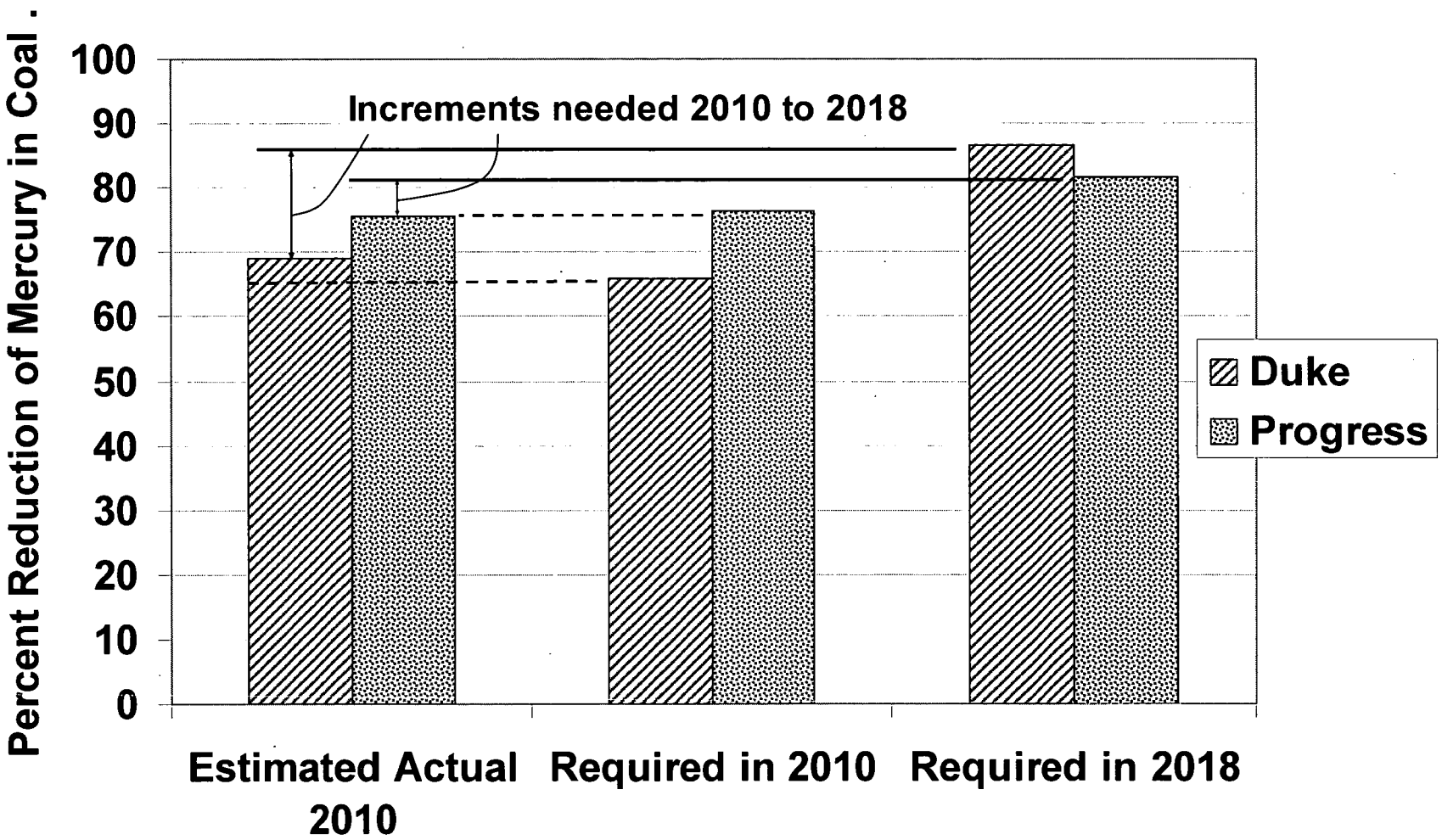

Mercury in Coal and Mercury Emissions
1000 Ounces of Mercury
100
90
80
70
60
50
40
30
20
10
0
Existing
ESP
30.3%
71.7%
73.3%
59.4%
61.6%
Hg in Coal
2004
2010
2013
CSA-90%
CSA-66%
Non-CSA

Mercury in Coal, Mercury Emissions, and CAMR Allocations for Duke Energy and Progress Energy



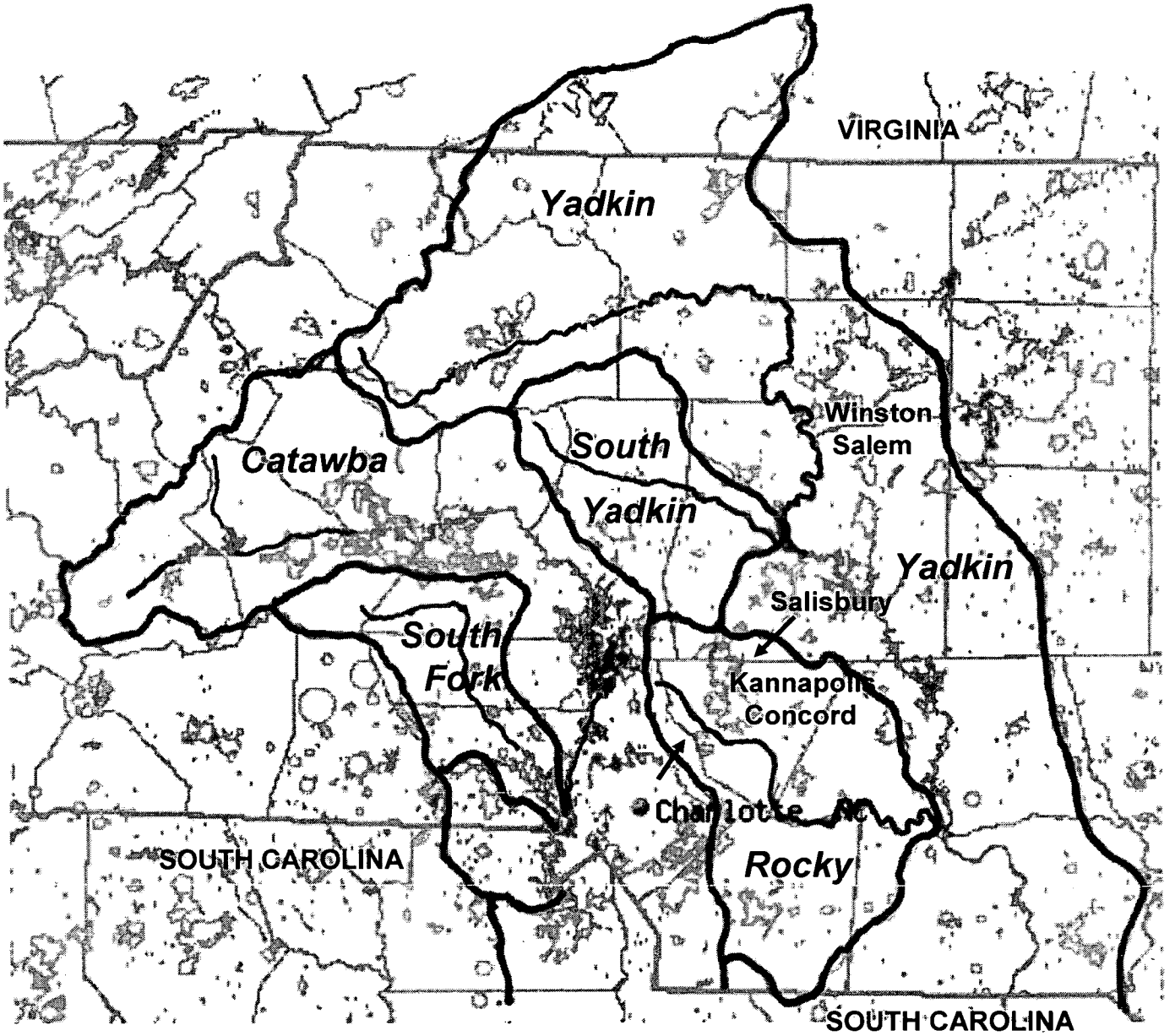
Based on no-growth DAQ spreadsheet

Reduction Percentages:
Estimated and Required to Satisfy CAMR Allowances



Based on no-growth DAQ spreadsheet

Petition from Kannapolis and Concord for Interbasin Transfers


VIRGINIA
Yadkin
Winston
Salem
South
Yadkin
Catawba
Yadkin
Salisbury
South
Fork
Kannapolis
Concord
Charlotte, NC
Rocky
SOUTH CAROLINA
SOUTH CAROLINA

Timeline of Process

Jan 2007	*Decision on IBT petition by EMC*
Nov-Dec	*EIS revised to address public comments*
Oct 31, 06	*Close of Public Comment Period*
Sept 2006	Public Meetings held in Valdese and Charlotte
Aug 31, 06	EIS Supplement issued to correct errors.
July 7, 06	EIS Supplement issued with additional analysis
May, 06	Final EIS released and beginning of public review period.
2005-06	Additional technical analyses and revisions to the EIS
Aug 05	Closing of public comment period on IBT petition and Draft EIS
June 05	EMC conducts two public hearings on IBT petition and Draft EIS
Feb 05	EMC authorizes proceeding to public hearing
Nov 04	Concord and Kannapolis petition EMC to request IBT
Dec 03	Draft EIS submitted for DENR review.

Applicable mandatory written findings:

- Necessity, reasonableness, and beneficial effects
- Present and reasonably foreseeable future detrimental effects on the source river basin
- Cumulative effect on source basin
- Detrimental effects on the receiving river basin
- Reasonable alternatives
- Any other facts and circumstances that are reasonably necessary

Decision Criteria

- A certificate shall be granted …if the applicant establishes and the Commission concludes by a preponderance of the evidence based upon the findings of fact …that: (i)
  - benefits of the proposed transfer outweigh the detriments , and
  - (ii) detriments have been or will be mitigated to a reasonable degree.
- Commission may grant the certificate
  - in whole or in part, or deny the certificate.
  - with any conditions attached that the Commission believes are necessary

Impacts on Donor Basins using the CHEOPS Model

- **I. Elevation Duration Curves -** percentage of time over the period of record that reservoir levels are equaled or exceeded.
- **II. Outflow Duration Curves** percentage of
- time over the period of record that specified daily average reservoir outflows are equaled or exceeded.
- **III. Elevation Profiles** for the extreme drought of 2001-02 show when the LIP stages were invoked for each of the scenarios.

Figure 2: Elevation Duration Curve for Lake James

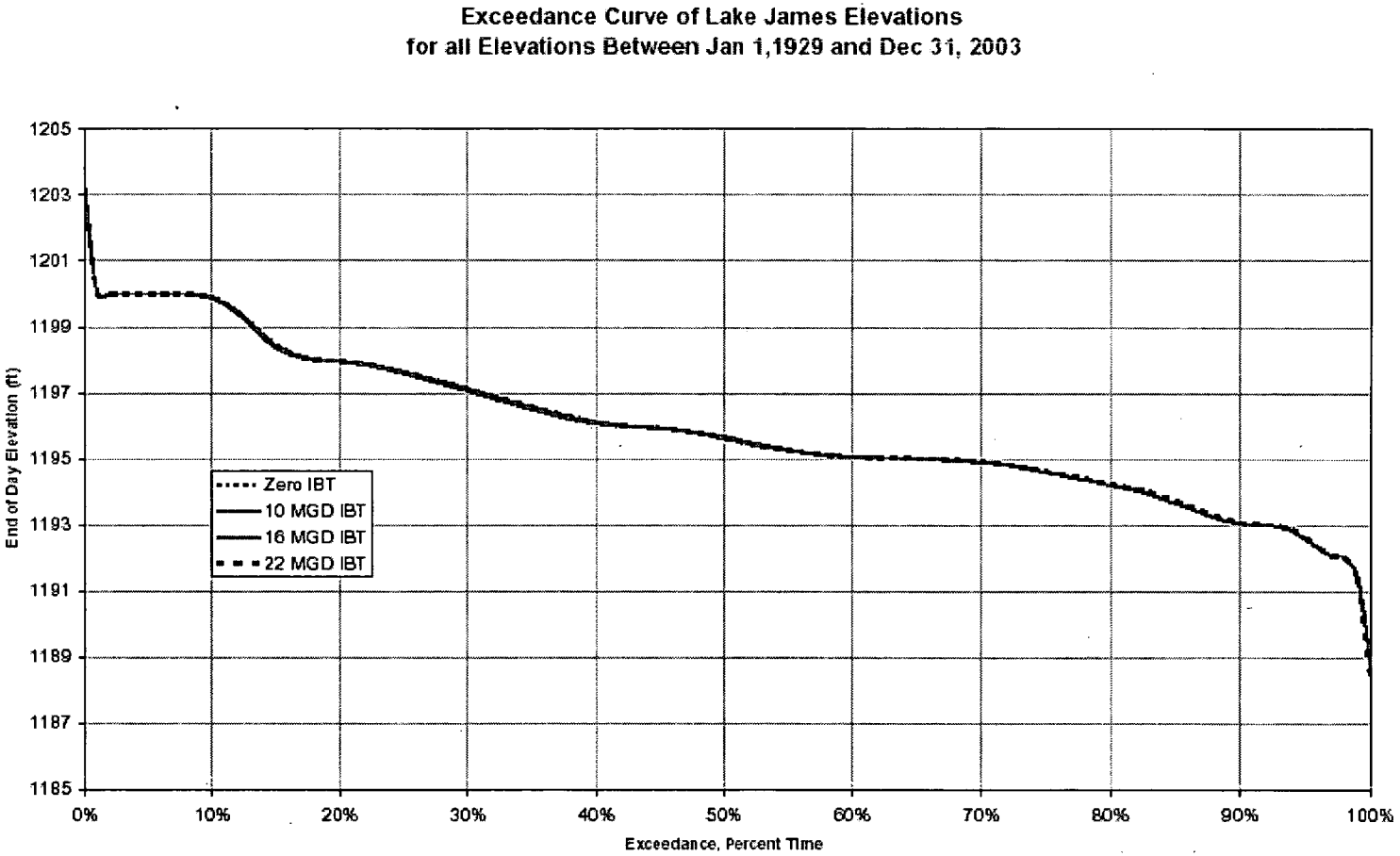
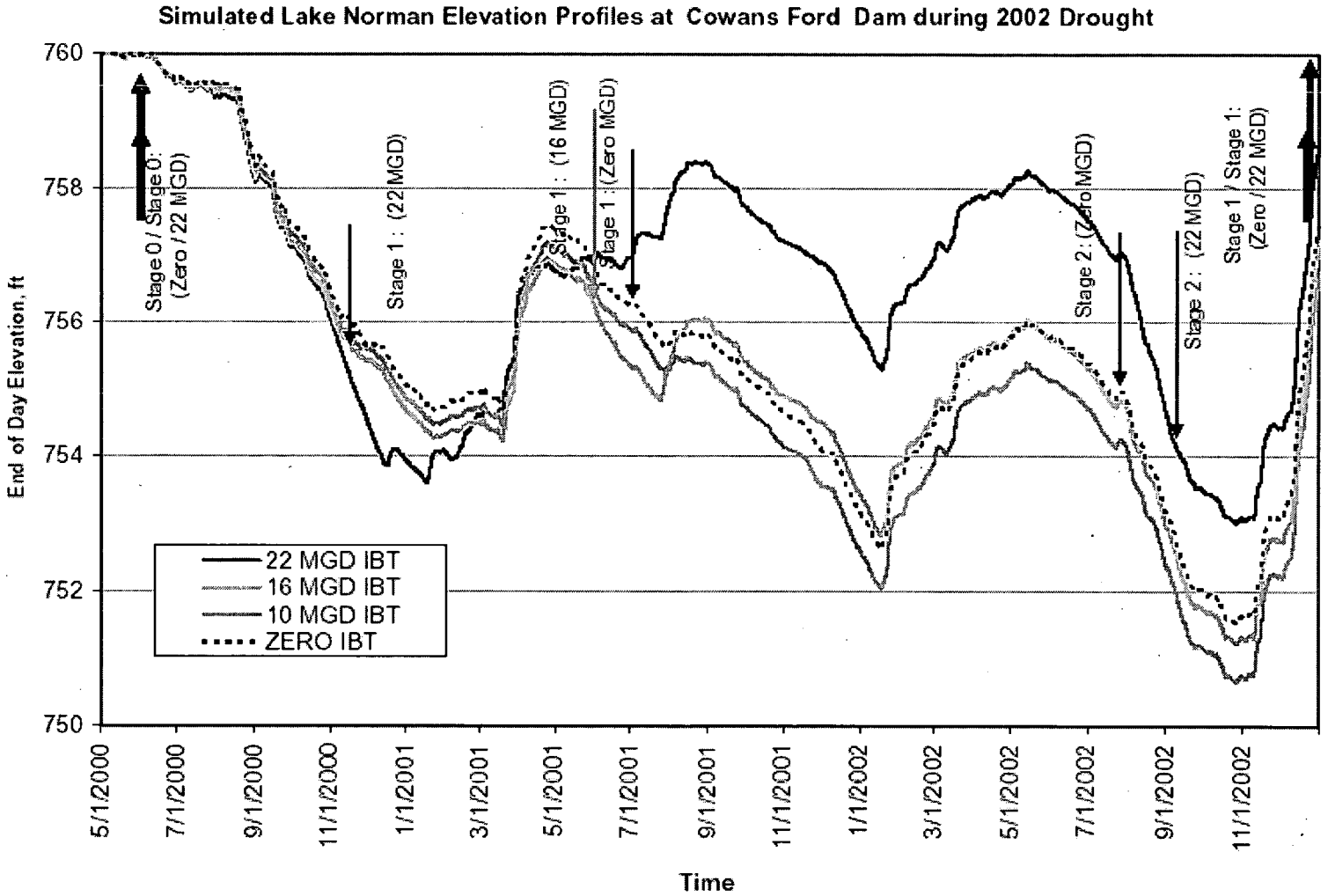


Figure 16: Lake Norman Elevation Profiles during 2002 Drought



Elevation Effects of IBT only with no inflow for six months

Table S-8.

Reduction in Reservoir Elevations (inches) for Transfers of 10, 16, and 22 MGD						
	10 MGD		16 MGD		22 MGD	
	Initial Storage Conditions					
Reservoir	90% storage	75% storage	90% storage	75% storage	90% storage	75% storage
James	2.1	2.3	2.1	3.7	4.5	5.0
Rhodhiss	1.1	1.2	1.1	1.9	2.4	2.6
Hickory	1.4	1.6	1.4	2.5	3.0	3.5
Lookout Shoals	1.3	1.3	1.3	2.1	2.8	2.9
Norman	1.4	1.7	1.4	2.6	3.1	3.6
Mountain Island	0.9	1.0	0.9	1.6	2.1	2.3

EXHIBIT G

QUARTERLY REPORT

TO THE

ENVIRONMENTAL REVIEW COMMISSION

ON

ENVIRONMENTAL MANAGEMENT COMMISSION ACTIVITIES

July 2006

YEAR 2005-2006 FOURTH QUARTER REPORT TO ERC IN ACCORDANCE WITH § 143B-282(b)

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I. SESSION LAW 2005-190 REPORTING REQUIREMENTS

II. STANDING COMMITTEES

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- B. WATER QUALITY COMMITTEE
- C. GROUNDWATER COMMITTEE
- D. AIR QUALITY COMMITTEE
- E. STEERING COMMITTEE
- F. NPDES COMMITTEE

III. SUMMARIES OF ENVIRONMENTAL MANAGEMENT COMMISSION (EMC) ACTIONS

IV. EXPECTED FUTURE AGENDA ITEMS

I. SESSION LAW 2005-190 REPORTING REQUIREMENTS

Based upon Section 2. (b) of Session Law 2005-190, the Environmental Management Commission continues to assess and identify nutrient control strategies and criteria necessary to prevent excess nutrient loading in each drinking water supply reservoir. In compliance with the goals of the Section, the Division of Water Quality received US EPA approval of a plan of action evaluating the current surface water quality standards to determine if adequate nutrient criteria controls are in place to prevent nutrient impairments in North Carolina lakes. Approval to continue with development of additional or revised lake nutrient criteria was granted by the US EPA on June 27, 2006.

Report to the Environmental Review Commission on the Status of Nutrient Management Strategies for Drinking Water Reservoirs
Session Law 2005-190, Section 3.

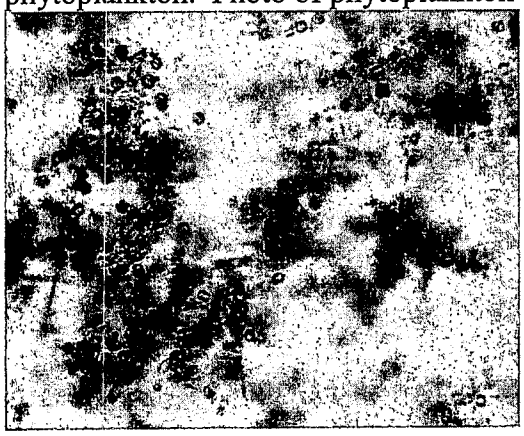
July 2006, Quarterly Report

Section 3.(a) No action on this section as these requirements were described in First Quarterly Report.

Section 3.(b) No new or increased nutrient loadings have been requested for the Falls of the Neuse Reservoir area.

Section 3.(c) Technical work continues on the Falls of the Neuse Reservoir project, as described on the attached project update provided to the stakeholders participating in the Technical Advisory Committee.

Falls of the Neuse Reservoir Nutrient Management Strategy
Project Update for the Technical Advisory Committee
June 28, 2006

- Field monitoring continues as scheduled. In-situ monitoring of chlorophyll using the SCUFA is being implemented, as is monitoring at all stations added by the TAC.
- One of the new stations on Falls of the Neuse Reservoir is the Ellerbe Creek Cove site (ELL10). On February 23, 2006, chlorophyll *a* at this station was recorded at 103 ug/L. Additional phytoplankton analysis indicated the sample was dominated by a centric diatom (97%) at a total unit density of 88,000 (units/ml) and a total biovolume of 87,800 (mm^3/m^3). Chlorophyll is not the primary pigment of these phytoplankton. Photo of phytoplankton below.
- 
- NCSU Center for Applied Aquatic Ecology provided data for Falls of the Neuse Reservoir for the 2004 and 2005 time periods. The data include nutrient concentrations and chlorophyll *a*.
- DWQ began the process of contracting with Jing Lin, PhD of NCSU to perform the combined hydrodynamic and nutrient response modeling for Falls of the Neuse Reservoir. We expect this contract to be in place by the end of July. Jing attended our November 2005 meeting.
- Jing believes that EFDC would be a better model for turbidity/sediment transport than CE-QUAL-W2. EPA Region 4 agrees. EPA Region 4 has a version of WASP that will simulate multiple phytoplankton groups as well as pH. NCSU and DWQ will obtain this version of WASP. Current plans are to couple this enhanced WASP model with EFDC for the Falls combined hydrodynamic, sediment transport and nutrient response model.
- Target dates associated with Session Law 2005-190 (Senate Bill 981) have not been modified as of 28Jun06.
- DWQ is setting up a WARMF model application for the Falls of the Neuse Reservoir watershed. Data gathering for this model application has begun, as has initial model setup (e.g., getting hydrography, importing land use information, etc.).

- The Modeling & TMDL Unit was unable to get additional funds to update the LU/LC database. The 2001 MRLC database, which is available in in the BASINS modeling package, will be used.
- Next scheduled TAC meeting, November 1, 2006, 9:30 am at TJCOG offices.

Report to the Environmental Review Commission on the Status of Nutrient Management Strategies for Drinking Water Reservoirs
Session Law 2005-190, Section 3.

March 2006, First Quarterly Report

Section 3. Develop and adopt nutrient strategies for certain reservoirs.

Using applicability criteria given in **Section 3(a)** of the Act, the EMC has determined that Section 3 applies to the Falls of the Neuse Reservoir in the Neuse River Basin. The following table details this determination, eliminating candidate reservoirs reading from left to right. Falls of the Neuse Reservoir is located in the piedmont physiographic region of North Carolina and supplies drinking water to the City of Raleigh and its customers. The reservoir serves a population greater than 300,000 people. It is designated as a Nutrient Sensitive Water (NSW). Available water quality monitoring data indicates that water quality in the reservoir violates the chlorophyll *a* standard (see report for Section 2(a) referenced above), and the Division of Water Quality (DWQ) has not prepared or updated a calibrated nutrient response model for the reservoir since 1 July 2002.

Municipalities Evaluated (Reservoir)	Estimated 2005 Population (a)	Reservoir Serve Population >300,000?	All/Any Part of Reservoir Designated NSW?	Data Indicate Violations of Chlorophyll *a* Standard? (b)	DWQ Not Done or Updated Calibrated Nut. Response Model Since 7/1/02?
Charlotte (Mountain Island Lake)	665,643	Yes	No		
Raleigh (Falls of the Neuse Lake)	326,653	Yes	Yes	Yes	True
Greensboro (Lakes Brandt and Townsend)	279,164	No			
Durham (Lake Michie)	231,313	No			
Winston-Salem (N/A)	229,041	No			
Fayetteville (Cross & Little Cross Cr. Res.'s)	218,074	No			
Cary-Apex (B. Everett Jordan Lake)	157,813	No			
Wilmington (N/A)	153,972	No			

N/A = A reservoir does not supply drinking water to this municipality.
(a) Source: http://money.cnn.com/best/bplive/states/NC.html

Section 3(c) of Session Law 2005-190 requires the EMC to develop a nutrient management strategy for applicable waters by 1 July 2008. This strategy "shall be based on a calibrated nutrient response model...". DWQ developed a plan to determine assimilative capacity of Falls of the Neuse Reservoir in 2005. Field studies to support the development of a calibrated nutrient response model began in March of 2005. The field study plan is available on the internet at

http://h2o.ehnr.state.nc.us/tmdl/documents/MonitoringPlan.pdf. A Technical Advisory Committee was formed in July of 2005 to evaluate the existing monitoring strategy and assist with the development of a modeling strategy. This group met monthly between July 2005 and February 2006. During the summer of 2005, analytical problems at the chemistry laboratory resulted in the invalidation of a portion of the field data related to chlorophyll *a*. The Technical Advisory Committee has recognized the need for extending the field study in order to have a more complete set of data on which to base the calibrated nutrient response model, and the full TAC agreed to seek a 2-year extension during the next legislative session.

II. STANDING COMMITTEE MEETINGS

i. WATER ALLOCATION COMMITTEE

The Water Allocation Committee conducted business in May 2006.

ii. WATER QUALITY COMMITTEE

The Water Quality Committee conducted business in May 2006.

iii. GROUNDWATER COMMITTEE

The Groundwater Committee conducted business in May 2006.

iv. AIR QUALITY COMMITTEE

The Air Quality Committee conducted business in May 2006.

v. STEERING COMMITTEE

The Steering Committee did not meet during this quarter.

vi. NPDES COMMITTEE

The NPDES Committee did not meet during this quarter.

III. SUMMARIES OF ENVIRONMENTAL MANAGEMENT COMMISSION (EMC) ACTIONS

Agenda Item: Hearing Officer's Report on Clean Air Interstate Rules

Explanation: On January 5, 2006 in Charlotte and on January 11, 2006 in Raleigh, Mr. Gessaman, Mr. Weber, and Mrs. Deerhake held public hearings on proposed new regulations on Clean Air Interstate Rules (CAIR).

On May 12, 2005, the EPA promulgated the requirement for States to adopt rules limiting the emissions of nitrogen oxides (NOx) and sulfur dioxide (SO_2) and guideline rules for the states to use in developing their rules. The purpose of these rules are to reduce interstate transport of precursors to fine particulate and ozone.

These rules apply to (1) any stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine serving at any time, since the start-up of a unit's combustion chamber, a generator with nameplate capacity of more than 25 MWe producing electricity for sale and (2) for a unit that qualifies as a cogeneration unit during the 12-month period starting on the date that the unit first produces electricity and continues to qualify as a cogeneration unit, a cogeneration unit serving at any time a generator with nameplate capacity of more than 25 MWe and supplying in any calendar year more than one-third of the unit's potential electric output capacity or 219,000 MWh, whichever is greater, to any utility power distribution system for sale

Under the EPA rules, North Carolina has caps as follows:

1. annual NOx: 62,183 tons for 2009-2014 and 51,819 tons for 2015 and each year thereafter;
2. ozone season NOx: 28,392 tons for 2009-2014 and 23,660 tons for 2015 and each year thereafter;

3. annual SO_2: 137,341 tons for 2010-2014 and 96,319 tons for 2015 and each year thereafter.

The State's NOx allocations have been distributed among the covered facilities. EPA will determine the SO_2 allocations, which are based on the acid rain program.

For the most part the proposed rules incorporate the model rule. The EPA model rule for definitions; permitting; monitoring, reporting, and recordkeeping; trading and banking; designated representative; opt-in provision, and new source growth are incorporated by reference.

The proposed rules require the EMC to periodically review the allocations in 2010 and every five years thereafter and to decide whether to reallocate. These rules do not preclude the EMC from adopting additional emission reduction requirements for covered sources if necessary to obtain or maintain an ambient air quality standard.

The hearing record was sent to you earlier.

Recommendation: The Hearing Officers recommend that the Commission adopt the proposed new rules as presented in Chapter II of the hearing record.

EMC ACTION: The EMC adopted rules.

Agenda Item:

Request Approval of Hearing Officer's Recommendations to Adopt Subchapter 2T for the Waste Not Discharged To Surface Waters Rules and Repeal of Section 2H .0200 and Rules 2H .0122 and 2H .0123.

Explanation:

In May, 2005 the Environmental Management Commission (Commission) authorized the Division of Water Quality (Division) to proceed to public notice and hearings with the proposed adoption of Subchapter 2T and repeal of Section 2H .0200 and Rules 2H .0122 and .0123. The notice of text for these proceedings was published in the *North Carolina Register* on October 2, 2005. Public hearings were held in Williamston on Oct. 19, Kenansville on Oct. 20, Asheville on Oct. 24, Raleigh on Oct. 26, and Salisbury on Oct. 27. Thirteen speakers made comments at these hearings and 56 written comments were received.

Systems covered by 2H .0200 and the proposed Subchapter 2T include wastewater collection systems, animal waste management systems, wastewater residuals, and other non-discharge systems including wastewater irrigation, reclaimed water utilization, groundwater remediation and soil remediation projects.

The intent of the proposed rules is to restructure the existing rules (new Subchapter 2T replacing Section 2H .0200 and Rules 2H .0122 and .0123), make editorial updates, make the rules easier to follow, clarify requirements, and reflect current policy not previously addressed in the rules. The rules also propose criteria to provide routine consideration of an applicant's compliance status under 143-215.1(b)(4)b.2 as well as certain program modifications. Another goal of the rule process is to allow delegation from EPA for the federal residuals program under 40 CFR parts 501 and 503. Additional federal rule references are made to address recently promulgated Concentrated Animal Feeding Operations rules. In order to consolidate

	all Rules related to Concentrated Animal Feeding Operations into one Section, a part of the proposed rule making process is the repeal of 2H .0122 and 2H .0123.
Recommendation:	That the Commission adopt Subchapter 2T with the modifications based on public comments as presented in the Hearing Officers' report and repeal Section 15A NCAC 2H .0200 and Rules 15A NCAC 2H .0122 and .0123. If approved, the rules would proceed to the Rules Review Commission.

EMC ACTION: The EMC approved the Hearing Officers' recommendations to adopt the rules.

Agenda Item: Hearing Officer's Report on the Proposed Reclassification of the Neuse River (Wake County, Neuse River Basin) to Class Water Supply V (WS-V)

Explanation: A segment of the upper Neuse River, Richland Creek and associated unnamed tributaries were requested to be reclassified from Class Water Supply –IV (WS-IV) NSW and WS-IV CA NSW to WS-V NSW. A request for this reclassification was submitted by the City of Raleigh ("City") although these waters were recently reclassified to WS-IV and WS-IV CA per the request of the Town of Wake Forest ("Town"). These waters are located within the jurisdiction of Wake County as well as the City and Town. The Town does not object to this reclassification. Please note that the current intake involved is still operable, and according to Division of Environmental Health staff, the intake does not have to be rendered useless because it is privately held.

The reason for this reclassification is that the Town decided to merge water systems with the City after the WS-IV recent reclassification, and neither municipality have used, currently use, or intend to use the waters as a public water supply source. No water quality study was required for this proposed reclassification as the waters were formerly used as water supplies.

If reclassified, nonpoint source and stormwater pollution control requirements associated with the WS-IV classifications will no longer be required by the State. The local governments with jurisdiction in the proposed reclassification area would not be required to revise their water supply watershed protection ordinances as a result of the proposed reclassification to WS-V. However, wastewater discharge permit requirements associated with

Water Supply classifications will apply, as in-stream water supply water quality standards remain applicable.

Additional existing requirements will remain applicable, too. For instance, the Town will still be subject to NPDES stormwater permitting (Phase II) requirements in accordance with Session Law (SL) 2004-163. The Neuse River Basin-Nutrient Sensitive Waters Management Strategy, and the NSW classification associated with this strategy, will still apply to the subject waters, too. Wake County and the City are currently included in the list of local governments designated for the stormwater management requirements as a part of this strategy. Please note that the Neuse River Basin-Nutrient Sensitive Waters Management Strategy, as well as the Phase II regulations, does not implicitly dictate impervious surface constraints or limits. Rather these rules address riparian zone function, stormwater management, nitrogen loading and Total Suspended Solids reduction necessary to affect the protection of water quality in a river basin that has experienced and is vulnerable to severe nutrient influences.

The buffer rules associated with the Neuse River Basin-Nutrient Sensitive Waters Management Strategy require that new development adjacent to buffered streams achieve diffuse flow of stormwater through the riparian zone, thereby allowing the buffers to function with respect to removal of nutrients. Coincidentally, this diffuse flow requirement also satisfactorily achieves the 85% Total Suspended Solids (TSS) reduction, a benchmark management requirement of stormwater best management requirements of water supply rules and state stormwater regulations. Where diffuse flow cannot be accomplished due to impervious surface amounts and/or geomorphological/topographic constraints (regardless of any impervious percentage thresholds), advanced engineered stormwater treatment is required such that 30% Total Nitrogen reduction is achieved. This requirement, in almost every occasion, also achieves 85% TSS reduction.

In May 2005 and July 2005, the Water Quality Committee and the Commission approved the request to proceed with rule-making for the proposed reclassification, respectively. A public hearing was held in February 2006 in Raleigh. Of the seven individuals who spoke at the hearing, five spoke in favor of the proposed reclassification, and two spoke against the proposed reclassification. 19 letters were received during the comment period, of which two were for and 17 were against the proposed reclassification, respectively.

The comments against the proposed reclassification cited several reasons opposing the proposal, which the Hearing Officers subsequently thoroughly considered. There was no finding that the proposed classification would fail to meet water supply water quality standards, or that the reclassification would prohibit local governments having jurisdiction within the affected watershed to seek a reclassification at a later date. The Hearing Officers' Report of Proceedings sent to the EMC includes further details.

Recommendation:

The Hearing Officers recommend that the proposed reclassification be approved by the Commission. If reclassified as proposed, and approved by RRC in June 2006, the effective date will be July 1, 2006.

EMC ACTION: The EMC took action to reopen the comment period through August 15, 2006 due to current interest from a local government inquiring about the water supply intake. The EMC requested that the Hearing Officers return to the EMC in September 2006 with the reclassification request.

Agenda Item: Request for Approval of the Proposed Reclassification of the Uwharrie River (Montgomery and Randolph Counties, Yadkin-Pee Dee River Basin) to Class B (Primary Recreation)

Explanation: Citizens Against River Pollution staff submitted a request to reclassify a section of the Uwharrie River to Class B. According to the request, "This section of the river is being used for swimming, skiing,...," "During warm weather, particularly on the weekends, many people are swimming in the river...," and "Primary contact recreation occurs... throughout the summer and fall." Water quality studies conducted in August 2004 show that the waters proposed to be reclassified meet Class B criteria.

If reclassified, new NPDES wastewater discharges to these waters will need to comply with reliability standards. In addition, new NPDES permitted discharges that contain fecal coliform will be required to meet a fecal limit. Please note that there are no current or proposed dischargers to the waters proposed to be reclassified.

In December 2004 and April 2005, the Water Quality Committee and the Commission, respectively, approved the request to proceed with rule-making for the proposed reclassification. A public hearing was scheduled for September 15, 2005, but it had to be cancelled due to state employee travel restrictions associated with Hurricane Katrina. Since a public hearing is not actually required for a proposed reclassification and no comments against this proposed reclassification were received, a public hearing was not rescheduled for this proposal. A notice to not reschedule the hearing was published; this notice did afford the opportunity to request a hearing, and instructions on

how and by when to request a hearing, but no hearing was requested. This notice also provided a second opportunity for comments on the proposal to be submitted to the Division of Water Quality.

Only one written comment was received during the two comment periods, and it was in favor of the proposed reclassification. The Report of Proceedings sent to the members of the EMC includes further details.

Recommendation: Staff recommends that the proposed reclassification be approved by the Commission. If reclassified as proposed, and approved by the RRC in June 2006, the effective date will be July 1, 2006.

EMC ACTION: The EMC approved the reclassification of these waters to Class B for primary recreation.

IV. EXPECTED FUTURE AGENDA ITEMS

Future Air Quality Items
Future Groundwater Items
Future Water Quality Items

MS FOR AIR QUALITY COMMITTEE AND ENVIRONMENTAL MANAGEMENT COMMISSION
July 2006 - Jan 2009

MONTH	AQC CONCEPTS	AQC DRAFT RULES	EMC ACTION
July 06	-Require Prescribe Forest Land Burners to Use Smoke Management (446) -Repeal of Tailpipe Emission Standard Rule (447) -Cross-Reference Correction to 2D .0953, .0954 and ,1110 (448) -Repeal of 2Q .0506 (449) -Extend New Source Review Rule for Nonattainment Areas to Particulate Nonattainment Areas (450)	-Extension of Emission Inventory Requirements to New Nonattainment Areas (442)	Adoption -Best Available Retrofit Technology (263a)
Sep 06			Hearing Request -Extension of Emission Inventory Requirements to New Nonattainment Areas (442) Adoption -Clean Air Mercury Rule (427)
Nov 06		-Require Prescribe Forest Land Burners to Use Smoke Management (446) -Repeal of Tailpipe Emission Standard Rule (447) -Cross-Reference Correction to 2D .0953, .0954 and ,1110 (448) -Repeal of 2Q .0506 (449) -Excluding Trades Under CAIR and CAMR from 2Q .0523 (440) -Exclude Recently Promulgated Guideline Rules from 2D .0524 (411) -Remove Coverage of 2D .0519 to Nitric Acid Plants and Boilers Covered Under NSPS (443) -NOx and VOC RACT for Charlotte Ozone Nonattainment Area (431) -Correction to the Banking Applicability Rule (433) -Removal of Obsolete Language from Leak Tester Certification Rule (434) -Other Solid Waste Incinerators (437) -Replace 08/17/71 Method 5 with Method 202 in Rule .0501(c)(3) and Stack Testing (100, 297) and Stack	Adoption -Leaks at Gasoline Terminal Clarification (412) -Revision of Reporting Requirements for Excess Emissions and Deviations (424) -Change the Definition of Insignificant Activities Because of Category@ (425) -Additional Permit Conditions Requiring Public Participation (428) -Prohibition of Submittal of False Information (429) -Clarification of Title V Administrative Amendments Re State Enforceable Only Conditions (430) -Delegation of Drycleaning MACT and NSPS to DWM (432) -Implementation of New Authority sales and service of analyzers (323d) -Extension of Emission Inventory Requirements to New Nonattainment Areas (442)

MONTH	AQC CONCEPTS	AQC DRAFT RULES	EMC ACTION
		Testing (148a) -Extend New Source Review Rule for Nonattainment Areas to Particulate Nonattainment Areas (450)	
Jan 07			Hearing Request -Require Prescribe Forest Land Burners to Use Smoke Management (446) -Repeal of Tailpipe Emission Standard Rule (447) -Cross-Reference Correction to 2D .0953, .0954 and ,1110 (448) -Repeal of 2Q .0506 (449) -Excluding Trades Under CAIR and CAMR from 2Q .0523 (440) -Exclude Recently Promulgated Guideline Rules from 2D .0524 (411) -Remove Coverage of 2D .0519 to Nitric Acid Plants and Boilers Covered Under NSPS (443) -NOx and VOC RACT for Charlotte Ozone Nonattainment Area (431) -Correction to the Banking Applicability Rule (433) -Removal of Obsolete Language from Leak Tester Certification Rule (434) -Other Solid Waste Incinerators (437) -Replace 08/17/71 Method 5 with Method 202 in Rule .0501(c)(3) and Stack Testing (100, 297) and Stack Testing (148a) -Extend New Source Review Rule for Nonattainment Areas to Particulate Nonattainment Areas (450)
May 07		-Revision of AAL for Carbon Tetrachloride (376) -Distributed Power Generation Using Diesel and Other Fuels (347) -Revise AAL for 1,3-Butadiene and Carbon Tetrachloride (299) -AAL for MDI, DI, Acrylamide, Chromium VI (124) -Boilers and Industrial Furnaces Burning Hazardous Waste (330) -Amend Definition of AApplicable Requirement@ to	Adoption -Require Prescribe Forest Land Burners to Use Smoke Management (446) -Repeal of Tailpipe Emission Standard Rule (447) -Cross-Reference Correction to 2D .0953, .0954 and ,1110 (448) -Repeal of 2Q .0506 (449) -Excluding Trades Under CAIR and CAMR from 2Q .0523 (440) -Exclude Recently Promulgated Guideline Rules

MONTH	AQC CONCEPTS	AQC DRAFT RULES	EMC ACTION
		add reference to 2D .900,.1400, and .1200 (334) -Implementation of New Authority I/M Codes (323a1) -Reporting Requirements Conform with General Statutes (361) -Particulate Emissions from Spray/Finish Booths and Woodworking (21, 68) -Glass Melting Furnaces (328) -General Fugitive Dust Control (276)	from 2D .0524 (411) -Remove Coverage of 2D .0519 to Nitric Acid Plants and Boilers Covered Under NSPS (443) -NOx and VOC RACT for Charlotte Ozone Nonattainment Area (431) -Correction to the Banking Applicability Rule (433)
May 07 cont.		-Clarify Crusher Requirements to Use Wet Suppression at All Times (313) -Revision of Small Definitional Level for Peak Shaving Generators (371) -Exempt MACT Sources with Work Practice Standards from VOC Work Practice Rule (436) -Add Concrete Batch Plants to Non-Process Fugitive Dust Rule (438) -Repeal of NOx SIP Rules (439) -To Extend 2D .1407 to Cover Larger Boilers (444)	-Removal of Obsolete Language from Leak Tester Certification Rule (434) -Other Solid Waste Incinerators (437) -Replace 08/17/71 Method 5 with Method 202 in Rule .0501(c)(3) and Stack Testing (100, 297) and Stack Testing (148a) -Extend New Source Review Rule for Nonattainment Areas to Particulate Nonattainment Areas (450)
Jul 07			Hearing Request -Revision of AAL for Carbon Tetrachloride (376) -Distributed Power Generation Using Diesel and Other Fuels (347) -Revise AAL for 1,3-Butadiene and Carbon Tetrachloride (299) -AAL for MDI, DI, Acrylamide, Chromium VI (124) -Boilers and Industrial Furnaces Burning Hazardous Waste (330) -Amend Definition of AApplicable Requirement@ to add reference to 2D .900,.1400, and .1200 (334) -Implementation of New Authority I/M Codes (323a1) -Implementation of New Authority sales and service of analyzers (323d) -Reporting Requirements Conform with General Statutes (361) -Particulate Emissions from Spray/Finish Booths and Woodworking (21, 68) -Glass Melting Furnaces (328)

MONTH	AQC CONCEPTS	AQC DRAFT RULES	EMC ACTION
			-General Fugitive Dust Control (276) -Clarify Crusher Requirements to Use Wet Suppression at All Times (313) -Revision of Small Definitional Level for Peak Shaving Generators (371) -Exempt MACT Sources with Work Practice Standards from VOC Work Practice Rule (436) -Add Concrete Batch Plants to Non-Process Fugitive Dust Rule (438) -To Extend 2D .1407 to Cover Larger Boilers (444)
Nov 07		-Permit Exemption for County Grain Elevators and Mills (325) -Revision of Portable Generator Permit Exemption (420) -Clarification of Storage Tank Permit Exemption for Ethanol-Based Fuels (422)	Adoption -Revision of AAL for Carbon Tetrachloride (376) -Distributed Power Generation Using Diesel and Other Fuels (347) -Revise AAL for 1,3-Butadiene and Carbon Tetrachloride (299) -AAL for MDI, DI, Acrylamide, Chromium VI (124) -Boilers and Industrial Furnaces Burning Hazardous Waste (330) -Amend Definition of AApplicable Requirement@ to add reference to 2D .900,.1400, and .1200 (334) -Implementation of New Authority I/M Codes (323a1) -Implementation of New Authority sales and service of analyzers (323d) -Reporting Requirements Conform with General Statutes (361) -Particulate Emissions from Spray/Finish Booths and Woodworking (21, 68) -Glass Melting Furnaces (328) -General Fugitive Dust Control (276) -Clarify Crusher Requirements to Use Wet Suppression at All Times (313) -Revision of Small Definitional Level for Peak Shaving Generators (371) -Exempt MACT Sources with Work Practice Standards from VOC Work Practice Rule (436)

MONTH	AQC CONCEPTS	AQC DRAFT RULES	EMC ACTION
			-Add Concrete Batch Plants to Non-Process Fugitive Dust Rule (438) -Repeal of NOx SIP Rules (439) -To Extend 2D .1407 to Cover Larger Boilers (444)
Jan 08			Hearing request -Permit Exemption for County Grain Elevators and Mills (325) -Revision of Portable Generator Permit Exemption (420) -Clarification of Storage Tank Permit Exemption for Ethanol-Based Fuels (422)
Mar 08			Adoption -Permit Exemption for County Grain Elevators and Mills (325) -Revision of Portable Generator Permit Exemption (420) -Clarification of Storage Tank Permit Exemption for Ethanol-Based Fuels (422)
July 08		-Replacement of SIC with NAICS in the Air Toxic Rules (369) -Change Definition of ASmall Facility@ and ASynthetic Minor Facility@ -Commence Construction and Operation -Elimination of 40% Opacity (349) -Good O&M Maintenance (302) -Mercury Emissions from Combustion Sources (356) -Exempt Air Curtain Burners from Air Toxic Rules (364) -Removal of Permit Exemption for Incinerators (315) -Higher Allowable Particulate Emission Rate for Small Wood Fired Indirect Heat Exchangers (286) -Deletion of Facility-Wide Language in VOC Permit	

MONTH	AQC CONCEPTS	AQC DRAFT RULES	EMC ACTION
		Exemption (370) -Revision of Wording of Monitoring Requirements in Several Incinerator Rules (382) -Allowing Ambient Monitoring for Air Toxic Compliance Determination (404)	
Sep 08			Hearing Request -Replacement of SIC with NAICS in the Air Toxic Rules (369) -Change Definition of ASmall Facility@ and ASynthetic Minor Facility@ -Commence Construction and Operation -Elimination of 40% Opacity (349) -Good O&M Maintenance (302) -Mercury Emissions from Combustion Sources (356) -Exempt Air Curtain Burners from Air Toxic Rules (364) -Removal of Permit Exemption for Incinerators (315)
Sep 08 cont			-Higher Allowable Particulate Emission Rate for Small Wood Fired Indirect Heat Exchangers (286) -Deletion of Facility-Wide Language in VOC Permit Exemption (370) -Revision of Wording of Monitoring Requirements in Several Incinerator Rules (382) -Allowing Ambient Monitoring for Air Toxic Compliance Determination (404)
Jan 09			Adoption -Replacement of SIC with NAICS in the Air Toxic Rules (369) -Change Definition of ASmall Facility@ and ASynthetic Minor Facility@ -Commence Construction and Operation -Elimination of 40% Opacity (349) -Good O&M Maintenance (302) -Mercury Emissions from Combustion Sources (356)

MONTH	AQC CONCEPTS	AQC DRAFT RULES	EMC ACTION
			-Exempt Air Curtain Burners from Air Toxic Rules (364) -Removal of Permit Exemption for Incinerators (315) -Higher Allowable Particulate Emission Rate for Small Wood Fired Indirect Heat Exchangers (286) -Deletion of Facility-Wide Language in VOC Permit Exemption (370) -Revision of Wording of Monitoring Requirements in Several Incinerator Rules (382) -Allowing Ambient Monitoring for Air Toxic Compliance Determination (404)

	Groundwater Committee Items	Environmental Management Commission Items
July 2006	> DWM-UST SECTION ITEM< **1. Request for Approval of Notice of Text and Hearing for Proposed Rules Establishing Secondary Containment Standards for all New and Replacement Underground Storage Tank Systems** > DWQ-GW ITEMS < **1. Recommendation that the Environmental Management Commission Use Existing Subchapter 2L Rules to Resolve Conflicts Between Criteria in 15A NCAC 2L .0202(d) and (e).** **2. Request to Proceed to the Environmental Management Commission to Revise the Groundwater Quality Standard for Arsenic and to Proceed to Public Notice.**	(No items scheduled at this time)

	Groundwater Committee Items	Environmental Management Commission Items
Sept 2006	> DWM- SUPERFUND SECTION ITEM< 1. **Request to Proceed to Public Notice and Hearing for Implementation of New Rules From the Dry-Cleaning Solvent Cleanup Fund Program.**	> DWM-UST SECTION ITEM< 1. **Request for Approval of Notice of Text and Hearing for Proposed Rules Establishing Secondary Containment Standards for all New and Replacement Underground Storage Tank Systems**
	> DWM-UST SECTION ITEM< 1. Update on the State Trust Funds For Cleanup of Petroleum Underground Storage Tanks.	> DWQ-GW ITEMS < 1. **Recommendation that the Environmental Management Commission Use Existing Subchapter 2L Rules to Resolve Conflicts Between Criteria in 15A NCAC 2L .0202(d) and (e).** 2. **Request to Proceed to the Environmental Management Commission to Revise the Groundwater Quality Standard for Arsenic and to Proceed to Public Notice.**
	Groundwater Committee	Environmental

	Items	Management Commission Items
Nov 2006	(No items scheduled at this time)	<u>> DWM- SUPERFUND SECTION ITEM<</u> **1. Request to Proceed to Public Notice and Hearing for Implementation of New Rules From the Dry-Cleaning Solvent Cleanup Fund Program.**
Jan 2007	(No items scheduled at this time)	<u>> DWM-UST SECTION ITEM<</u> **1. Request for Approval of Rules Establishing Secondary Containment Standards for New and Replacement Underground Storage Tanks.**

Water Quality Committee Agenda

	WQC Agenda	EMC Agenda
Sept 2006	• Request Permission to Send Draft White Oak River Basinwide Water Quality Plan to Public Review • Request Permission to Send Draft Watagua Basinwide Water Quality Plan to Public Review • Request Permission to Send Final Draft Roanoke River Basinwide Water Quality Plan to EMC for Approval • Request for a Variance from Neuse River Buffer Rules • Request to Approve Jordan Reservoir Protection Rules and send the Rules to the EMC for Public Hearing • Request for Approval of Unique Wetland Reclassifications • Coastal Stormwater Rules, Assessment of Necessary Actions • Request to Proceed to the EMC with Reclassification of Deep Creek to ORW	• Request to Approve the Hearing Officer's Recommendation to Reclassify Waters Draining to the North Shore of Fontana Lake as Outstanding Resource Waters (ORW) • Request to Approve Final Draft of Roanoke River Basinwide Water Quality Plan • Request to Send Jordan Reservoir Protection Rules to Public Hearing • Request to Approve Hearing Officers' Recommendation on Subchapter 2T Rules for Reclaimed Water • Request to Approve Hearing Officers' Report on Proposed Reclassification of the Neuse River • Request for Approval of the Universal Stormwater Management Program Rules • Comments and Action on Approval of a Site-Specific Variance for the Kinnakeet Sand Mine
Nov 2006	• Request Approval to Send Draft Hiwassee, Savanna, and Little Tennessee Basinwide Water Quality Plans to Public Review	• Request to Proceed to Public Hearing with Reclassification of Deep Creek to ORW

*Dates shown are projections. Actual schedules could vary 1-3 months either direction

EXHIBIT H

QUARTERLY REPORT

TO THE

ENVIRONMENTAL REVIEW COMMISSION

ON

ENVIRONMENTAL MANAGEMENT COMMISSION ACTIVITIES

September 2006

YEAR 2006-2007 FIRST QUARTER REPORT TO ERC IN ACCORDANCE WITH § 143B-282(b)

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- B. WATER QUALITY COMMITTEE
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- D. AIR QUALITY COMMITTEE
- E. STEERING COMMITTEE
- F. NPDES COMMITTEE

III. SUMMARIES OF ENVIRONMENTAL MANAGEMENT COMMISSION (EMC) ACTIONS

IV. EXPECTED FUTURE AGENDA ITEMS

I. SESSION LAW 2005-190 REPORTING REQUIREMENTS

Based upon Section 2. (b) of Session Law 2005-190, the Environmental Management Commission continues to assess and identify nutrient control strategies and criteria necessary to prevent excess nutrient loading in each drinking water supply reservoir. In compliance with the goals of the Section, the Division of Water Quality received US EPA approval of a plan of action evaluating the current surface water quality standards to determine if adequate nutrient criteria controls are in place to prevent nutrient impairments in North Carolina lakes. Approval to continue with development of additional or revised lake nutrient criteria was granted by the US EPA on June 27, 2006.

Monitoring is continuing as scheduled in Falls Lake and the Falls Lake watershed and has been extended to September 2007. This extension will cover another growing season to accommodate the collection of adequate chlorophyll *a* data.

Modeling tasks associated with this project have also progressed. Work has begun on three of the models to be developed for Falls Lake and the reservoir watershed. As of September 1, 2006, DWQ has a fully executed contract with NC State University to perform hydrodynamic and water quality modeling of Falls Lake. DWQ staff has begun to process data and information for another model, the watershed loading model.

Although Session Law 2006-259 technically corrected the target date for the EMC to develop a nutrient management strategy for the Falls Lake Reservoir from July 1, 2008 to July 1, 2009, the target date for the EMC to adopt the rules to implement the nutrient management strategy by the same date (July 1, 2009) does not allow rulemaking and rule adoption in accordance with the Administrative Procedures Act, General Statutes 150B. The inaccurate date will not interfere with the EMC's goal; however, to be technically correct, the Session Law should be corrected to complete rulemaking and adoption by July 15, 2010 (Note: July 15 gives time for the EMC to meet in July and adopt the rules).

The next scheduled Falls Reservoir Technical Advisory meeting is scheduled for Nov. 1, 2006, 9:30 am at the TJCOG offices.

II. STANDING COMMITTEE MEETINGS

i. WATER ALLOCATION COMMITTEE

The Water Allocation Committee conducted business in July and September 2006.

ii. WATER QUALITY COMMITTEE

The Water Quality Committee conducted business in July and September 2006.

iii. GROUNDWATER COMMITTEE

The Groundwater Committee conducted business in July 2006.

iv. AIR QUALITY COMMITTEE

The Air Quality Committee conducted business in July and September 2006.

v. STEERING COMMITTEE

The Steering Committee conducted business in September 2006.

vi. NPDES COMMITTEE

The NPDES Committee did not meet during this quarter.

III. SUMMARIES OF ENVIRONMENTAL MANAGEMENT COMMISSION (EMC) ACTIONS

Agenda Item: Request to Proceed to Public Hearing on VOC and NOx Reasonable Available Control Technology

Explanation:

The Environmental Management Commission is requested to approve one or more public hearings on the amendments to rules to extend the applicability of reasonable control technology (RACT) rules for volatile organic compounds (VOC) and nitrogen oxides (NOx) to all the counties in the Charlotte nonattainment area for ozone.

The applicability rules for VOC RACT (15A NCAC 02D .0902) and for NOx RACT (15A NCAC 02D .1402) are proposed to be amended to require facilities with the potential to emit 100 tons per year or more of VOC or NOx to comply with the RACT requirements for VOC or NOx if they are in the Charlotte nonattainment area for ozone. Counties covered are Cabarrus, Gaston, Lincoln, Mecklenburg, Rowan, and Union. Also, Davidson and Coddle Creek Townships in Iredell County are covered.

The compliance schedule rules (15A NCAC 02D .0909 and .1403) are proposed to be amended to add compliance schedules for the facilities to comply with the RACT requirements.

These rule changes are being proposed to meet EPA requirements for a complete State Implementation Plan (SIP) submittal for the Charlotte ozone nonattainment SIP.

Recommendation: The Director recommends that the Commission authorize a public hearing(s) on these amendments and that the Chairman appoint a member(s) of the Commission to serve hearing officer(s).

EMC ACTION: **THE EMC APPROVED SENDING THE PROPOSED AMENDED RULES TO PUBLIC HEARING.**

Agenda Item: Hearing Officer's Report on Best Available Retrofit Technology Rule

Explanation: On April 6, 2006 in Winterville and on April 12, 2006 in Candler, Dr. Blanks, Mr. Wakild, and Mr. Curry held public hearings on a proposed new rule on Best Available Retrofit Technology (BART).

15A NCAC 02D .0543, Best Available Retrofit Technology, is proposed for adoption to establish best available retrofit technology requirements for certain older sources of emissions of visibility impairing pollutants impacting visibility in federal parks and wilderness Class I areas as part of efforts required region-wide to address the regional haze problem. The requirements are proposed for adoption in response to federal requirements that states address these emissions in their state implementation plan (SIP) for regional haze.

On July 6, 2005, US EPA promulgated 40 CFR Part 51 Appendix Y Guidelines for Determining Best Available Retrofit Technology (BART) Determinations. The proposed rule establishes a framework for making these determinations and incorporates the 40 CFR Part 51, Appendix Y guidelines by reference.

The proposed rule applies to sources that have the potential to emit 250 tons or more of a visibility impairing pollutant, were in existence on August 7, 1977 and began operation after August 7, 1962, and fall within one of the 26 industrial source categories listed in the guidance. The visibility impairing pollutants for BART purposes are sulfur dioxide (SO2), nitrogen oxides (NOx), and fine particulate matter (PM2.5).

The proposed rule allows affected sources to demonstrate in accordance with the guidelines that the source does not contribute to visibility impairment and should be exempted. Non-exempt sources are required to undergo a determination of best available retrofit technology. For sources that are not exempted, the rule establishes a deadline of September 1, 2006 for submittal of permit

applications proposing best available retrofit technology. The rule, as proposed, requires that BART controls be installed and begin operation by June 1, 2010. The rule also specifies that compliance with the Clean Air Interstate Rule (CAIR) by subject electric utility sources constitutes BART for such sources for sulfur dioxide and nitrogen oxides emissions. The rule does not preclude the EMC from adopting additional emission reduction requirements for covered sources if necessary to obtain or maintain an ambient air quality standard or meet other state implementation plan requirements.

Eight people commented on the rule. The majority of comments focused on ensuring the rule incorporates the maximum flexibility provided in the federal rule for the state to approve exemption modeling protocols and demonstrations, BART determinations, and on extending the compliance deadline.

Six persons commented that the rule should incorporate the maximum flexibility afforded by the federal rule. The Division believes that the proposed rule, which incorporates the federal requirements by reference, adopts the maximum flexibility given states; however, language has been added as paragraph (c) to make this explicit to the reader.

Two commenters stated that the Division should be able to approve any exemption modeling methodology it deems technically and scientifically sound methodology and that the EMC should add a paragraph to address modeling protocol issues. Paragraph (c) has been added that reiterates for the reader that the Division has all the authorities afforded it by the federal rule.

One person commented that the permit application deadline should be extended for EGUs if visibility impact modeling is required for such sources. Another commenter said that due dates for BART information from affected sources should be extended. Language has been added to Paragraph

(g) to allow the Director to extend the permit submittal deadline if necessary.

Six commenters said that the compliance deadline should be changed to that in the federal rule to allow adequate time for planning, installation and operation of any required controls. The compliance deadline has been changed to December 31, 2012 to allow the maximum time for compliance and still allow for inclusion of the benefits of BART controls in the first reasonable progress report to EPA.

Two commenters stated that the rule should specify the elements to be considered in a BART determination. Although they are included in the Clean Air Act, the referenced rule, and guidelines, the factors to be considered in the BART determination have been explicitly added to the rule as Paragraph (e).

Two persons commented that the rule should specify that emission limits don't apply if BART is determined to be no control. No rule change is necessary.

Two commenters stated that the rule should provide emissions trading options to affected sources. The EPA rule on emissions trading for BART purposes has not yet been finalized, therefore no change in rule language has been made.

EPA commented that they concur that compliance with CAIR by EGUs is considered compliance with BART for SO2 and NOx. No rule change is necessary.

One person commented that the reasonably attributable visibility impairment provisions should be referenced rather than providing specific information on how to obtain the guidance. The NC rulemaking procedures require such information to be provided for referenced materials, therefore no change is made.

One person commented that language specifying that BART determinations will be incorporated into Title V permits should be added. Language has been added to Paragraph (f) referencing the permitting procedures.

Recommendation: The Hearing Officers recommend that the Commission adopt the proposed new rules as presented in Chapter II of the hearing record.

EMC ACTION: **THE EMC ADOPTED THE PROPOSED RULE AS RECOMMENDED BY THE HEARING OFFICER.**

Agenda Item: Request to Proceed to Public Hearing on Amendments to Annual Emissions Reporting

Explanation: The Environmental Management Commission is requested to approve one or more public hearings on an amendment to the annual emissions reporting rule (15A NCAC 02Q .0207). The amendment requires reporting of emissions of volatile organic compounds (VOC) and nitrogen oxides (NOx) for the counties in the Charlotte ozone nonattainment areas.

This rule requires facilities with Title V permits to report emissions of regulated pollutants annually. It also requires sources that emit 25 tons or more of VOC or NOx and are in ozone maintenance areas to report annually their emissions of VOC or NOx. The amendment would extend this latter requirement to cover the newly designated counties and townships in the Charlotte ozone nonattainment area that are not currently covered under this rule. These new areas are Cabarrus, Lincoln, Rowan, and Union Counties and Davidson and Coddle Creek townships in Iredell County.

This amendment is a necessary part of the State Implementation Plan for the Charlotte ozone nonattainment area.

Recommendation: The Director recommends that the Commission authorize a public hearing(s) on this amendment and that the Chairman appoint a member(s) of the Commission to serve as hearing officer(s).

EMC ACTION: **THE EMC APPROVED SENDING THE PROPOSED RULE AMENDMENTS TO PUBLIC HEARING.**

Agenda Item:

Request for Adoption of Hearing Officers' Recommendations for Revisions to Proposed Rules 15A NCAC 2E .0600, Water Use During Drought Rules

Explanation:

In October of 2005 (Action Item 05-33), the Environmental Management Commission (EMC) authorized the Division of Water Resources to proceed to public notice and hearings with proposed rules 15A NCAC 2E .0600, Water Use During Drought Rules. The notice of text for these proceedings was published in the *North Carolina Register* on January 3, 2006, and three public hearings were conducted in Lexington, Goldsboro and Asheville on January 19, January 24 and January 31, 2006, respectively.

Eighty six oral and written comments regarding these proposed rules were received during the public comment\ period, which ended on March 6, 2006. All of the comments and the Hearing Officers' responses to these comments are contained in the Hearing Officers' Report (attached). As a result of the public comments, several revisions to the rules have been recommended by the Hearing Officers. The Hearing Officers' Report includes the following information: Background; Overview; Part I: Proposed Rule Language (Public Hearings), Recommended Rule Revisions, and the Final Rule Language; Part II: Summary Table of Public Comments, Responses to Public Comments, and a brief explanation of these documents; Part III: Hearing Officers' Opening Comments, HB 1215 Presentation, and Public Hearing Transcripts; Part IV: Written Comments Received; and Part V: Notice of Public Hearings, Public Hearing Attendance Sheets, HB 1215 (SL2002-167) Text, and North Carolina General Statutes Cited in the Rules for Authority.

Recommendation:

That the Environmental Management Commission adopt the proposed rules 15A NCAC 2E .0600, as recommended by the Hearing Officers in the Hearing Officer's Report. If the proposed rules are

adopted and approved by RRC in August 2006, the Water Use During Drought Rules will become effective on September 1, 2006.

EMC ACTION:

THE EMC ADOPTED THE RULES, 15A NCAC 2E .0600, AS PROPOSED BY THE HEARING OFFICERS.

Agenda Item:

Request for Approval of the Proposed Reclassification of the Yadkin River (Surry and Yadkin Counties, Yadkin-Pee Dee River Basin) to Class Water Supply-IV (WS-IV) Critical Area (CA)

Explanation:

The Town of Elkin submitted a request to reclassify a section of the Yadkin River to Class WS-IV CA. The reason for this reclassification is to allow a new intake structure to be placed in the river in order to supply the town with an emergency source of water. The waters to be reclassified meet water supply water standards according to DWQ staff. DWR and DEH staff have approved of the proposed intake.

If reclassified, development and discharge restrictions will apply. However, there are no current or planned dischargers and no planned development in the proposed reclassification area; the affected area is residential in character with some agricultural land. Yadkin County and the Town of Elkin, the only local governments with jurisdiction in the reclassification area, would need to modify their water supply watershed protection ordinances within 270 days after the reclassification effective date. Yadkin County and the nearby Town of Jonesville support this reclassification.

In May 2005 and July 2005, the Water Quality Committee and the Commission, respectively, approved the request to proceed with rule-making for the proposed reclassification. Since a public hearing is not actually required for a proposed reclassification and no comments against this proposed reclassification were received, a public hearing was not scheduled for this proposal. The notice published for this reclassification, as well as the announcements sent out for this proposal, did afford the opportunity to request a hearing, and instructions on how and by when to request a hearing, but no hearing was requested. The notice and announcement also provided an opportunity for comments on the proposal to be submitted to the Division of Water Quality.

No written comment was received during the comment period. The Report of Proceedings sent to the members of the EMC includes further details on this proposed reclassification.

Recommendation: Staff recommends that the proposed reclassification be approved by the Commission. If reclassified as proposed, and approved by the RRC in August 2006, the effective date will be September 1, 2006.

EMC ACTION: **THE EMC APPROVED THE RECLASSIFICATION OF THESE SURFACE WATERS.**

Agenda Item:	Approval of Water Quality Committee Recommendation Regarding a Site-Specific Variance for the Kinnakeet Sand Mine
Explanation:	In accordance with the provisions of 15A NCAC 2B .0226, the EMC was requested to consider and approve a recommendation from the Water Quality Committee (WQC) regarding the granting of a site-specific variance from the Wetlands Standards contained in 15A NCAC 2B .0231 for the Kinnakeet Sand Mine on Hatteras Island.
Recommendation:	That the EMC consider and approve the WQC's recommendation in this matter.
EMC ACTION:	**THE EMC HELD A SPECIAL MEETING BY CONFERENCE CALL ON AUGUST 9, 2006, TO DEAL WITH THE EMERGENCY NATURE OF THIS REQUEST IN ORDER TO PROVIDE A SAND SUPPLY TO NCDOT OPERATIONS. THE EMC APPROVED THE REQUEST WITH THE CONDITIONS REQUIRED BY STAFF.**

Agenda Item: Hearing Officers' Recommendations for the Adoption of 15A NCAC 2H .1020, the Universal Stormwater Management Program Rule

Explanation: In Nov of 2005 the Environmental Management Commission (EMC) authorized the Division to proceed to public notice and hearings with the proposed adoption of 15A NCAC 2H .1020, the Universal Stormwater Management Program Rule. The notice of text for these proceedings was published in the *North Carolina Register* on March 15, 2006, and public hearings were conducted in Hickory, Wilmington, and Raleigh on April 4, 6, and 11, 2006, respectively. Sixteen oral comments regarding this proposed adoption were received at the public hearings and a total of 25 written comments were received prior to the close of the comment period. As a result of these comments the Hearing Officers have recommended the following major changes to the proposed rule:

- That an impervious surface density limit of 36% be established for development activities located within 575 feet of shellfishing waters or located within the designated Critical Area of Water Supply Watersheds.

- That the threshold for coastal county development be raised from 5,000 square feet to 10,000 square feet of disturbance.

- That local governments located within the 20 Coastal Counties be allowed to adopt the program and elect to have the Division of Water Quality implement and administer the program within their jurisdictions, either whole or in part.

- That a paragraph be added to the Rule that would facilitate the implementation of the program on DoD installations.

All of the comments and the Hearing Officers' responses to these comments are contained in the

Report of Proceedings. The proposed revised rule is also attached.

Recommendation: That the Environmental Management Commission adopt 15A NCAC 2H .1020 as recommended by the Hearing Officers in the Report of Proceedings.

EMC ACTION: **THE EMC DEFERRED ACTION AND REPOSTED THE RULES TO ACCEPT COMMENT FOR 60 MORE DAYS.**

Agenda Item: Request for Adoption of Changes to Subchapter 2T Based on Rules Review Commission Objections

Explanation: In May, 2006 the Environmental Management Commission (EMC) adopted Subchapter 2T and repealed Section 2H .0200 and Rules 2H .0122 and .0123. It is anticipated (see note) that the Rules Review Commission (RRC) will object, based on recommendations by RRC staff, to the requirements in the Subchapter 2T rules that require submittal of certain documents by licensed professionals. [Note: The RRC did not meet as scheduled on June 15 due to a lack of attending commissioners; as a result the meeting and associated action on the Subchapter 2T rules will not be taken until the rescheduled RRC meeting –June 29]

For example, Rule 2T .0504(b) requires that Soils Reports be prepared by a Licensed Soil Scientist – "As required by G.S. 89F, a soil scientist shall prepare this evaluation: ..." The RRC staff has recommended that the RCC object to this language as exceeding the EMC's authority (i.e., that this authority lies with the respective boards).

To resolve the potential objection, staff proposes the following example language with RRC staff: "As If required by G.S. 89F, soil scientist shall prepare this evaluation: ..." In addition, a note would be added to the text of the rule as follows: "[Note: The North Carolina Board for Licensing of Soil Scientists has determined that preparation of the soils report required by Paragraph (b) of this Rule constitutes practicing soil science under G.S. 89F.]"

Recommendation: That the Commission adopt the above changes to Subchapter 2T with respect to the professional licensure requirements (any item requiring a professional licensure in accordance with G.S. 89C, 89E, or 89F) for re-submittal to the RRC.

EMC ACTION: **THE EMC APPROVED THE RULE CHANGES TO BE SUBMITTED TO THE RRC TO SATISY THE RRC'S OBJECTIONS.**

Agenda Item:	Request for Delegation of Authority of the Neuse and Tar-Pamlico River Riparian Area Protection Rules to Pitt County, NC
Explanation:	On July 12, 2006 the Water Quality Committee approved sending forward a request for the EMC to grant Delegation of Authority of the Neuse River Riparian Area Protection Rule (15A NCAC 2B .0233) and the Tar-Pamlico Riparian Area Protection Rule (15A NCAC 2B .0259) to Pitt County per 15A NCAC 2B .0241 and .0261, respectively. If delegated, Pitt County will be responsible for implementing the riparian area protection programs as described in 15A NCAC 2B .0233 and .0259 for the Neuse and Tar-Pamlico River Basins, respectively. The Pitt County Board of Commissioners has adopted a "Pitt County Riparian Buffer Protection Ordinance", and the Pitt County Planning Department staff and Pitt County Technical Review Committee will administer the program, if delegated. The Division of Water Quality (DWQ) staff recommended this delegation to the WQC in July 2006 and the WQC approved sending the item forward to the EMC
Recommendation:	That the Delegation of Authority to Pitt County for the implementation of riparian area programs be approved.
EMC ACTION:	**THE EMC APPROVED THE DELEGATION OF THE RIPARIAN AREA PROTECTION PROGRAMS TO PITT COUNTY.**

Agenda Item: Hearing Officers' Report on the Proposed Reclassification of a Neuse River Segment in Wake County (Neuse River Basin)

Explanation: A segment of the upper Neuse River, Richland Creek and associated unnamed tributaries were requested to be reclassified from Class Water Supply –IV (WS-IV) NSW and WS-IV CA NSW to WS-V NSW. A request for this reclassification was submitted by the City of Raleigh ("City") although these waters were recently reclassified to WS-IV and WS-IV CA per the request of the Town of Wake Forest ("Town"). These waters are located within the jurisdiction of Wake County as well as the City and Town. The Town does not object to a WS-V reclassification. Please note that the current intake involved is still operable, and according to Division of Environmental Health staff, the intake does not have to be rendered useless because it is privately held.

The reason for the request to WS-V was because the Town decided to merge water systems with the City after the WS-IV recent reclassification.

Just prior to the May EMC meeting, the County of Franklin ("County") expressed interest in using the water supply, even though the County does not have any jurisdiction within the water supply watershed. In response to that, in May 2006, the EMC directed DWQ to reopen the comment period in order to provide further opportunity for additional comments, and to return to the EMC in September.

As a reminder, a public hearing was held in February 2006 in Raleigh. Of the seven individuals who spoke at the hearing, five spoke in favor of the proposed reclassification to WS-V, and two spoke against the proposed reclassification to WS-V. 19 letters were received during the comment period, of which two were for and 17 were against the proposed reclassification. The comments against the proposed reclassification cited several reasons opposing the proposal, which the Hearing Officers subsequently thoroughly considered. There was no

finding that the proposed classification would fail to meet water supply water quality standards, or that the reclassification would prohibit local governments having jurisdiction within the affected watershed to seek a reclassification at a later date.

Regardless of the classification, existing requirements remain applicable. For instance, the Town will still be subject to NPDES stormwater permitting (Phase II) requirements in accordance with Session Law (SL) 2004-163. The Neuse

River Basin-Nutrient Sensitive Waters Management Strategy, and the NSW classification associated with this strategy, still apply to the subject waters, as well.

Please note that the additional comment period ended on August 15, 2006. It was discussed at the May 2006 EMC meeting that the Hearing Officers would need time to consider all comments before making a recommendation to the EMC. An addendum to the existing Hearing Officers' Report of Proceedings will include further details, and it is anticipated that this addendum will be sent to all EMC members in early September 2006, prior to the September EMC meeting.

As of August 15, 2006, approximately twelve letters supporting the WS-V reclassification had been received during the additional comment period. There is one letter received that is opposed to the WS-V reclassification that has been received during the additional comment period, and this letter conveys that Franklin County has investigated this water supply intake as a feasible water supply source.

Recommendation:	The Hearing Officers recommend that the classification of this segment of the Neuse River remain as Class WS-IV NSW and Class WS-IV NSW CA waters.
EMC ACTION:	**THE EMC APPROVED THE HEARING OFFICERS RECOMMENDATION TO LEAVE THE WATERS PROTECTED AND CLASSIFIED FOR WATER SUPPLY USE.**

Agenda Item: Request for Approval of the Final Roanoke River Basinwide Water Quality Plan

Explanation: The *Roanoke River Basinwide Water Quality Plan* is in its third cycle of basinwide water quality plans that the Division of Water Quality is preparing for all 17 river basins across the state.

In May 2006, the draft basinwide plan was approved by the Water Quality Committee (WQC) to be released for public review and comment. The draft plan included language developed during an in-depth interim review process. The Division of Water Quality received written and verbal comments from both state and local agencies, as well as comments from private landowners and local watershed groups. Revisions were made and information was added to or clarified in the draft plan. Copies of the revised plan were sent to EMC members in the EMC package.

This Basinwide Water Quality Plan is a planning document that will guide the Division's actions in this river basin over the next five years and beyond. The management actions are based on existing rules and policies. Therefore, approval and endorsement of this plan by the Commission would affirm that the management actions set forth in this plan are consistent with the rules adopted by the Commission and with the decision-making policies under which the Division has acted in the past.

Recommendation: It is recommended that the *Roanoke River Basinwide Water Quality Plan* be approved and endorsed by the Commission as a guide to water quality program management and implementation by the Division of Water Quality as it carries out its Water Quality Program duties and responsibilities in the Roanoke River basin.

EMC ACTION: **THE EMC APPROVED THE ROANOKE RIVER BASINWIDE WATER QUALITY PLAN AS PRESENTED.**

Agenda Item: Request to Proceed to Public Notice & Hearing to Revise the Groundwater Quality Standard for Arsenic

Explanation: According to the criteria in the EMC's Rule 15A NCAC 2L .0202, the current groundwater quality standard for arsenic should be revised. In accordance with the groundwater rules, the preferred reference for groundwater standards is the U.S. EPA's Integrated Risk Information System (IRIS).

Research in recent years on arsenic toxicology has resulted in the federal MCL being revised to 10 ug/L (or 0.01 mg/L). In addition, the U.S. EPA's federal Science Advisory Board continues its ongoing efforts through its Arsenic Review Panel. Its reports have not yet been finalized and incorporated into the IRIS database. With no definitive timeline in place for the incorporation of the final federal Science Advisory Board's work into the IRIS database, the DWQ staff, with the concurrence of the DPH staff, recommend using the information that is currently available in the IRIS database to calculate a revised groundwater standard of 0.02 ug/L (or 0.00002 mg/L) for arsenic. On July 12, 2006, the Groundwater Committee of the EMC approved bringing this recommendation forward to proceed to public notice.

Recommendation: In accordance with Rule 15A NCAC 2L .0202, DWQ recommends that the groundwater standard for arsenic be revised to 0.02 ug/L (or 0.00002 mg/L). It is requested that the Environmental Management Commission approve proceeding to public notice and hearing with this recommendation.

EMC ACTION: **THE EMC APPROVED SENDING THE PROPOSED REVISION TO THE ARSENIC GROUNDWATER STANDARD TO PUBLIC HEARING.**

Summary of Actions Related to Water Resources IBT Issues

Issue:

The Cities of Concord and Kannapolis have requested EMC approval of an interbasin transfer of surface water from the Catawba and Yadkin River Basins to the Rocky River Basin of up to 36 millions gallons per day combined from the two source basins. The 60-day public review period for the Final EIS began on May 26, 2006 and was scheduled to close on July 25. Staff discovered errors in the modeling portion of the EIS and was in the process of preparing supplemental information to correct the errors. Many members of the public opposing the transfer have requested one or more public hearings in order to provide their input to the commission.

Motion Before the Commission:

It was moved by Commissioner Waldroup that the EMC extend the public comment period until September 30 in order to provide time for staff to prepare the supplemental report, verify its correctness, and release it for public review and comment. It was further moved that the EMC would request that at least one public meeting be held by staff in the Catawba River Basin during the public review period.

Action by the EMC: The motion was passed.

Note: Two public meetings were held by staff in September in Valdese and Charlotte. Comments from the meetings were recorded and transcribed for the record. The decision on the IBT request, originally scheduled for the November EMC meetings, was later delayed by Chairman Moreau until the next EMC meeting. The purpose was to provide more time for public consideration of the EIS, and to allow more time for the EMC to consider the request. Chairman Moreau also recommended to the hearing officers that the comment deadline be extended from September 30 to October 31, 2006. This recommendation was later agreed upon by the hearing officers.

IV. EXPECTED FUTURE AGENDA ITEMS

FUTURE AIR QUALITY ITEMS
FUTURE GROUNDWATER ITEMS
FUTURE WATER QUALITY ITEMS
FUTURE WATER ALLOCATION ITEMS

FUTURE ITEMS FOR AIR QUALITY COMMITTEE AND ENVIRONMENTAL MANAGEMENT COMMISSION
Nov 2006 - Jan 2009

MONTH	AQC CONCEPTS	AQC DRAFT RULES	EMC ACTION
Nov 06		-Require Prescribe Forest Land Burners to Use Smoke Management (446) -Repeal of Tailpipe Emission Standard Rule (447) -Cross-Reference Correction to 2D .0953, .0954 and ,1110 (448) -Repeal of 2Q .0506 (449) -Excluding Trades Under CAIR and CAMR from 2Q .0523 (440) -Exclude Recently Promulgated Guideline Rules from 2D .0524 (411) -Remove Coverage of 2D .0519 to Nitric Acid Plants and Boilers Covered Under NSPS (443) -NOx and VOC RACT for Charlotte Ozone Nonattainment Area (431) -Correction to the Banking Applicability Rule (433) -Removal of Obsolete Language from Leak Tester Certification Rule (434) -Other Solid Waste Incinerators (437) -Replace 08/17/71 Method 5 with Method 202 in Rule .0501(c)(3) and Stack Testing (100, 297) and Stack Testing (148a) -Extend New Source Review Rule for Nonattainment Areas to Particulate Nonattainment Areas (450)	Adoption -Leaks at Gasoline Terminal Clarification (412) -Revision of Reporting Requirements for Excess Emissions and Deviations (424) -Change the Definition of Insignificant Activities Because of Category@ (425) -Additional Permit Conditions Requiring Public Participation (428) -Prohibition of Submittal of False Information (429) -Clarification of Title V Administrative Amendments Re State Enforceable Only Conditions (430) -Delegation of Dry-cleaning MACT and NSPS to DWM (432) -Implementation of New Authority sales and service of analyzers (323d) -Extension of Emission Inventory Requirements to New Nonattainment Areas (442) Adoption -Clean Air Mercury Rule (427)
Jan 07			Hearing Request -Require Prescribe Forest Land Burners

MONTH	AQC CONCEPTS	AQC DRAFT RULES	EMC ACTION
			to Use Smoke Management (446) -Repeal of Tailpipe Emission Standard Rule (447) -Cross-Reference Correction to 2D .0953, .0954 and ,1110 (448) -Repeal of 2Q .0506 (449) -Excluding Trades Under CAIR and CAMR from 2Q .0523 (440) -Exclude Recently Promulgated Guideline Rules from 2D .0524 (411) -Remove Coverage of 2D .0519 to Nitric Acid Plants and Boilers Covered Under NSPS (443) -NOx and VOC RACT for Charlotte Ozone Nonattainment Area (431)
Jan 07 cont.			-Correction to the Banking Applicability Rule (433) -Removal of Obsolete Language from Leak Tester Certification Rule (434) -Other Solid Waste Incinerators (437) -Replace 08/17/71 Method 5 with Method 202 in Rule .0501(c)(3) and Stack Testing (100, 297) and Stack Testing (148a) -Extend New Source Review Rule for Nonattainment Areas to Particulate Nonattainment Areas (450)
Mar 07			
May 07		-Revision of AAL for Carbon Tetrachloride (376) -Distributed Power Generation Using Diesel and Other Fuels (347) -Revise AAL for 1,3-Butadiene and Carbon Tetrachloride (299) -AAL for MDI, DI, Acrylamide, Chromium VI (124) -Boilers and Industrial Furnaces Burning Hazardous Waste (330)	Adoption -Require Prescribe Forest Land Burners to Use Smoke Management (446) -Repeal of Tailpipe Emission Standard Rule (447) -Cross-Reference Correction to 2D .0953, .0954 and ,1110 (448) -Repeal of 2Q .0506 (449)

MONTH	AQC CONCEPTS	AQC DRAFT RULES	EMC ACTION
		-Amend Definition of AApplicable Requirement@ to add reference to 2D .900,.1400, and .1200 (334) -Implementation of New Authority I/M Codes (323a1) -Reporting Requirements Conform with General Statutes (361) -Particulate Emissions from Spray/Finish Booths and Woodworking (21, 68) -Glass Melting Furnaces (328) -General Fugitive Dust Control (276) -Clarify Crusher Requirements to Use Wet Suppression at All Times (313) -Revision of Small Definitional Level for Peak Shaving Generators (371) -Exempt MACT Sources with Work Practice Standards from VOC Work Practice Rule (436) -Add Concrete Batch Plants to Non-Process Fugitive Dust Rule (438) -Repeal of NOx SIP Rules (439) -To Extend 2D .1407 to Cover Larger Boilers (444) -To Add a Definition of Stage (451) -To Require Start-Up, Shut-Down and Malfunction Plans for Sources with Excessive Malfunctions (452) -Permit Exemption for Emergency Generators (453)	-Excluding Trades Under CAIR and CAMR from 2Q .0523 (440) -Exclude Recently Promulgated Guideline Rules from 2D .0524 (411) -Remove Coverage of 2D .0519 to Nitric Acid Plants and Boilers Covered Under NSPS (443) -NOx and VOC RACT for Charlotte Ozone Nonattainment Area (431) -Correction to the Banking Applicability Rule (433) -Removal of Obsolete Language from Leak Tester Certification Rule (434) -Other Solid Waste Incinerators (437) -Replace 08/17/71 Method 5 with Method 202 in Rule .0501(c)(3) and Stack Testing (100, 297) and Stack Testing (148a) -Extend New Source Review Rule for Nonattainment Areas to Particulate Nonattainment Areas (450)
Jul 07			Hearing Request -Revision of AAL for Carbon Tetrachloride (376) -Distributed Power Generation Using Diesel and Other Fuels (347) -Revise AAL for 1,3-Butadiene and Carbon Tetrachloride (299) -AAL for MDI, DI, Acrylamide, Chromium VI (124) -Boilers and Industrial Furnaces Burning Hazardous Waste (330) -Amend Definition of AApplicable Requirement@ to add reference to 2D .900,.1400, and .1200 (334)

MONTH	AQC CONCEPTS	AQC DRAFT RULES	EMC ACTION
			-Implementation of New Authority I/M Codes (323a1) -Implementation of New Authority sales and service of analyzers (323d) -Reporting Requirements Conform with General Statutes (361) -Particulate Emissions from Spray/Finish Booths and Woodworking (21, 68) -Glass Melting Furnaces (328) -General Fugitive Dust Control (276) -Clarify Crusher Requirements to Use Wet Suppression at All Times (313) -Revision of Small Definitional Level for Peak Shaving Generators (371) -Exempt MACT Sources with Work Practice Standards from VOC Work Practice Rule (436) -Add Concrete Batch Plants to Non-Process Fugitive Dust Rule (438) -To Extend 2D .1407 to Cover Larger Boilers (444) -To Add a Definition of Stage (451) -To Require Start-Up, Shut-Down and Malfunction Plans for Sources with Excessive Malfunctions (452) -Permit Exemption for Emergency Generators (453)
Sept 07			
Nov 07 Nov 07 cont.		-Permit Exemption for County Grain Elevators and Mills (325) -Revision of Portable Generator Permit Exemption (420) -Clarification of Storage Tank Permit Exemption for Ethanol-Based Fuels (422)	<u>Adoption</u> -Revision of AAL for Carbon Tetrachloride (376) -Distributed Power Generation Using Diesel and Other Fuels (347) -Revise AAL for 1,3-Butadiene and Carbon Tetrachloride (299) -AAL for MDI, DI, Acrylamide, Chromium VI (124)

MONTH	AQC CONCEPTS	AQC DRAFT RULES	EMC ACTION
			-Boilers and Industrial Furnaces Burning Hazardous Waste (330) -Amend Definition of AApplicable Requirement@ to add reference to 2D .900,.1400, and .1200 (334) -Implementation of New Authority I/M Codes (323a1) -Implementation of New Authority sales and service of analyzers (323d) -Reporting Requirements Conform with General Statutes (361) -Particulate Emissions from Spray/Finish Booths and Woodworking (21, 68) -Glass Melting Furnaces (328) -General Fugitive Dust Control (276) -Clarify Crusher Requirements to Use Wet Suppression at All Times (313) -Revision of Small Definitional Level for Peak Shaving Generators (371) -Exempt MACT Sources with Work Practice Standards from VOC Work Practice Rule (436) -Add Concrete Batch Plants to Non-Process Fugitive Dust Rule (438) -Repeal of NOx SIP Rules (439) -To Extend 2D .1407 to Cover Larger Boilers (444) -To Add a Definition of Stage (451) -To Require Start-Up, Shut-Down and Malfunction Plans for Sources with Excessive Malfunctions (452) -Permit Exemption for Emergency Generators (453)

MONTH	AQC CONCEPTS	AQC DRAFT RULES	EMC ACTION
Jan 08			Hearing request -Permit Exemption for County Grain Elevators and Mills (325) -Revision of Portable Generator Permit Exemption (420) -Clarification of Storage Tank Permit Exemption for Ethanol-Based Fuels (422)
Mar 08			Adoption -Permit Exemption for County Grain Elevators and Mills (325) -Revision of Portable Generator Permit Exemption (420) -Clarification of Storage Tank Permit Exemption for Ethanol-Based Fuels (422)

July 08		-Replacement of SIC with NAICS in the Air Toxic Rules (369) -Change Definition of ASmall Facility@ and ASynthetic Minor Facility@ -Commence Construction and Operation -Elimination of 40% Opacity (349) -Good O&M Maintenance (302) -Mercury Emissions from Combustion Sources (356) -Exempt Air Curtain Burners from Air Toxic Rules (364) -Removal of Permit Exemption for Incinerators (315) -Higher Allowable Particulate Emission Rate for Small Wood Fired Indirect Heat Exchangers (286) -Deletion of Facility-Wide Language in VOC Permit Exemption (370) -Revision of Wording of Monitoring Requirements in Several Incinerator Rules (382) -Allowing Ambient Monitoring for Air Toxic Compliance Determination (404)	

Sep 08			Hearing Request -Replacement of SIC with NAICS in the Air Toxic Rules (369) -Change Definition of ASmall Facility@ and ASynthetic Minor Facility@ -Commence Construction and Operation -Elimination of 40% Opacity (349) -Good O&M Maintenance (302) -Mercury Emissions from Combustion Sources (356) -Exempt Air Curtain Burners from Air Toxic Rules (364) -Removal of Permit Exemption for Incinerators (315) -Higher Allowable Particulate Emission Rate for Small Wood Fired Indirect Heat Exchangers (286) -Deletion of Facility-Wide Language in VOC Permit Exemption (370) -Revision of Wording of Monitoring Requirements in Several Incinerator Rules (382) -Allowing Ambient Monitoring for Air Toxic -Compliance Determination (404)

Nov 08			
Jan 09			Adoption -Replacement of SIC with NAICS in the Air Toxic Rules (369) -Change Definition of ASmall Facility@ and ASynthetic Minor Facility@ -Commence Construction and Operation -Elimination of 40% Opacity (349) -Good O&M Maintenance (302) -Mercury Emissions from Combustion Sources (356) -Exempt Air Curtain Burners from Air Toxic Rules (364) -Removal of Permit Exemption for Incinerators (315) -Higher Allowable Particulate Emission Rate for Small Wood Fired Indirect Heat Exchangers (286) -Deletion of Facility-Wide Language in VOC Permit Exemption (370) -Revision of Wording of Monitoring Requirements in Several Incinerator Rules (382) -Allowing Ambient Monitoring for Air Toxic -Compliance Determination (404)

	Groundwater Committee Items	Environmental Management Commission Items
Nov 2006	Request to Proceed to EMC for Permission to Proceed to Public Notice and Hearing for Implementation of New Rules From the Dry-Cleaning Solvent Cleanup Fund Program. (DWM)	Request for Approval of Rules Establishing Secondary Containment Standards for New and Replacement Underground Storage Tanks. (DWM)
Jan 2007		Request to Proceed to Public Notice and Hearing for Implementation of New Rules From the Dry-Cleaning Solvent Cleanup Fund Program. (DWM)
Mar 2007		
May 2007		Request for Approval of the Amendment to the Groundwater Quality Standard for Arsenic (DWQ)

	WQC Agenda	EMC Agenda
Nov 2006	• Request Approval to Send Draft Hiwassee, Savanna, and Little Tennessee Basinwide Water Quality Plans to Public Review • Request to Proceed to EMC for Permission to go to Public Hearing with Jordan Lake Watershed Rules • Comparison of Phase II Stormwater Rules with Coastal Stormwater Rules • Request to Send Threatened and Endangered Species Draft Rules for Goose Creek Watershed to EMC in order to go to Public Hearing • Request Permission for a Variance from Rule 15A NCAC 2B .0225 for a Pier • Request Permission for Variances from Neuse Buffer Rules for: Pamlico Consort, LLC's Pointe Marina Condominiums for proposed residential condominiums, LLC's Bridge Pointe Subdivision for Public Walkway, and City of Raleigh Mapleridge Road Stream Restoration Project • Request Approval of the Town of Hickory Watersupply Watershed Protection Ordinance Revisions • Annual Progress Reports on the Neuse and Tar-Pamlico Agriculture Rules	• Request to Proceed to Public Hearing to Reclassify Deep Creek to ORW • Request to Proceed to Public Hearing to Reclassify Unique Wetlands • Request to Approve the Hearing Officer's Recommendation to Reclassify Waters Draining to the North Shore of Fontana Lake as ORW • Request Adoption of the Universal Stormwater Management (USMP) Rule. • Request Permission for a Variance from Rule 15A NCAC 2B 10225 for a Pier
	•	•
	•	•

FUTURE WAC ITEMS

A decision by the EMC is scheduled for January 11, 2007 on the request by the Cities of Concord and Kannapolis to transfer surface water from the Catawba and Yadkin River Basins to the Rocky River Basin of up to 36 millions gallons per day combined from the two source basins. The EMC may decide to either: 1) delay its decision, 2) approve the request, 3) deny the request, or 4) approve the request subject to conditions.

Timeline of Activities

EXHIBIT I

Concord and Kannapolis IBT Petition

2001-2002 Evaluation by petitioners of water supply alternatives for consideration during the IBT certificate process

2002 Scoping of the EIS

Dec 2003 Draft EIS submitted for DENR review.

2004 Agency comments on Draft EIS and responses to agency issues

Nov 2004 Concord and Kannapolis petition EMC to request IBT

Feb 2005 EMC authorizes proceeding to public hearing to receive public comment on the IBT petition and the Draft EIS

June 2005 DWR and hearing officers conduct two public hearings on the IBT petition and Draft EIS

Public Hearing Statistics

	June 22, 2005 Charlotte, NC	**June 23, 2005 Albemarle, NC**
Registered Attended:	32	21
Speakers:	14	8

Aug 2005 Closing of public comment period on IBT petition and Draft EIS

2005-2006 Additional technical analyses (CHEOPS modeling) and revisions to the EIS based on public comments

May 2006 Final EIS released and beginning of public review period.

July 7, 06 EIS Supplement issued with additional analysis, petition information and public comments

Aug 31, 06 EIS Supplement issued to correct errors found in analysis of July 7 supplement.

Sept 2006 Public Meetings held in Valdese and Charlotte

Public Meeting Statistics

	Sept. 7, 2006 Valdese, NC	**Sept. 19, 2006 Charlotte, NC**
Registered Attended:	635	540
Speaker requests	175	156
Actual Speakers:	117	94

Oct 31, 06 *Close of Public Comment Period*

Nov-Dec *EIS revised to address public comments*

Jan 2007 *Decision on IBT petition by EMC*

Summary of Notification for June 22-23, 2005 Hearings

(1) Notice was published in Volume 19, Issue 22 of the NC Register on May 16, 2005.

(2) Notice was published in the Charlotte Observer on May 23, 2005.

(3) Notice of the hearing was provided by first-class mail to 276 parties in the Catawba and Yadkin River Basins. Parties included:

a. Persons with registered withdrawals or transfers in the Catawba and Yadkin Basins

b. Charlotte Mecklenburg Utilities, the only interbasin transfer certificate holder in either the Catawba or Yadkin Basins

c. Persons with NPDES permits in the Catawba and Yadkin Basins

Note: All permit holders in both basins were notified, though the statute only requires notification of those that discharge downstream of the proposed withdrawal point(s).

d. County Manager and the Chairs of the County Commissioners of each of the following counties:

Alexander	Alleghany	Anson
Ashe	Avery	Burke
Caldwel	lCatawba	Davidson
Davis	Forsyth	Gaston
Guilford	Iredell	Lincoln
McDowell	Mecklenburg	Mitchell
Montgomery	Randolph	Richmond
Rowan	Stanly	Stokes
Surry	Union	Watauga
Wilkes	Yadkin	

e. Public water system administrators in the Catawba and Yadkin River Basins

Note: All public water system administrators in the two basins were notified, though the statute requires notification of only those downstream of the proposed withdrawal point(s).

(4) Notice was posted on the website of the Division of Water Resources on May 10, 2005 at: http://www.ncwater.org/Permits_and_Registration/Interbasin_Transfer/Status/Concord/ConKannPHNotice.pdf

(5) Notice was made in the May 11, 2005 meeting of the Water Allocation Committee.

EXHIBIT J

Analysis of Reservoir Levels and Water Supply Impacts of Proposed Concord Kannapolis Interbasin Transfer

Supplement to the Final Environmental Impact Statement

August 31, 2006



Division of Water Resources
North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary
John Morris, Director

The color version of this document may be downloaded at:
http://www.ncwater.org/Data_and_Modeling/Catawba/Reports/August31_2006_Analysis_Report.pdf
500 copies of this document were printed at a cost of $365.00 or $0.73 per copy.

Summary

1. Computer modeling previously done by the Division of Water Resources for the Final Environmental Impact Statement on the proposed Concord-Kannapolis Interbasin Transfer and for the supplement to the Final Environmental Impact Statement (Final EIS), dated July 7, 2006, is not reliable for two reasons. First, this modeling did not use the final version of the Catawba-Wateree CHEOPS Operations Model of the Catawba basin and the final version of the Low Inflow Protocol (drought management plan) for the Catawba basin, which were not yet available at the time of the Final EIS. Second, the Division of Water Resources made unit conversion and data input errors, which affected the modeling results. The Division of Water Resources regrets and apologizes for these errors. New modeling has been done using the latest version of the computer model and the final version of the Low Inflow Protocol, which are being used for Duke Energy's hydropower license application. The Division of Water Resources has checked its latest modeling by having three engineers review the inputs and also by obtaining an outside review by Devine Tarbell & Associates, the consultant to Duke Energy, which developed the CHEOPS model (Attachments A and B).

2. Four scenarios were modeled using the Catawba-Wateree CHEOPS Operations Model for the purpose of evaluating the impacts of the proposed interbasin transfer (IBT) of water from the Catawba River by Concord and Kannapolis. Each scenario modeled a different quantity of withdrawal. The following IBT quantities were modeled: Zero, an average of 10 millions gallons per day (MGD), an average of 16 MGD, and an average of 22 MGD. All results may be downloaded at the website of the Division of Water Resources at:

   http://www.ncwater.org/Permits_and_Registration/Interbasin_Transfer/Status/Concord/

3. The reservoir level and outflow duration curves included in this report show that, on a large time scale, average daily interbasin transfers of 10, 16, and 22 MGD have little or no noticeable effect on reservoir elevations and reservoir outflows in North and South Carolina over the 75-year period of hydrologic record from 1929-2003.

4. In the future, Duke Energy's reservoirs will be operated under a Low Inflow Protocol (LIP) during periods of low flow. As the stage of the LIP increases from Stage 1 to Stage 4, stricter water use restrictions are applied. Over the 75-year period, the impacts of the proposed IBT on occurrences of the various stages of LIP were evaluated. For a 10 MGD average interbasin transfer, no changes are predicted in the occurrence of Low Inflow Protocol Stages 1 and 2 compared to the Zero transfer scenario. The model predicts one additional month of LIP Stage 1 for a 16 MGD average interbasin transfer. Nine additional months of Stage 1 and one less month of Stage 2 is predicted for an average interbasin transfer of 22 MGD. Stages 3 or 4 are not triggered under any of the modeled scenarios.

5. A closer examination was made of the modeled effects of the proposed interbasin transfer during the most severe drought, specifically in 2000-2002. During this drought, the model predicts that for the 10 MGD and 16 MGD IBT scenarios, levels

in Lake James are reduced by about a quarter of a foot for a period of about two months. For the 22 MGD IBT scenario, the model predicted an increase in the elevation of Lake James, compared to the other scenarios, for about nine months. This is thought to be because of the seven additional months of Stage 1 LIP restrictions predicted for the 22 MGD IBT scenario.

6. Reservoir levels in the system of 11 Duke Energy Reservoirs are significantly affected by reservoir operating policies and by the Low Inflow Protocol. In order to isolate the effect of the interbasin transfer from these other variables, a simple analysis was done, assuming that the entire interbasin transfer would be withdrawn from six of the reservoirs in North Carolina for six months, assuming no inflow to the reservoirs and no withdrawals from them. This simple analysis showed that the effect of withdrawing 10, 16, and 22 MGD from the six reservoir system continuously for six months would lower reservoir elevations by 1 inch to 5 inches. Although this simplified analysis does not match the way the reservoirs are operated, it does provide a way to estimate the magnitude of the impact associated with the proposed transfer.

7. A short summary of portions of the Duke Energy Water Supply Study is presented. During relicensing of the Duke Energy reservoirs in the Catawba-Wateree basin in North and South Carolina, a high priority has been to determine if the basin could withstand the increased demands projected for the future. These demands are expected to include larger water supply withdrawals, increased releases from reservoirs for aquatic habitat, greater consumptive use of cooling water for electric power generation, and maintenance of critical reservoir elevations to assure water supply security. Duke Energy worked with water supply users and other interested parties to project water needs to 2058. The projection show an increase of total withdrawals from 496 MGD in 2008 to 946 MGD and an increase in "net outflows" or consumptive uses from 215 MGD in 2008 to 475 MGD. The Duke Energy Water Supply Study concluded that all of these projected increased water uses for municipalities, industry, power generation, and agriculture could be met past 2048, even during the most severe drought of the 75 years of hydrologic record, without violating the critical reservoir elevations needed to assure the operability of public water supply sources. This analysis included projected increases in interbasin transfers from the basin, including Concord and Kannapolis' proposed transfer, as well as the many other demands on water resources. This independent conclusion by the Duke Energy Water Supply Study shows that all projected future demands on the basin can be met for more than 40 years into the future.

8. A summary of consumptive water use in the Catawba Basin is presented. The Duke Energy Water Supply Study shows that consumptive water use in the Catawba Basin, as a percent of average flow from Lake Wateree, is expected to increase from 2008 to 2038. Consumptive use for power generation is projected to grow from 3.0 % to 5.2 % of average flow by 2038. Consumptive use for public water systems, excluding interbasin transfers, are projected to grow from 1.5% to 4.5% of average flow over the same period. Interbasin transfers are projected to increase from 0.5% to 2.0% of average flow, including 0.8% of average flow for an IBT to Concord and Kannapolis, over the same period.

Purpose

The purpose of this supplement is to provide updated computer modeling results and other analyses to evaluate potential impacts on the Catawba River Basin of the proposed interbasin transfer (IBT) of water by the Cities of Concord and Kannapolis from the Catawba River and Yadkin River Basins to the Rocky River Basin. These updated modeling results pertain only to the Catawba River Basin. The results replace previous modeling results in the Final Environmental Impact Statement (EIS) and the July 7, 2006 supplement to the EIS which contained data input and unit conversion errors.

In addition to the computer modeling analysis, this report includes a simplified analysis of the incremental effects of the proposed IBT on the reservoirs within North Carolina in the Catawba River Basin. This less complex approach evaluates the impacts on reservoir levels of the proposed IBT, assuming no inflows to the system and no other withdrawals over a six-month period. These assumptions were used to isolate the effects of the proposed IBT from other factors, such as reservoir operations.

This report also includes a summary of some of the relevant water supply related information in the Water Supply Study carried out for Duke Energy as a part of its Federal Energy Regulatory Commission (FERC) relicensing process.

Finally, a brief summary is included that compares the proposed IBT to other present and future consumptive water uses in the Catawba River Basin.

IBT Request

The Cities of Concord and Kannapolis are requesting an IBT certificate to meet their projected water supply shortfall during the next 30 years. The Cities and their service areas in Cabarrus County (Figure S-1) are within the Rocky River Basin.

The Cities are requesting permission to transfer an average of 22 million gallons per day (MGD) from the Catawba River and Yadkin River Basins for use in the Rocky River Basin. The maximum day IBT being requested is up to 36 MGD. The Cities are requesting permission to transfer up to a maximum of 10 MGD from the Yadkin River Basin with the remainder of up to a maximum of 36 MGD to come from the Catawba River Basin. Therefore, if permission is granted to transfer 10 MGD from the Yadkin River Basin, then the requested amount of the transfer from the Catawba River Basin is reduced to a maximum day transfer of up to 26 MGD.

The Cities submitted an IBT petition and supporting EIS. The Draft EIS was reviewed by agencies of the Department of Environment and Natural Resources and the Wildlife Resources Commission. It was then revised by the applicant to address agency comments. A public comment period on the revised Draft EIS and IBT Petition began in May 2005 and ended August 11, 2005. Public hearings were held in Charlotte, NC and Albemarle, NC on June 22 and 23, 2005.

The Final EIS, which addressed comments received on the revised Draft EIS and the IBT Petition, was released for public review on May 26, 2006. Due to modeling errors in the Final EIS, the public review, originally scheduled for 60 days, was extended by the Environmental Management Commission until September 30, 2006.

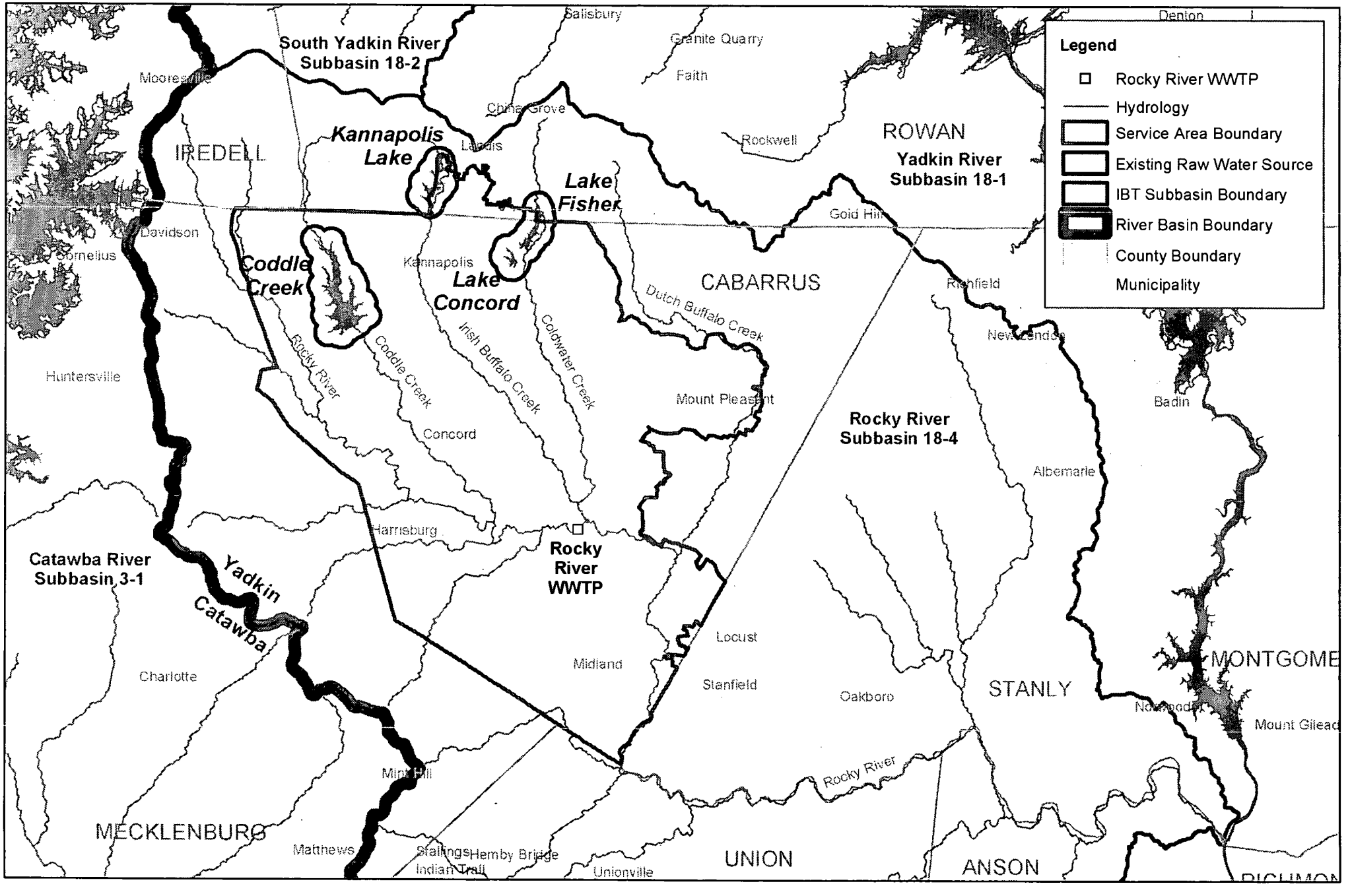


Figure S-1
Existing Raw Water Souces
Concord/Kannapolis IBT Environmental Impact Statement

Public meetings will be held to facilitate further public comment on this project in the Town of Valdese, NC on September 7, 2006 and in the Charlotte area the week of Sept 18 (details not yet available). Details of the September 7 meeting and the Charlotte meeting (when they become available) may be found at the Division of Water Resources (DWR) website: http://www.ncwater.org/Permits_and_Registration/Interbasin_Transfer/Status/Concord/.

It is anticipated that the EMC will act on this request at their November 9, 2006 meeting.

Computer Modeling

Computer modeling results presented in this report have been developed using the most recent version of the Catawba-Wateree CHEOPS Operations Model (Version 8.7 released in March, 2006). This computer model was developed to describe the effects of water quantity related operational changes and physical modifications to the hydropower facilities operated by Duke Energy in the Catawba-Wateree River Basin. Version 8.7 includes the most recent Low Inflow Protocol (LIP) developed for the Catawba-Wateree Project. This version of the model is being used by Duke Energy as the basis for the Federal Energy Regulatory Commission (FERC) license application and for the Final Comprehensive Relicensing Agreement for the Catawba-Wateree Hydro Project filed with FERC in August 2006.

Due to the timing of the request for certification, the modeling that was presented in the Final Environmental Impact Statement (EIS) released in May 2006 had to be done using previous versions of the model and the LIP. This previous modeling, conducted as a part of the Final EIS and a supplement to the EIS distributed on July 7, 2006, is unreliable due to input errors related to the Concord and Kannapolis IBT quantities. DWR apologizes for these data input errors, has corrected the errors, and has taken steps to ensure that results presented in this document are accurate. The inputs to the updated modeling have been reviewed in detail by Devine Tarbell & Associates (DTA), the developers of the Catawba-Wateree CHEOPS Operations Model. The detailed results of the updated modeling presented in Attachment A, *Revised Report: CHEOPS Simulation of Proposed Concord-Kannapolis Interbasin Transfer from the Catawba River Basin.* DTA's review report is found in Attachment B, *Catawba-Wateree CHEOPS™ Model Review of Input Concord Kannapolis, NC Final EIS for IBT Certification.*

Updated CHEOPS Results

Four levels of proposed interbasin transfer were analyzed as follows:

Scenario Name	Concord Kannapolis IBT
Zero MGD IBT	Zero IBT
10 MGD IBT	10 MGD Average IBT withdrawn from Lake Norman
16 MGD IBT	16 MGD Average IBT withdrawn from Lake Norman
22 MGD IBT	22 MGD Average IBT withdrawn from Lake Norman

All IBT scenarios assume that the water is withdrawn from Lake Norman. Apart from the Concord Kannapolis IBT, all other inputs to the model for the four scenarios are the same.

The model uses a 75-year historical record of inflows for the Catawba River system from 1929 to 2003 to simulate the effects of the IBT. The analysis is based on a projection of water supply needs for the year 2035, including municipal water supply, power plant cooling, agricultural, and industrial demands based on the Water Supply Study developed as part of FERC relicensing. These demands include other IBTs that are either certified, grandfathered, or anticipated, but not certified. The model requires that withdrawals be supplied as annual average daily withdrawal values. Since the withdrawal is not the same for every day of the year, the annual average daily values are adjusted to produce monthly use patterns to simulate seasonal water use patterns. In the CHEOPS model, each withdrawal's monthly distribution is based on the historical pattern for that water user. The Concord-Kannapolis proposed IBT withdrawals were distributed according to Concord and Kannapolis' monthly demand patterns reflected in their 2002 local water supply plans. Table S-1 shows the monthly distribution of average demands as a percentage of annual average demand that was used in the CHEOPS model for the Concord Kannapolis withdrawal in all four scenarios.

Table S -1: Monthly Distribution for Concord and Kannapolis Water Demands

Month	% of Average
January	91%
February	90%
March	90%
April	101%
May	108%
June	116%
July	110%
August	111%
September	102%
October	103%
November	91%
December	88%

Results of these simulations have been summarized on a long term time scale using duration curves of reservoir level and reservoir outflow, and using a summary of the occurrences of LIP stages. The effects of the transfer are also examined on a shorter term time scale by examining changes in reservoir elevation and LIP stages during the drought of record. While the whole system of 11 reservoirs was modeled and analyzed, this summary includes results of the modeling for Lakes James, Norman, Wylie and Wateree, chosen as representative reservoirs. Information for additional reservoirs can be found in Attachment A and additional modeling results are available on the DWR website at

http://www.ncwater.org/Permits_and_Registration/Interbasin_Transfer/Status/Concord/

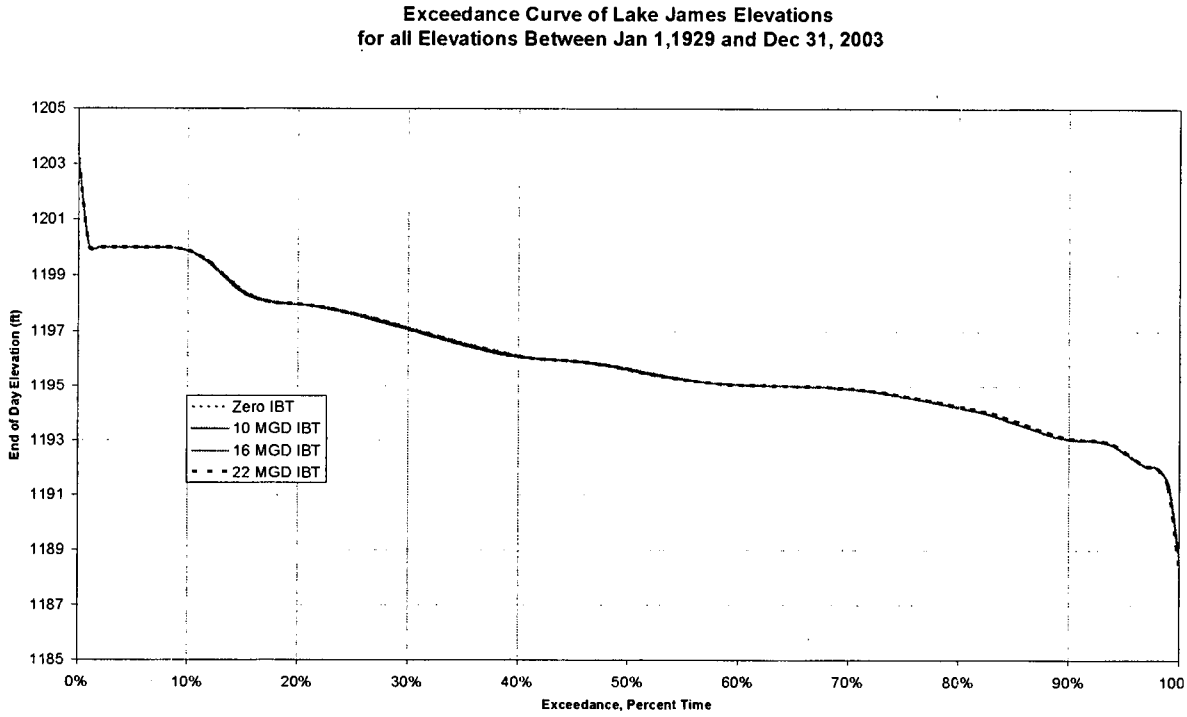
Long Term Analysis

The duration curves presented here are cumulative frequency curves showing the percentage of time over the period of record that a specified reservoir level or outflow is equaled or exceeded. They show in a probabilistic way how the various levels of IBT are predicted to affect reservoir levels and outflows, and provide a means of presenting the impacts of the transfers on a large time scale.

Figures S-2 and S-3 show reservoir elevation duration curves for Lake James and Lake Norman for the four scenarios. Tables S-2 and S-3 show the reservoir elevation duration data for Lake James and Lake Norman. Figures S-4 and S-5 show reservoir outflow duration curves for outflow from Lake James and Lake Wylie. Tables S-4 and S-5 show reservoir outflow duration data for outflow from Lake James and Lake Wylie.

Duration curves are typically used because they provide an easy way to compare results of several different scenarios. In this case the results of the four scenarios are so similar, few differences are noticeable on the graphs. Tables showing the values for selected frequency percentages are included to make it easier to see the differences between the four scenarios. For example, in the case of Lake James elevation shown below, the differences in minimum elevation, the elevation exceeded 100% of the time, is not discernable from the graph. However, the data table shows that the predicted absolute minimum elevation is 0.54 feet lower with a 22 MGD transfer compared to what the model predicts for the zero transfer scenario. The minimum predicted elevations for Lake James for IBT amounts of 10 and 16 MGD are 0.11 and 0.20 feet lower, respectively.

Figure S-2: Lake James Elevation Duration Curve



Exceedance, Percent Time	Lake James Levels Remain above Elevation, FT			
	Zero IBT	10 MGD IBT	16 MGD IBT	22 MGD IBT
0%	1203.2	1203.2	1203.2	1203.2
10%	1199.88	1199.88	1199.86	1199.88
25%	1197.65	1197.64	1197.59	1197.62
50%	1195.67	1195.66	1195.62	1195.62
75%	1194.59	1194.59	1194.59	1194.62
90%	1193.05	1193.05	1193.05	1193.07
95%	1192.57	1192.57	1192.58	1192.61
99%	1192.01	1192.01	1192.01	1192.01
100%	1188.88	1188.77	1188.68	1188.34

Figure S-3 : Lake Norman Elevation Duration Curves

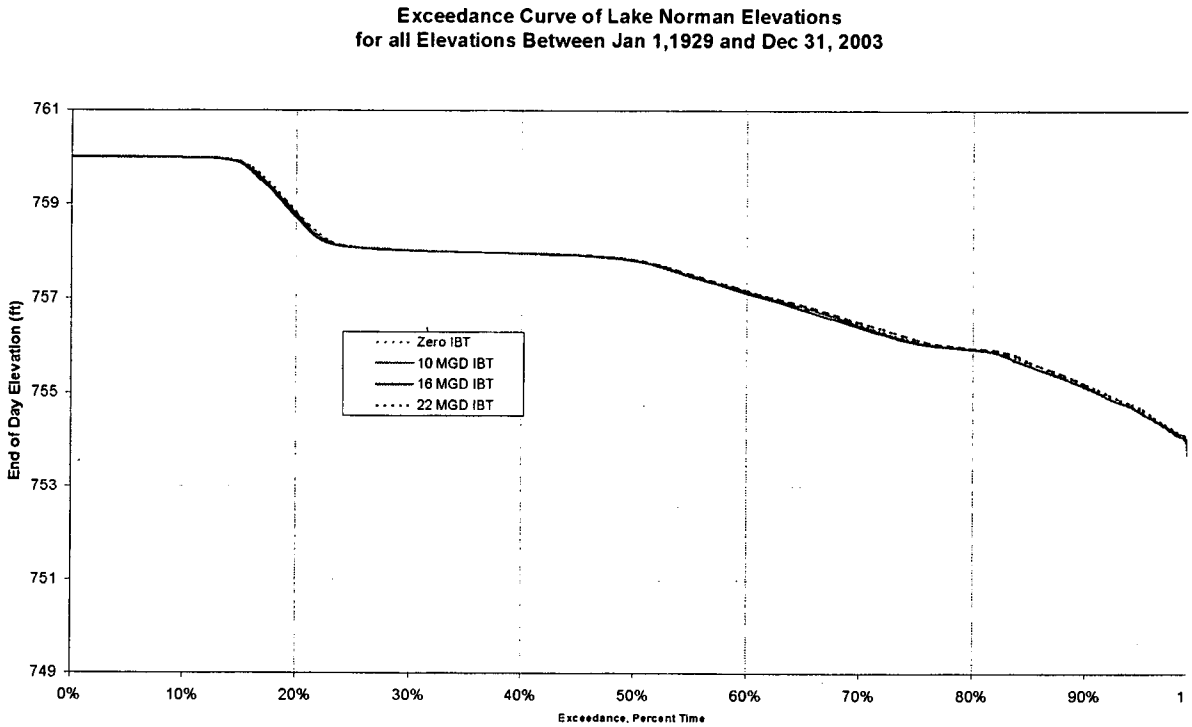


Table S--2: Lake Norman Elevation Duration Data

Exceedance, Percent Time	Lake Norman Levels Remain above Elevation, FT			
	Zero IBT	10 MGD IBT	16 MGD IBT	22 MGD IBT
10%	759.99	759.99	759.99	759.99
25%	758.1	758.09	758.09	758.09
50%	757.84	757.83	757.81	757.82
75%	756.11	756.09	756.08	756.15
90%	755.31	755.23	755.24	755.3
95%	754.78	754.71	754.72	754.74
99%	754.19	754.14	754.18	754.2
100%	751.53	750.65	751.22	752.95

Figure S-4: Lake James Outflow Duration Curves

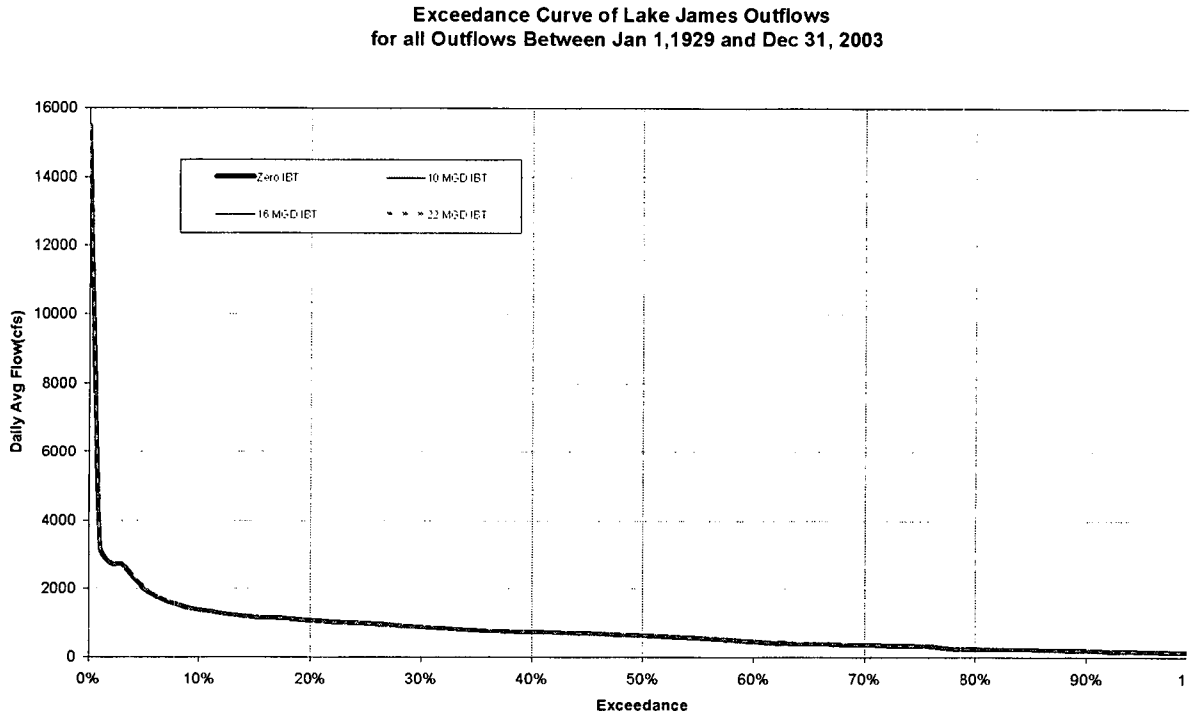


Table S--3: Lake James Outflow Duration Curves

Exceedance, Percent Time	Lake James Flow Remain above, cfs			
	Zero IBT	10 MGD IBT	16 MGD IBT	22 MGD IBT
0%	15,491	15,491	15,491	15,491
10%	1,384	1,382	1,381	1,379
25%	986	985	985	985
50%	627	627	628	627
75%	327	327	327	327
90%	202	202	202	203
95%	159	159	159	159
99%	140	140	140	140
100%	139	139	139	139

Figure S-5: Lake Wylie Outflow Duration Curves

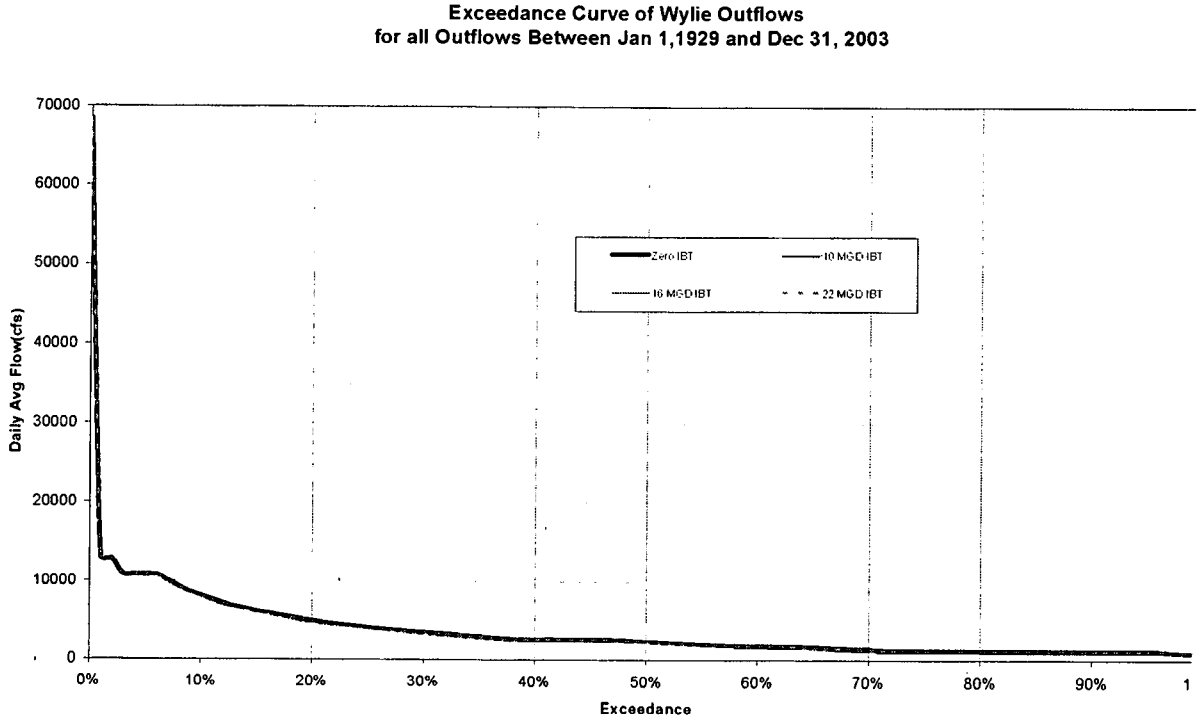


Table S--4 : Lake Wylie Outflow Duration Data

Exceedance, Percent Time	Lake Wylie Flow Remain above, cfs			
	Zero IBT	10 MGD IBT	16 MGD IBT	22 MGD IBT
0%	68,400	68,399	68,392	68,404
10%	8,047	7,997	7,965	7,946
25%	4,027	3,981	3,980	3,953
50%	2,345	2,321	2,314	2,303
75%	1,271	1,270	1,270	1,269
90%	1,221	1,221	1,221	1,221
95%	1,205	1,205	1,205	1,204
99%	1,011	1,011	1,011	995
100%	838	838	838	838

Effects on Low Inflow Protocol Implementation

In the future, Duke Energy's reservoirs will be operated under a Low Inflow Protocol during periods when inflows to the system are not adequate to maintain required water levels in the reservoirs while supplying required downstream releases. As the stage of the LIP increases from Stage 1 to Stage 4, stricter water use restrictions are applied.

Another long term approach to examining the impacts of the IBT is to evaluate changes to the occurrence of Low Inflow Protocol stages for the four levels of transfer modeled. Each LIP stage stipulates water management actions designed to manage project operations and withdrawals during drought conditions. Stage 0 is a watch stage, and Stages 1-4 impose increasing levels of water use reduction measures and changes to outflows from the reservoirs. The Low Inflow Protocol included in the Catawba-Wateree CHEOPS Operations Model Version V8.7 is included with this report as Attachment C.

Table S-6 is a summary of the LIP actions for public water supply systems.

TABLE S- 6
Summary of Catawba River Basin Low Inflow Protocol Stages

Stage	Public Water Supply Actions	Water Use Reduction Goals
-1	Normal Conditions	None
0	Low Inflow Watch – DMAG Meets	None
1	Voluntary Water Use Restrictions	3 to 5 percent
2	Mandatory Use Restrictions	5 to 10 percent
3	Increased Mandatory Use Restrictions	10 to 20 percent
4	Emergency Use Restrictions	20 to 30 percent

DMAG = Drought Management Advisory Group

The Low Inflow Protocol included in the Catawba-Wateree CHEOPS Operations Model Version 8.7 is included with this report as Attachment C.

The model examines the effect of the four scenarios of IBT on the LIP stage over the 75 years of available hydrologic record. Occurrences of Stages 1-4 are particularly important in the evaluation because these stages require water users in the basin to reduce water use and require reductions in normal outflows from the reservoirs. In this analysis, neither Stage 3 nor Stage 4 is triggered by any of the four levels of transfer modeled.

The top part of Table S-7 shows that the model predicts the 10 MGD IBT scenario would produce the same months of Stages 1 and 2 occurrences as the Zero MGD IBT scenario. The 16 MGD IBT scenario has one additional month of Stage 1 compared to the Zero MGD IBT scenario. The model predicts that the 22 MGD IBT scenario would have an additional seven months of Stage 1 restrictions and one less month of Stage 2 restrictions than the Zero MGD IBT scenario. All of the predicted deviations in LIP stage between the four scenarios occurred during the hydrologic conditions experienced in the period 2000-2002.

Further, the lower part of Table S-7 shows that for all four IBT scenarios, the model predicts that Stage 1 voluntary restrictions would be implemented in ten of the 75 years studied and Stage 2 mandatory restrictions would be implemented in one year, the year 2002. Stage 0 watch measures would have been implemented in 55 of 75 years according to the model, one less than for the other three scenarios. This is because more months are spent in Stage 1 voluntary restriction under the 22 MGD IBT scenario.

Table S-7: Occurrence of Low Inflow Protocol Stages

Table S-7: LIP Summary by Stage for a Lake Norman Withdrawal

Model Scenario	Zero MGD IBT		10 MGD IBT		16 MGD IBT		22 MGD IBT	
LIP Stage	Number of Months	Percent of Time	Number of Months	Percent of Time	Number of Months	Percent of Time	Number of Months	Percent of Time
Monthly Summary								
-1	576	64.0%	574	63.8%	576	64.0%	574	63.8%
0	276	30.7%	278	30.9%	275	30.6%	270	30.0%
1	**43**	**4.8%**	**43**	**4.8%**	**44**	**4.9%**	**52**	**5.8%**
2	**5**	**0.6%**	**5**	**0.6%**	**5**	**0.6%**	**4**	**0.4%**
3	0	0.0%	0	0.0%	0	0.0%	0	0.0%
4	0	0.0%	0	0.0%	0	0.0%	0	0.0%
LIP Stage	**Number of Years**	**Percent of Years**	**Number of Years**	**Percent of Years**	**Number of Years**	**Percent of Years**	**Number of Years**	**Percent of Years**
Annual Summary - Number of years with least 1 month occurrence in the calendar year.								
-1	66	88.0%	66	88.0%	66	88.0%	66	88.0%
0	56	74.7%	56	74.7%	56	74.7%	55	73.3%
1	**10**	**13.3%**	**10**	**13.3%**	**10**	**13.3%**	**10**	**13.3%**
2	**1**	**1.3%**	**1**	**1.3%**	**1**	**1.3%**	**1**	**1.3%**
3	0	0.0%	0	0.0%	0	0.0%	0	0.0%
4	0	0.0%	0	0.0%	0	0.0%	0	0.0%

Extreme Case Analysis

To assess impacts on a shorter time scale, the effect of the proposed IBT amounts during significant droughts in the period of record were examined.

The most severe drought during the 75-year period of record in the Catawba Basin occurred during 2001-02. Figures S-6 and S-7 show the period of greatest variation between the four modeled scenarios in reservoir elevations of Lake James and Lake Norman predicted by the model during the 2001-02 droughts. LIP stage levels are indicated in the figures for the four scenarios.

Modeling predicts that for the 75 year record all variations in LIP implementation caused by the IBT would occur during a repeat of the hydrologic conditions experienced from early summer 2000 through the spring of 2003. During this three-year period, under all scenarios, restrictions at the level of Stage 1 and above would be in place by mid-summer of year two (2001 on the graph) and continue through the end of year three (2002 on the graph). Under

the Zero MGD IBT and 10 MGD IBT scenarios, Stage 1 is initiated in July of year two and under the 16 MGD IBT scenario, it is initiated a month earlier in June. Under the 22 MGD IBT scenario, Stage 1 is initiated in November of year one (2000 on the graph), adding an additional eight months of restrictions to the nineteen months predicted under the Zero and 10 MGD scenarios, and seven months to the twenty months predicted for the 16 MGD scenario. In summary, during conditions similar to those experienced during the drought of record, the model predicts that with a 22 MGD IBT, the basin would experience one additional Winter, Spring and early Summer under LIP Stage 1 restrictions, compared to what would occur under the other three scenarios.

As the LIP goes to each higher stage, additional reductions in hydropower production, water withdrawals, and required outflows occur, thereby reducing the volume of water that leaves the reservoirs. The modeling shows that during hydrologic conditions similar to the drought of record, one effect of the 22 MGD IBT is that the LIP would be in Stage 1 for a longer period of time than in the other scenarios. The earlier and longer reduced outflows required under Stage 1 restrictions postpone initiation of Stage 2 restrictions by one month. This reduces Stage 2 restrictions to four consecutive months as opposed to five consecutive months under the other three scenarios. As Figure S-6 shows, the modeling indicates that for Lake James, the reduction in outflows associated with the additional months of Stage 1 restrictions with a 22 MGD transfer, results in an increase in water elevation in the reservoir. Reservoir elevations would be higher than what is predicted for the other scenarios over the additional seven months of Stage 1 restrictions.

Figure S-6: Lake James Elevation during 2001-02 Drought

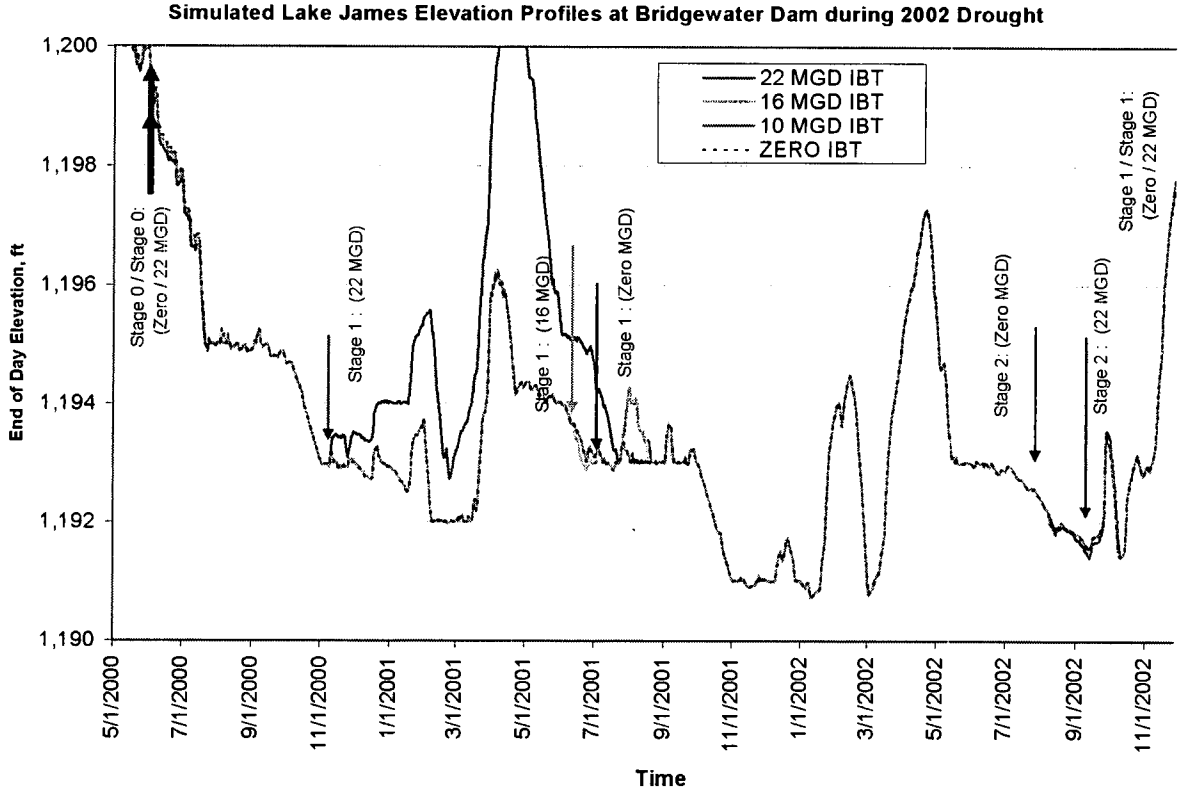
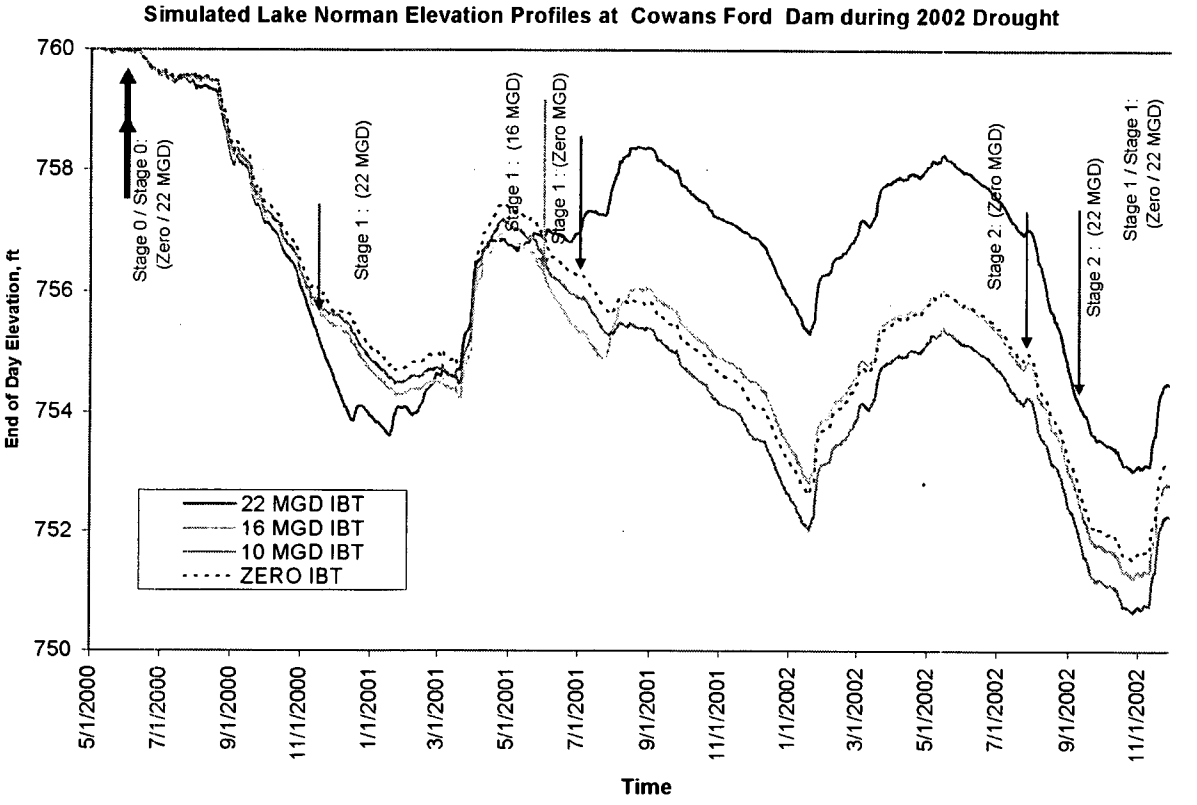


Figure S-6 shows the plot of the predicted reservoir levels of Lake James during the 2001-02 drought. It shows that the Zero, 10 MGD and 16 MGD curves follow each other closely indicating little variation in the reservoir elevation between these scenarios. For the 16 MGD IBT scenario, the LIP stage moves to Stage 1 in June 2001, one month earlier than the Zero and 10 MGD IBT scenarios. The earlier shift to Stage 1 appears to cause the 16 MGD reservoir level curve to drop slightly below the Zero and 10 MGD IBT curves for approximately two months, and then it rises above the Zero and 10 MGD IBT curves from July to August of 2001. From September 2001 through the end of 2003, the water levels for Lake James are almost identical under all four scenarios.

The 22 MGD IBT curve follows the other three curves until November 2000, when the LIP stage shifts to Stage 1, 7 months before the 16 MGD IBT scenarios shifts to Stage 1. This shift in LIP stage has a significant effect on the reservoir level. The model predicts that upon implementation of the LIP Stage 1, the Lake James level would rise above the other three curves before joining the other curves in August 2001 when Stage 1 is in place for all four scenarios.

The reservoir levels predicted by the model for Lake Norman during the hydrologic conditions experienced in 2000-2002 are also significantly affected by LIP restrictions. Figure S-7 shows that all four scenarios closely follow each other until November 2000 when the 22 MGD would trigger LIP Stage 1. This causes the 22 MGD curve to drop to about 1.5 feet below the other three curves over the next four months. Later, however, the 22 MGD curve joins the others and, beginning in about June of 2001, rises up to about 2 feet above the other curves over the following 18 months. This increase in reservoir levels is explained by the extra months of Stage 1 LIP measures predicted in the 22 MGD scenario. These results show that predicted reservoir levels may be significantly affected by the LIP drought stage level and the associated drought response measures built into the model.

Figure S-7: Lake Norman Elevation during 2001-02 Drought



Water Quality Impacts

In the Final EIS, the predicted impacts on reservoir elevation and outflow were used to evaluate potential water quality impacts of the proposed IBT. Since the proposal is to remove water from the basin and not discharge water into the basin, the proposed IBT would not directly increase the inputs of pollutants to the Catawba River Basin. It is necessary to assess whether the transfer of the specified volumes of water out of the river system could influence the ability of the basin to assimilate pollutants.

The modeling results presented in Figures S-2, S-3, S-4 and S-5 show there are little or no noticeable effects of the proposed IBT amounts on the frequency of occurrence of reservoir elevations or reservoir outflows. Some effects of the IBT were noted at the 22 MGD level when focusing specifically on the 2001-0202 drought of record. Hydrologic conditions, stream flow and reservoir volume are major input parameters to the water quality model developed as part of the relicensing effort. Because there were no significant changes to hydrologic conditions, and the proposed withdrawal of water from the basin are not expected to directly increase the pollutant inputs, additional water quality modeling was considered unwarranted in the Final EIS. The updated CHEOPS™ analysis presented in this report predicts less effects on system hydrology than the analysis in the Final EIS; therefore, additional modeling to evaluate water quality effects in the Catawba River Basin of the IBT is not required.

Simplified Analysis

Another evaluation of the impacts associated with the proposed transfer of water for Concord and Kannapolis was greatly aided by the availability of the complex and powerful Catawba-Wateree CHEOPS Operations Model. However, so that the model not be the only analysis tool for evaluating the impacts of the proposed IBT, a simpler analysis was also conducted to evaluate the effect of the IBT on reservoir levels.

Procedure

An analysis was conducted to show the effects of the proposed IBT on reservoir elevations for reservoirs located in North Carolina over a six-month period. The analysis is designed to answer the following question: How much would the elevation of water in the six reservoirs in North Carolina be changed by the proposed IBT if that was the only withdrawal and no water was flowing in to replace lost water? The no-inflow assumption is chosen in order to evaluate the case of extreme drought, and would not be expected to ever actually occur. During the period of analysis, no downstream releases are made from any of the reservoirs. To help simulate drought conditions, two starting points were used, one with reservoir levels at 90 percent, and one at 75 percent of storage volume. The 10 MGD, 16 MGD and 22 MGD withdrawals were distributed over the six reservoirs proportionally by volume. The share of IBT taken from each reservoir is the ratio for storage in that reservoir to storage in all six reservoirs. In order to isolate the impacts of the IBT, no other withdrawals were included.

To summarize the assumptions for this analysis:

1. No inflows to the system for a six month period.
2. Evaporation neglected.
3. No required releases.
4. Only the six reservoirs in North Carolina are included in the analysis.
5. Reservoirs begin the 6-month period either 75% full or 90% full by volume.
6. The share of the IBT taken from each reservoir is the ratio of storage in that reservoir to storage in all six reservoirs.
7. Other than the IBT, no other water withdrawals from the system are included.

Table S-8 summarizes the results of the analysis. Note that the reductions in elevation in the table are shown in inches.

Table S-8. No Inflow Assumption Analysis

	Reduction in Reservoir Elevations (inches) for Transfers of 10, 16, and 22 MGD					
	10 MGD		16 MGD		22 MGD	
	Initial Storage Conditions					
Reservoir	90% storage	75% storage	90% storage	75% storage	90% storage	75% storage
James	2.1	2.3	2.1	3.7	4.5	5.0
Rhodhiss	1.1	1.2	1.1	1.9	2.4	2.6
Hickory	1.4	1.6	1.4	2.5	3.0	3.5
Lookout Shoals	1.3	1.3	1.3	2.1	2.8	2.9
Norman	1.4	1.7	1.4	2.6	3.1	3.6
Mountain Island	0.9	1.0	0.9	1.6	2.1	2.3

The results show a range of potential reductions in reservoir elevation from 1 to 5 inches.

To reiterate, this is a worst case analysis, since no inflow to the reservoirs is assumed and storage volume is taken only out of the upper six reservoirs in the system. In reality, Duke Energy operates the project as a whole and balances storage throughout the system, which would tend to lessen the impact on reservoir level of each of the six reservoirs considered. Despite these conservative assumptions, this analysis is useful for comparing the magnitude of the IBT to the amount of storage in the Catawba Basin.

Duke Energy Water Supply Study

One of the concerns with the proposed IBT is whether the Catawba River Basin can continue to meet the water supply needs for the growth and development of communities in the basin and for increased power generation for the region without adverse impacts to users and the environment.

This same issue was a top priority during relicensing. Relicensing participants wanted to know if the Catawba-Wateree River Basin could support large projected increases in water use and electric power generation, while providing higher downstream releases for aquatic habitat and meeting critical reservoir elevation targets.

To answer this question, Duke Energy contracted for a Water Supply Study to be conducted, with the participation of major water users in the basin in North and South Carolina, as part of the relicensing process. The Water Supply Study projected future water use to 2058 for industrial, public water supply, power generation and agricultural irrigation water use for the Catawba-Wateree River Basin in North Carolina and South Carolina above Lake Wateree Dam. The projections included grandfathered, permitted, and other potential IBTs, including Concord and Kannapolis. Table S-9 is a summary of these projections by category and shows this projected growth in water use for the watersheds of each of the reservoirs.

Table S-9: Catawba-Wateree River Basin Water Withdrawals (mgd)

Reservoir Watershed	Type	2008	2018	2028	2038	2048	2058
Lake James	Industrial	1.2	1.4	1.7	2.0	2.3	2.7
	Public Water Supply	1.9	2.2	2.5	2.9	3.3	3.8
	Power	0.0	0.0	0.0	0.0	15.3	15.3
	Agricultural/Irrigation	8.9	9.3	9.7	10.2	11.0	12.0
	Total Withdrawals	**12.0**	**12.9**	**13.9**	**15.1**	**31.9**	**33.8**
Lake Rhodhiss	Public Water Supply	23.3	25.3	27.5	29.9	32.5	35.5
	Agricultural/Irrigation	4.7	5.1	5.6	6.2	7.0	7.9
	Total Withdrawals	**28.0**	**30.4**	**33.1**	**36.1**	**39.5**	**43.4**
Lake Hickory	Public Water Supply	15.8	19.1	23.1	28.1	34.1	41.4
	Agricultural/Irrigation	1.3	1.5	1.8	2.1	2.5	2.9
	Total Withdrawals	**17.1**	**20.6**	**24.9**	**30.2**	**36.6**	**44.3**
Lookout Shoals Lake	Public Water Supply	4.5	5.5	6.6	8.0	9.0	9.0
	Agricultural/Irrigation	1.3	1.6	1.9	2.2	2.7	3.2
	Total Withdrawals	**5.8**	**7.1**	**8.5**	**10.2**	**11.7**	**12.2**
Lake Norman	Public Water Supply	26.9	49.4	68.9	83.6	102.1	112.0
	Power	36.4	46.0	46.0	46.0	62.5	62.5
	Agricultural/Irrigation	2.9	3.2	3.5	3.8	4.2	4.6
	Total Withdrawals	**66.2**	**98.6**	**118.4**	**133.4**	**168.8**	**179.1**
Mountain Island Lake	Public Water Supply	127.6	149.8	168.7	188.2	203.6	219.9
	Power	2.5	2.5	2.5	2.5	2.5	2.5
	Agricultural/Irrigation	0.8	0.9	0.9	1.0	1.0	1.1
	Total Withdrawals	**130.9**	**153.2**	**172.1**	**191.7**	**207.1**	**223.5**
Lake Wylie	Industrial	15.0	15.6	16.4	17.2	18.5	20.2
	Public Water Supply	29.0	34.2	40.6	48.1	57.3	68.1
	Power	41.9	41.9	53.0	53.0	53.0	53.0
	Agricultural/Irrigation	8.8	9.6	10.4	11.4	12.6	14.0
	Total Withdrawals	**94.7**	**101.3**	**120.4**	**129.7**	**141.4**	**155.3**
Fishing Creek Reservoir	Industrial	102.1	104.6	107.3	110.4	113.9	117.8
	Public Water Supply	21.4	32.8	42.2	51.3	58.9	66.3
	Agricultural/Irrigation	8.4	8.8	9.3	9.8	10.3	10.9
	Total Withdrawals	**131.9**	**146.2**	**158.8**	**171.5**	**183.1**	**195.0**
Great Falls-Dearborn Reservoir	Agricultural/Irrigation	1.5	1.6	1.7	1.9	2.1	2.3
	Total Withdrawals	**1.5**	**1.6**	**1.7**	**1.9**	**2.1**	**2.3**
Cedar Creek Reservoir	Agricultural/Irrigation	0.6	0.7	0.7	0.8	0.8	0.9
	Total Withdrawals	**0.6**	**0.7**	**0.7**	**0.8**	**0.8**	**0.9**
Lake Wateree	Public Water Supply	6.3	8.0	9.7	11.0	12.7	14.4

	Power	0.0	0.0	0.0	13.1	13.1	39.7
	Agricultural/Irrigation	1.2	1.3	1.4	1.5	1.6	1.7
	Total Withdrawals	**7.5**	**9.3**	**11.1**	**25.6**	**27.4**	**55.8**

		2008	2018	2028	2038	2048	2058
Total by Category[1]	Industrial	118.3	121.6	125.4	129.6	134.7	140.7
	Public Water Supply	256.7	326.3	389.8	451.1	513.5	570.4
	Power	80.8	90.4	101.5	114.6	146.4	173.0
	Agricultural/Irrigation	40.4	43.6	46.9	50.9	55.8	61.5
	Total Withdrawals	**496.2**	**581.9**	**663.6**	**746.2**	**850.4**	**945.6**

1. Totals represent total withdrawals or demands by category and do not consider whether any portion is returned to the basin.

The public water system estimates from the Water Supply Study show increases in demand for all public water system withdrawals for the period 2008 to 2058. For example, the withdrawal for Valdese is modeled as growing 2.1 MGD from 6.2 MGD to 8.3 MGD and Morganton's withdrawal is modeled to increase 6 MGD from 8.9 MGD to 14.9 MGD. Hickory's withdrawal is modeled as growing from 14.3 MGD to 38.1 MGD an increase of 23.8 MGD this is similar to the increase expected for Gastonia, modeled to grow 24.8 MGD from 15.4 MGD to 40.2 MGD. Further downstream in South Carolina Rock Hill's withdrawal is modeled as increasing 24.1 MGD from 14.3 MGD to 38.4 MGD and the Chester Metro system withdrawal is modeled to grow by 15.9 MGD from 4 MGD to 19.9 MGD. To support growth in the Mecklenburg County area, the Charlotte Mecklenburg Utilities' demand is modeled as increasing 95.2 MGD from 128 MGD to 223.2 MGD. The water withdrawal information tabulated above does not quantify what part of the withdrawal is returned to the basin after use and what part is lost to the basin due to evaporation, incorporation into products, other consumptive uses or transfers out of the basin. The relicensing Water Supply Study also evaluated these losses to the basin (withdrawals minus returns), which were collectively presented as "net outflows" in the final report.

The annual growth rate (AGR) for net outflows for industrial, public water supply, agricultural, and power generation water uses were estimated. These annual growth rates from the study are shown in Table S-10. Continued significant growth in net outflows from the basin is anticipated over the next 50 years, especially for the public water supply category.

Table S-10: Projected Net Outflows and Annual Growth Rates (AGR)

Table S-10			
Water Supply Study - Projected Net Outflows and Annual Growth Rates (AGR)			
Water User Category	**Current MGD**	**2058 MGD**	**AGR**
Industrial	3.7	5.9	0.85%
Public Water Supply	55.0	243.0	2.74%
Agricultural/Irrigation	31.2	53.5	0.99%
Power	80.8	173.0	1.39%
Total Basin	**170.7**	**475.4**	**1.88%**

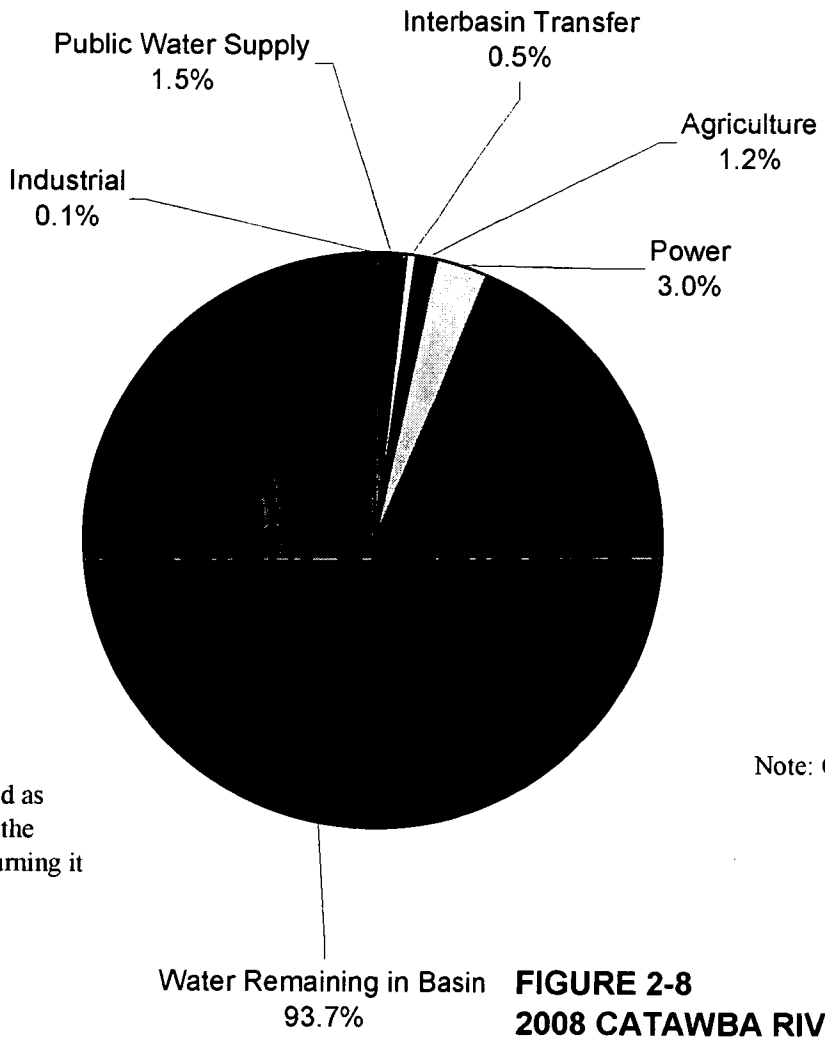
The Safe Yield analysis developed for the Water Supply Study was evaluated using the Catawba-Wateree CHEOPS ™ Operations Model. The analysis using the final set of operating protocols and the final LIP shows that the projected demands shown in Table S-9, including all anticipated interbasin transfers, can be met beyond 2048. The Duke Energy Water Supply Study concluded that through 2048, with an additional 354 MGD of water withdrawals, and a total of 421 MGD of net outflows, the Catawba-Wateree Basin can meet these demands even during a reoccurrence of drought conditions like 2001-2002 (the worst on record) without any reservoir dropping below critical elevations for the existing water supply intakes. Usable storage was limited for each reservoir by the highest intake elevation in the reservoir. Modifications of intake elevations could further increase the usable storage.

Consumptive Uses in the Catawba Basin

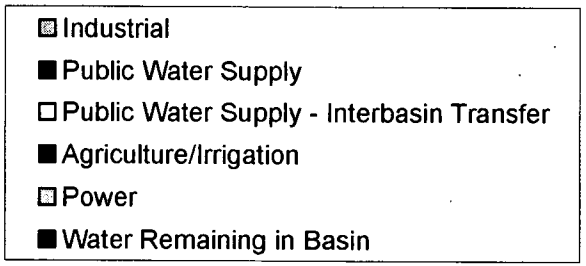
A key factor affecting river basin water supply is the amount of water that is withdrawn and not directly returned to the river system, or "consumptive water use". Consumptive water use for this evaluation refers to the difference between the volume of water withdrawn by water users and the volume of water directly returned to the river system. This is also referred to as "net outflow" in the Duke Energy Water Supply Study. The principal consumptive water users in the Catawba River Basin are public water supply systems, thermal electric power plants (cooling water use), and irrigation. For the Catawba-Wateree River system above Lake Wateree dam, the Water Supply Study projected an average day withdrawal of 747 MGD in 2038. Of this amount, the study projected 355 MGD of consumptive use, or net outflow.

In order to compare the magnitude of present and projected IBTs in the Catawba River Basin to other consumptive uses, IBTs were separated from other public water supply uses in this analysis. Figure S-8 shows consumptive use estimates for 2008. Figure S-9 shows projected consumptive use estimates for the year 2038, near the end of the planning period for the proposed Concord Kannapolis IBT. The IBT amount depicted in the pie chart for Concord and Kannapolis is based on no IBT in 2008 and an average of 22 MGD in 2038.

These charts show that all IBTs are expected to be about 0.5% of the average flow in the Catawba Basin in 2008. In 2038, IBTs are expected to increase to about 2.0% of the average flow, 0.8% of which would be attributed to Concord and Kannapolis if the entire 22 MGD request were certified. Another approach to put into context the impact of the proposed Concord-Kannapolis Interbasin Transfer, relative to all water demands on the basin, is to examine all water uses that remove water from the basin, including consumptive use and interbasin transfer. These water uses that remove water from the basin were compared to the average flow at Lake Wateree in SC.



2008 Catawba River Consumptive Use

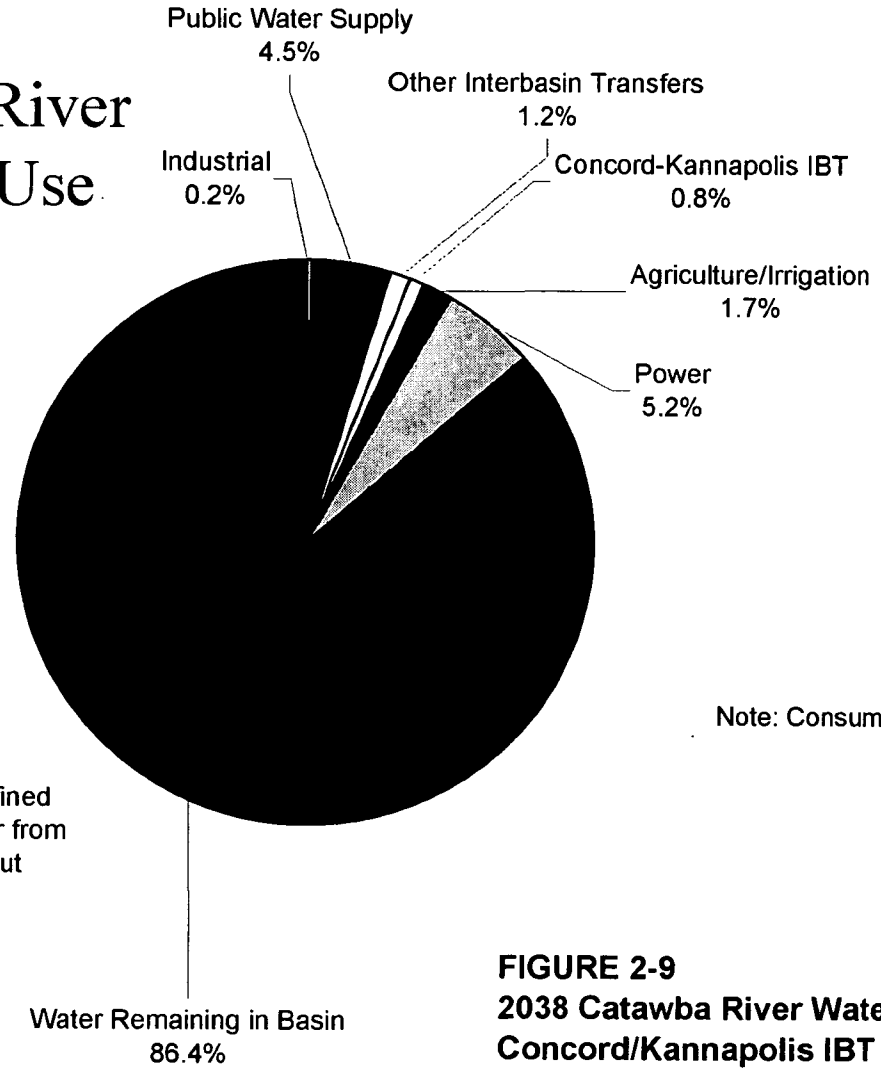


Note: Consumptive Use is measured at Lake Wateree

Note: Consumptive uses are defined as those uses that remove water from the Catawba River system without returning it to the basin.

FIGURE 2-8
2008 CATAWBA RIVER WATER USERS
Concord/Kannapolis IBT Environmental Impact Statement

2038 Catawba River Consumptive Use



Industrial
Public Water Supply
Other Interbasin Transfers
Concord-Kannapolis IBT
Agriculture/Irrigation
Power
Water Remaining in Basin

Note: Consumptive Use is measured at Lake Wateree

Note: Consumptive uses are defined as those uses that remove water from the Catawba River system without returning it to the basin.

FIGURE 2-9
2038 Catawba River Water Consumptive Uses
Concord/Kannapolis IBT Environmental Impact Statement

Information on Interbasin Transfers in South Carolina

Provided by the Departme[illegible]Health and Environmental Control

Interbasin Transfer p[illegible]its and registrations

[illegible]/26/2006

Permittee	Volume (MGD)	Losing Basin	Receiving Basin	Permit Issued:	Permit Expires	permit #
City of Aiken	8.0	Edisto River Basin	Lower Savannah River Basin	01-Dec-04	1-Jul-25	1009-IB
Anderson County Water Sys.	4.0	Upper Savannah River Basin	Saluda River Basin	16-May-97	16-May-17	1001-IB-R
Town of Batesburg-Leesville	2.5	Edisto River Basin	Saluda River Basin	13-Nov-03	13-Nov-25	1004-IB
City of Clinton	6.0	Broad River Basin	Saluda River Basin	01-Oct-03	13-Nov-25	1003-IB
Chester Metroplitan Dist.	7.2	Catawba-Wateree River Basin	Broad River Basin	30-Sep-04	13-Nov-25	1008-IB
Easley Combined Util. Sys.	26 before lake dredging. 31.5 after.	Saluda River Basin	Upper Savannah River Basin	30 yrs from cmcmnt of expanded ops. To expire no later than February 14, 2034.		1002-IB
Edgefield County WSA	5.9	Upper Savannah River Basin	Edisto River Basin	10-Aug-04	1-Jul-25	1007-IB
Grand Strand WSA	6.2	Waccamaw River Basin	Little Pee Dee River Basin	10-Oct-91	10-Oct-11	26-WS09 S(
Greenwood CPW	30.0	Saluda River Basin	Upper Savannah River Basin	12-Jul-89	12-Jul-09	24-WS01-S(
Lake Marion Regional Water Authority/Santee Cooper	20.0	Lower Santee	Edisto, Black, Combahee-Coosawatchie	15-Dec-03	1-Jul-25	1005-IB
Lancaster County WSA	20.0	Catawba-Wateree River Basin	Lynches and Pee Dee River Basin	20 yrs from commencement of operations To expire no later than May 8, 2012		29WS01S0
City of Newberry/ Newberry County WSA/ Town of Saluda CPW/ Saluda County WSA	8.0	Saluda River Basin	Broad River & Lower Savannah Basin (no more than 2.3 MGD into LS Basin)	05-Jun-96	5-Jun-16	3610001
Saluda County WSA	12.0	Saluda River Basin	Lower Savannah and Edisto River basins	02-Aug-04	1-Jul-25	1006-IB
Spring Valley Country Club	4MG/30 days emegency only	Broad River Basin	Congaree River Basin	31-Jul-87	31-Jul-07	40 GC04 S0
City of West Columbia/ Lexington County	12.0 - 48.0 with notification	Saluda River Basin	Congaree and Edisto River Basins	20 yrs from commencement of operations To expire no later than July 1, 2011		
City of York	3.0	Broad River Basin	Catawba-Wateree River Basin	29-Aug-88	29-Aug-08	46 WS02 S(
Town of Winnsboro	3.1	Broad River Basin	Catawba-Wateree River Basin	01-Jun-05	13-Nov-25	1010-IB
Columbia Hydro	3878.0	Broad River Basin	Congaree River Basin	01-Sep-05	13-Nov-25	1011-IB
Belton-Honea Path WA	4.0	Saluda River Basin	Upper Savannah River Basin	16-Aug-06	16-Aug-26	1012-IB

Registration	Volume (MGD)	Losing Basin	Receiving Basin	Effective Date	Expiration Date
Beaufort Jasper WSA	60.0	Savannah River Basin	Combahee-Coosawatchie River Basin	13-Nov-85	13-Nov-15
Charleston CPW	100.0	Edisto River Basin	Ashley- Cooper River Basin	13-Nov-85	1-Jan-22
City of Columbia	100.0	Broad River Basin	Congaree River, Saluda River & Catawba-Wateree River Basin	13-Nov-85	31-Aug-07
	100.0	Saluda River Basin	Broad River Basin, Congaree River & Catawba-Wateree River Basin		
Greenville WS	32.0	Table Rock Res.(Saluda RB)	Broad River Basin	13-Nov-85	1-Sep-16
	60.0	North Saluda Res.(Saluda RB)	Broad River Basin		
	150.0	Savannah River Basin	Saluda River Basin		
International Paper	65.0	Pee Dee River Basin	Waccamaw River Basin	13-Nov-85	13-Nov-05

EXHIBIT K

EXHIBIT L

Department of Environment and Natural Resources
Division of Water Resources
STATUS REPORT TO THE GENERAL ASSEMBLY
ON
WATER SUPPLY PLANNING
SEPTEMBER 1, 2005 THROUGH AUGUST 31, 2006

Assuring a sustainable future water supply for North Carolina is the primary mission of the Division of Water Resources. To carry out this responsibility, the Division administers several monitoring, planning and regulatory programs.

The Division, in partnership with the US Geological Survey, monitors the availability of water through a network of monitoring wells and stream gages. DWR receives and maintains water use data from the mandatory registration of large water withdrawals.

DWR assists community water systems with the preparation of Local Water Supply Plans and prepares the North Carolina Water Supply Plan. In partnership with local governments and other water users, the Division is in the process of preparing long term water supply plans for each river basin to assure the sustainability of future water supplies.

DWR issues permits for water withdrawals in designated capacity use areas, manages applications for certification of interbasin transfers of surface water, and is the lead agency for the Department of Environment and Natural Resources in the relicensing of hydropower projects.

This status report provides an update on these water supply programs and on other related Division activities.

Water Quantity Monitoring

The Division maintains ground water and surface water monitoring networks both directly and in partnership with federal agencies. The data from these networks provide essential information on the condition of water resources throughout the state. North Carolina cooperates with the United States Geological Survey to maintain stream gage sites with real time data collection capabilities. The Division maintains a large network of ground water monitoring wells. Data from these wells are collected quarterly. About fifty percent of these wells have data recorders that provide daily water level data. To improve the accessibility and usefulness of this data for water resource management, the Division has recently joined with the State Climate Office at NC State University, the US Army Corps of Engineers, the United States Geological Survey and others to develop a uniform database to store and disseminate water resources data.

In recent years, with the support of the General Assembly, the Division has expanded the monitoring well network in the Coastal Plain region, an area where ground water resources are being stressed by over-pumping. Fourteen new wells were added over the last year to aid in management of the regional aquifer systems. The Division will expand the monitoring well network as funds permit to improve data for ground water management.

Changes to the funding formula for the monitoring stations operated cooperatively with the United States Geological Survey have resulted in the discontinuance of data

collection at some monitoring sites. Maintenance of near-real time data reporting in the system will require upgrading existing equipment in the near future.

Water Use Monitoring

Knowing how much water is being withdrawn by water users across the state is vital information for effective water resources planning. Currently, water use data are provided by several programs. Units of local government that provide water to the public and other large community water systems submit water use information at least every five years in their Local Water Supply Plans. Large self-supplied water users report water use data every five years under the water withdrawal registration program. Non-agricultural facilities that withdraw 100,000 gallons per day or more and agricultural operations that withdraw one million gallons per day or more are required to register their withdrawals with the Division.

Additional reporting requirements apply in the fifteen counties of the Central Coastal Plain Capacity Use Area. Permitted water users submit water use data to the Division monthly. Others that withdraw 10,000 gallons per day or more must report monthly water use annually.

The five year pattern of updates under the local water supply planning and water withdrawal registration programs leaves significant gaps in our water use data. With final approval of the new rules governing water use during droughts and water supply emergencies, gaps in the water use records will be filled. The rules include requirements for water systems that have to prepare a Local Water Supply Plan under G.S. 143-355(l) and water withdrawers that have to register under G.S. 143-215.22H to report water use annually.

Local Water Supply Plans

The General Assembly established a water supply planning program under General Statutes 143-355(l) and (m) to assure the availability of adequate supplies of good quality water to protect the public health and to support desirable economic growth. Local Water Supply Plans are required from units of local government that supply or plan to supply water to the public and from other community water systems that regularly serve 1,000 or more service connections or 3,000 or more individuals.

Local Water Supply Plans describe current water use and future water needs and assess the water system's ability to meet those needs. The plans must be adopted by the water system's local governing board and be updated at least every five years. The Division of Water Resources is responsible for reviewing Local Water Supply Plans for completeness and consistency.

The plans provide a valuable source of data for all local and regional water supply planning. Information from the local plans is available on the Division's web site www.ncwater.org. The Division is still receiving and reviewing local plans based on water system conditions in 2002. Division staff members expect to receive updated or new plans from 576 water systems. As of September 14, 2006, 523 water systems have submitted their local plans for review by the Division.

Session Law 2003-387, which expanded the scope of water systems required to prepare a Local Water Supply Plan, also added the requirement that water systems include a description of how they will respond to drought and other water shortage emergencies and continue to meet essential public water supply needs as part of their Plan. Division staff members provide assistance with developing these Water Shortage Response Plans. Of the

523 draft plans submitted, 326 include a water shortage response plan. Provisions of administrative rule 15A NCAC 02E .0600 Water Use During Droughts and Water Supply Emergencies, currently awaiting legislative review prior to implementation, include more specific drought management items that will have to be addressed in water shortage response plans.

North Carolina Water Supply Plan (NCWSP)

The Division uses the information from the LWSPs and other sources to develop the North Carolina Water Supply Plan (NCWSP), mandated by G.S. 143-355(m). The NCWSP presents a summary of water use by major river basin and identifies areas of concern where water availability or conflicts between users may limit the ability to meet water demands.

The 2001 NCWSP is available on the Division of Water Resources web site at www.ncwater.org. The plan is based on information from the 1992 and 1997 LWSPs and 1999 water withdrawal registrations submitted pursuant to General Statute 143-215.22H. No changes were made to this document during the period covered by this report. The NCWSP will be updated to reflect information in the 2002 Local Water Supply Plans and the results of the River Basin Water Supply Plans discussed in the next section.

River Basin Water Supply Plans

To further the legislative goal of assuring the availability of adequate supplies of water, the Division of Water Resources is developing a River Basin Water Supply Plan for each of the major river basins in the state. The River Basin Water Supply Plans will provide a basin analysis of long-range cumulative water supply demands. By projecting water needs to 2050 and evaluating these future demands with a hydrologic model, the plans will give local governments and other water users a reliable, quantitative framework within which to plan for sustainable and cost-effective water sources to meet future needs.

Analysis of the impacts of projected increases of water supply withdrawals on the water resources of a river basin depends on the ability to determine the effects of withdrawals and discharges on river flows. This analysis is performed by using a computer-based hydrologic model that can simulate water movement in the river system.

The Division prepared a Cape Fear River Basin Water Supply Plan in 2002 in conjunction with analysis of allocations of water supply storage in B. Everett Jordan Lake. This model has been updated with technical and financial support of water users in the basin that have recognized the value of the model as a water supply planning tool.

The Division is now developing River Basin Water Supply Plans for the Catawba and Yadkin river basins. Hydrologic models for these basins were constructed in conjunction with the relicensing of the hydropower projects on these rivers. Long-term water supply needs have been documented and included in the hydrologic modeling used to analyze management options considered in developing settlement agreements and license applications submitted to the Federal Energy Regulatory Commission. Hydrologic models for the Neuse, Roanoke and Tar-Pamilico river basins are in the initial stages of development.

Data from the River Basin Water Supply Plans will be available to the Division of Water Quality for use in the development of their Basinwide Water Quality Plans.

Water Use During Droughts

Session Law 2002-167 (House Bill 1215) required the Environmental Management Commission (EMC) to develop administrative rules establishing minimum standards and practices for water use during drought and water emergencies. The Division coordinated the effort to develop these rules.

On October 13, 2005, the EMC approved taking the draft rules to public hearing for comments. Public comments were received from January 18, 2006 to March 6, 2006. Three public hearings were held in January 2006, one each in Asheville, Lexington and Goldsboro. Minor changes were made to the proposed rule language in response to comments received during the comment period. The EMC approved a final package of fifteen rules on July 13, 2006. The Rules Review Commission (RRC) approved final language of all but one of the fifteen rules at its August 17, 2006 meeting. The final rule in the package was approved by the RRC on September 21, 2006. The package of rules developed to complete the task assigned to the EMC by the General Assembly in Session Law 2002-167 are ready for implementation after review by the legislature during its next session.

Central Coastal Plain Capacity Use Area

Rules creating the Central Coastal Plain Capacity Use Area (CCPCUA) and establishing a water withdrawal permitting system became effective August 1, 2002. The rules were fashioned to gradually reduce withdrawals from the endangered Black Creek and Upper Cape Fear aquifers in the fifteen designated counties. The rules require stepped reductions in withdrawals from the endangered aquifers over a sixteen-year transition period and encourage the development of alternative sustainable sources of water. Anyone wishing to withdraw more than 100,000 gallons a day of ground water must apply for and receive a permit from the Division of Water Resources. As of September 21, 2006, there were a total of 203 permitted users in the Central Coastal Plain Capacity Use Area. At that time there were eleven applications for new permits and renewals under review.

The CCPCUA rules provide an initial six-year period for systems to develop plans to adjust water withdrawals and develop alternative sources. Affected water withdrawers are required to make reductions in water use from the impacted aquifers by August 2008, the end of this period. Public water supply systems have made significant progress in identifying new sustainable water sources and management options to improve the conditions in the regional aquifer systems while supporting economic growth. Additional information on the Central Coastal Plain Capacity Use Area and the associated rules can be found on the Division's website at www.ncwater.org.

Southern Coastal Plain Capacity Use Investigation

In December 2002, the Water Allocation Committee of the EMC asked the Division to conduct a capacity use investigation of the Southern Coastal Plain area surrounding Bladen County. The study determined that there are areas in the region where ground water levels are declining due to overpumping.

The monitoring well network in this region is sparse and new wells need to be added to effectively monitor the area. Over the last year, six of the new wells added to the monitoring network were sited in Sampson and Robeson counties.

Water users in Scotland, Robeson, Hoke, Bladen and Sampson counties are cooperating on studies to identify long-term water supply solutions for the region. One study

shows that water users in Scotland, Hoke and western Robeson counties can likely meet predictable demand from existing sources without causing significant reductions in ground water levels. More monitoring is needed in this area to understand how much water could be available to provide water for unexpected demands such as a new industrial facility or increased agricultural irrigation.

Water users in Sampson, Bladen and eastern Robeson counties are investigating the development of a surface water treatment plant using water from the Cape Fear River to reduce ground water withdrawals from the underlying confined aquifers. The proposed plant will supply treated water to Smithfield Foods and to some of the surrounding water systems that currently use the same aquifer as Smithfield Foods. The number of communities that will be connected to the new surface water supply has not been determined.

The Lumber River Council of Governments (LRCOG) is coordinating these water supply planning activities as required by an agreement signed by the EMC, DWR and LRCOG to improve management of regional water sources. The Southern Coastal Plain Capacity Use Investigation report is available on the Division's website at www.ncwater.org.

Interbasin Transfer Certifications

Many communities in North Carolina are located on or near the high ground that creates the divides between river basins. Other communities are located in the headwaters of river basins where the limited water supply availability has proven to be inadequate as the economy and population of the state has grown. In these situations, municipal water systems may need to depend on moving water across basin divides. Carefully regulated interbasin transfers can be the most practical, economical and environmentally sound way to provide water and sewer service to the residents of some communities and support the growth of the State's economy. However, the Surface Water Transfer Act must be applied in a way that will assure that the economy and resources of the source river basin are protected.

Initiating new transfers or increasing existing transfers of surface water between legislatively defined river basin is regulated by General Statute 143-215.22I. The river basin boundaries established by this statute are defined in G.S. 143-215.22G and its associated map that has been filed with the Secretary of State.

Anyone wishing to initiate a transfer of two million gallons of water a day , to increase a transfer permitted under relevant statutes prior to July 1, 1993, or to increase a transfer above their system's capacity to transfer water on July 1, 1993, such that the new transfer would be more than two million gallons a day, must obtain permission from the Environmental Management Commission.

G.S. 143-215.22G provides a list of potential impacts in the source and receiving basins that must be considered by the EMC in determining whether or not to grant a certificate. The process requires an environmental analysis and provides opportunities for public comment. If the EMC concludes, based on the findings of fact, that the benefits outweigh the detriments a certificate is issued for a specific volume of water and will include provisions to mitigate detriments. The EMC can issue a certificate for a volume other than that requested and can attach conditions to the certificate.

While many communities move water between river basins, there have only been three Interbasin Transfer Certificates issued under the current legislation. Charlotte Mecklenburg Utilities has a certificate to transfer up to 33 million gallons per day from the Catawba River to the Rocky River basin. Cary, Apex, Morrisville, and Wake County jointly hold a certificate

to transfer up to 24 million gallons per day from the Haw River basin to the Neuse River basin. The Piedmont Triad Regional Water Authority was issued a certificate to transfer up to 30.5 million gallons per day from the Deep River to the Haw River and Yadkin River basins.

Interbasin Transfer Requests

The Cities of Concord and Kannapolis jointly submitted a request for an Interbasin Transfer Certificate in November 2004. They are requesting permission to transfer an average of 22 million gallons per day into the Rocky River Sub-basin. They requested the ability to transfer up to 10 million gallons per day from the Yadkin River with the remainder to come from the Catawba River. Public hearings were held on this request and the accompanying Draft Environmental Impact Statement in June 2005. A Final Environmental Impact Statement (FEIS) was released for public review and comment in May 2006. This was followed by two supplements released in July and August 2006. Public comments will be received on the FEIS and the supplements through October 31, 2006. After the close of the comment period, DWR will prepare a report summarizing the comments for the Hearing Officers. The Hearing Officers expect to present their recommendation to the Environmental Management Commission at its January 2007 meeting.

In early 2004, the Kerr Lake Regional Water System began the process to certify a transfer above their grandfathered capacity to transfer water from the Roanoke River to the Tar and Neuse river basins to accommodate the expansion of their water treatment plant from 10 to 20 million gallons per day. The system managers are still in the process of determining what will have to be addressed in the environmental analysis.

Union County has released and received initial comments on a Draft Environmental Impact Statement for an increase in their grandfathered transfer of 5 million gallons per day up to 30 million gallons per day. Union County withdraws water from the Catawba River in South Carolina in partnership with Lancaster County, SC. This request is to support the construction of a water reclamation facility to treat wastewater collected in Union County and discharged to the Rocky River.

The Greenville Utilities Commission is working with several neighboring communities to develop a regional solution to replace ground water currently being pumped from the regulated aquifers in the Central Coastal Plain Capacity Use Area. Sharing surface water to reduce ground water withdrawals will require an IBT certificate for Greenville. Water systems pumping water from the regulated aquifers face an August 2008 deadline to reduce their ground water withdrawals from those aquifers.

Hydropower Facility Relicensing

The Federal Energy Regulatory Commission (FERC) licenses non-federal hydroelectric generation projects on navigable waterways. The licenses, issued for 30 to 50 years, govern how the hydroelectric projects are managed and therefore how the rivers on which they are located are affected. Upon expiration of an existing license, the licensee has to apply for a new license in order to continue operating the project. Five years prior to the expiration date of an existing license, the licensee has to file a Notice of Intent to apply for a new license. The license application is filed 24 months before the expiration of the existing license. The three years between filing the Notice of Intent and the filing of the license application are used to compile the data needed to evaluate the impacts of a project on regional resources and to draft the application and requested provisions of the new license.

There are 26 FERC licensed projects in North Carolina. Fourteen of the projects have licenses that expire between 2015 and 2047, two projects received new licenses in 2005, and seven have filed license applications that are under review by FERC. DWR staff expect the licenses for these seven projects to be be issued in the near future. The remaining three projects, that include most of the major reservoirs in the Catawba and Yadkin-Pee Dee river basins in North Carolina, have licenses that expire in 2008. The licensees of these projects have filed applications for new licenses.

Duke Energy operates the Catawba-Wateree Hydro Project under FERC license No.2232, consisting of 11 reservoirs and 13 hydropower generation facilities in North Carolina and South Carolina. Over 150 stakeholders worked over the last three years to develop a relicensing settlement agreement that was filed with the license application in August 2006. The agreement contains recommended operational and non-operational provisions the signers would like to see included in the new license. The agreement, signed by almost all of the stakeholder groups, included recommended instream flows, recreational water releases, reservoir water levels and drought management protocols. The modeling used to analyze the provisions of the settlement agreement included consideration of growth in water withdrawals by public and non-public water systems in the basin to meet future demands.

Alcoa Power Generating Inc. – Yadkin Division operates the Yadkin Project under FERC license No.2197, comprised of four reservoirs and hydropower generation facilities on the Yadkin River in North Carolina. Progress Energy Carolinas, Inc. operates the Yadkin-Pee Dee River Project under FERC license No.2206, with two reservoirs and hydropower generation facilities on the Pee Dee River in North Carolina downstream of Alcoa Power Generating Inc. – Yadkin Division's project. Applications for new licenses for these projects were filed in April 2006. Both licensees continue to meet with stakeholders and resource agencies to develop settlement agreements presenting recommended license provision to be filed with the FERC.

The Division has worked closely with the licensees to ensure that water supply issues are given due consideration in the relicensing process. Development of river basin water supply plans for the Catawba-Wateree and Yadkin-Pee Dee river basins has been greatly facilitated by the computer models developed in conjunction with the relicensing process. In the Catawba-Wateree River Basin, the licensee funded an independent study of future water use, including interbasin transfers, in both North Carolina and South Carolina through 2058. The results of this study were used in the computer modeling of alternative operating scenarios.

EXHIBIT M

NCDENR

North Carolina Department of Environment and Natural Resources
Division of Water Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary
John N. Morris, Director

September 29, 2006

MEMORANDUM

TO: Governor Michael F. Easley
Secretary William G. Ross, Jr.
Environmental Review Commission

FROM: Woody Yonts, Chair, Drought Management Advisory Council
Division of Water Resources

SUBJECT: Submittal of Annual Report on the Implementation of the Drought Management Advisory Council

The Drought Management Advisory Council is required to report to the Governor, the Secretary of Environment and Natural Resources, and the Environmental Review Commission on the implementation of North Carolina General Statute 143-355.1 by Oct. 1 of each year. This year's report has been completed and is attached. Council activities and review of the drought advisories issued for the period Oct. 1 through Sept. 30, 2006, are summarized in the report.

The Council and its members will continue to move forward to refine the system to make decisions based on the best information available and issue drought advisories to either regions or individual water suppliers as needed. If you have specific questions or comments about the report or about the Drought Management Advisory Council, please contact me at (919) 715-5453.

Attachment:
Activities Report – 2006, North Carolina Drought Management Advisory Council

cc: George Givens, Environmental Review Commission Counsel

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North Carolina

Drought Management Advisory Council

Annual Report - 2006

Oct. 1, 2006

North Carolina Division of Water Resources

Department of Environment and Natural Resources

www.ncwater.org

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North Carolina Drought Management Advisory Council

Annual Report-2006

Introduction

This is the second report of the North Carolina Drought Management Advisory Council on the implementation of North Carolina General Statute 143-355.1, which created the council in 2003. The General Assembly amended this statute in 2004, adding a new section requiring an annual report: "(g) The Council shall report on the implementation of this section to the Secretary, the Governor, and the Environmental Review Commission no later than 1 October of each year. The report shall include a review of drought advisories issued by the Council and any recommendations to improve coordination among local, State, and federal agencies; public water systems; and water users to improve the management and mitigation of the harmful effects of drought. (2003-387, s. 2; 2004 195, s. 2.5.)"

Drought Management Advisory Council

The Drought Monitoring Council was an interagency coordination and information exchange body created in 1992. The council did a creditable job of monitoring and coordinating drought responses in 2002 and increased public awareness of its functions and its effectiveness. The General Assembly recognized the Drought Monitoring Council's leadership and performance by giving it an official statutory base and by changing its name to Drought Management Advisory Council (DMAC), reflecting the broader role of the council, which goes beyond monitoring of drought conditions.

North Carolina General Statute 143.355.1., ratified July 17, 2003, assigns the DMAC an important new role, the need for which became evident in 2002. A number of local governments indicated that it would be helpful to have official, objective drought status advisories, to give them a reliable basis for their management responses. The new statute assigns this role to the DMAC and specifies that the drought advisories are to be based on technical data and are to be crafted to fit varying conditions in different parts of the state. This system will avoid the problems that some states have experienced in declaring drought warnings statewide, when conditions did not warrant it in all parts of the state.

Section 1 of this Act also makes drought response provisions mandatory in local government water supply plans and extends this planning responsibility to all community water systems that serve 1,000 or more connections or 3,000 or more individuals.

The intent of the new statute is for the DMAC to continue with essentially the same membership and functions that the Drought Monitoring Council previously exercised, but with new statutory authority and a new responsibility for providing a system of drought advisories when needed. Most importantly, the operations of the DMAC will carry on the same role as the Drought Monitoring Council did in support of the North Carolina Emergency Operations Plan.

Monitoring Drought Conditions

The U.S. Drought Monitor of North Carolina **(www.ncdrought.org)** is the reference for drought classifications and response actions in the state. The drought monitor is a map identifying general drought areas, labeling droughts by intensity, with D1 being the least intense and D4 being the most intense. D0 signifies drought watch areas either drying out and possibly heading for drought, or recovering from drought but not yet back to normal, suffering long-term impacts such as low reservoir levels or minimum streamflow for the time of year.

The Drought Advisory Study Team participates each Tuesday in a conference call to gather and feed information to the National Drought Monitor author about local drought conditions in North Carolina. The team includes DMAC representatives and National Weather Service offices located in Tennessee, South Carolina, and Virginia. The Drought Monitor is published on Thursday morning of each week.

While drought does not currently affect much of North Carolina, local drought problems were present in 2005 and 2006. Indeed, much of the state was under drought advisories during the spring of 2006, a time when reservoirs are normally full and crops are being planted. In April 2006, all counties had some level of drought classification.

Council Meetings

Due to the impact of drought conditions on some water supply systems and reservoirs in the state, the DMAC chairman called for meetings of the council on Oct. 5 and Nov. 15, 2005 and on Mar.28 and May 4, 2006, at the Archdale Building in Raleigh. Average attendance was about 33 representatives.

Items on the meeting agenda included assessment and forecast reports about the seasonal drought outlook; streamflow and ground water levels; lake and reservoir levels; and agriculture, forestry and public water system conditions.

Press Releases

Press releases were sent out after each DMAC meeting. A total of nine press releases were sent out concerning drought conditions and drought advisories issued by the DMAC, encouraging all citizens to conserve water and adhere to water restrictions in their local communities.

Drought Advisories Issued

The DMAC issued official drought advisories based on data adjusted for varying conditions in different parts of the state to provide local governments with a reliable basis for managing drought response in their region.

Local drought problems were present in the fall and winter of 2005 and 2006. The first North Carolina Drought Advisory, #1-05, was issued by the DMAC in October 2005. The advisory was updated each week **(www.ncdrought.org)** to reflect drought classifications on the weekly U.S. Drought Monitor of North Carolina.

The drought advisory requests the implementation of drought response actions until further notice for all water users located in or dependent upon water resources from the areas of the state experiencing drought. The highest drought classification applies to the entire county, if any portion of the county is depicted on the U.S. Drought Monitor of North Carolina as having those conditions. Counties under the current advisory and requested drought response actions are updated each Thursday and listed **(www.ncdrought.org)** by drought classification.

During the months of March and April 2006, all 100 counties in the state had some level of drought classification. Figure 1 summarizes the number of counties each week under drought advisories as issued by the DMAC.

During the month of April, severe drought (D2) was ongoing in 29 counties, 42 counties had moderate drought (D1), and 31 counties were classified as having abnormally dry conditions (D0).

Figure 2 indicates the peak drought monitor conditions that occurred Oct. 2005 to Sept. 2006 in the state. For six months we had parts of the state to peak at severe drought (D2) and every county reached at least abnormally dry (D0).

Figure 1. County Summary with Drought Advisories issued
October 2005 to September 2006

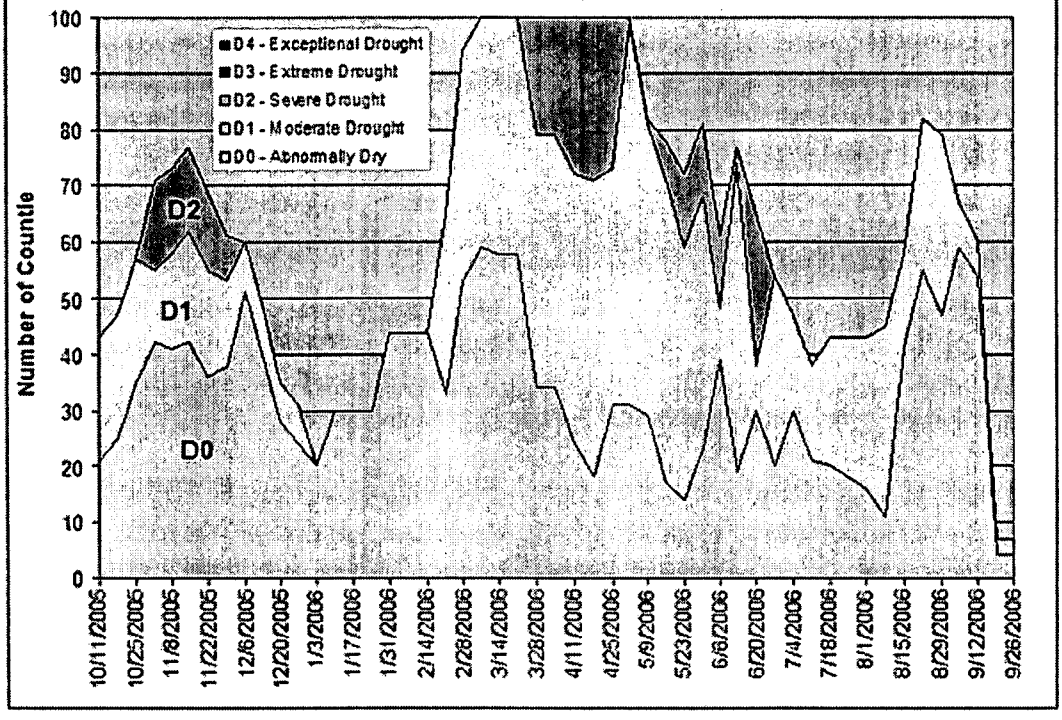
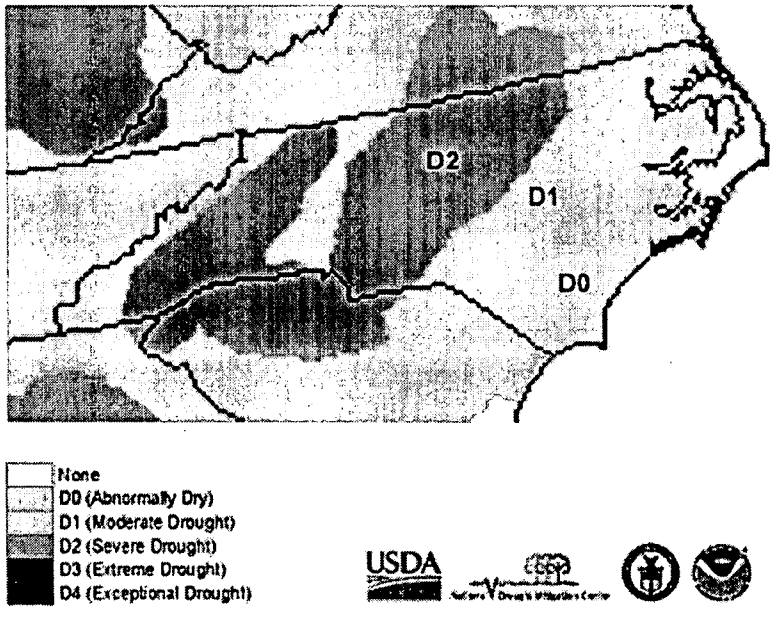


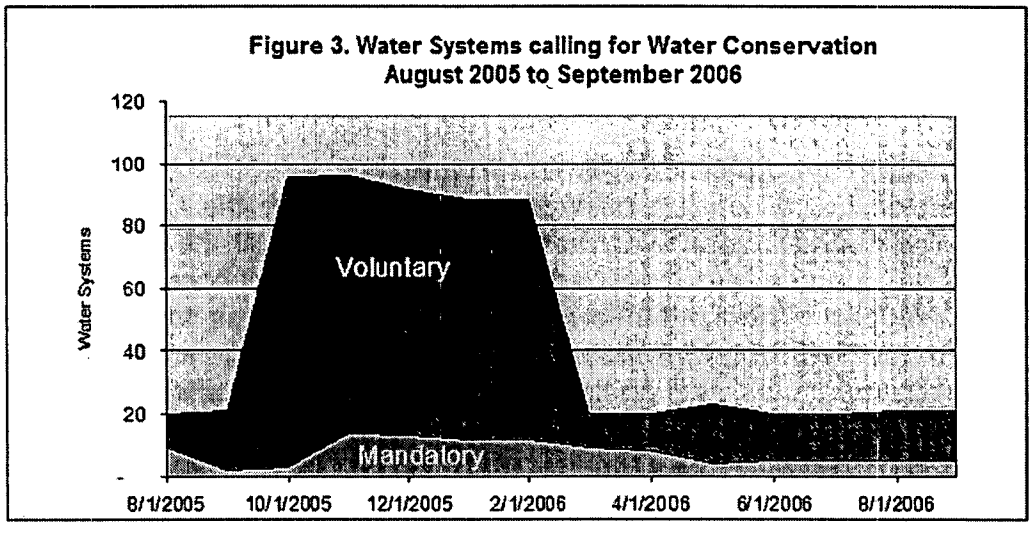
Figure 2. Peak Drought Monitor Classification
October 2005 to September 2006



Water System Water Conservation Status

The Division of Water Resources and Public Water Supply Section (PWSS) regional offices are working together to make possible this reporting and data available on the Web. This on-line database provides a consistent way to document and track impacts to public water supply systems. The system is operational and in use, and tracks the more than 584 water systems throughout the state provided by PWSS. This information can be accessed at: **(www.ncwater.org/Drought_Monitoring/reporting/displaystate.php).**

The number of water systems that called for water use restrictions is displayed in Figure 3. During the months of October 2005 to February 2006, the maximum number of water systems calling for mandatory water use restrictions were 14, providing water services to 600,000 people. During the same time, 92 systems, serving about 1.9 million people, were requesting voluntary water use restrictions.



Improving Coordination and Drought Depiction

DMAC Web Site

The DMAC Web site **(www.ncdrought.org)** depicts the U.S. Drought Monitor for North Carolina that is updated and released on Thursday 8:30 a.m. EST each week. The data cutoff for each week is Tuesday 7:30 a.m. EST. The weekly release can include drought advisories issued by the DMAC for all water users located in or dependent on water resources from the areas of the state experiencing drought conditions. Advisories are color-coded and range from Abnormally Dry (D0) to Exceptional Drought (D4).

The U.S. Drought Monitor establishes a baseline for hydrological and agricultural drought conditions; North Carolina is fortunate in that it has the

DMAC to work closely with the U.S. Drought Monitor to adjust designations to better reflect North Carolina's local conditions.

The DMAC Web site also has a number of tabs that link to available resources of information, some with real-time data about current conditions, news, information about the DMAC, contact information and education about drought, archives (N.C. monitor) and water conservation tips.

Drought Indicator Wells

Drought indicator wells are a network of wells that monitor the effects of droughts and other climate variability on ground water levels in the surficial aquifers (water table). The Division of Water Resources has a goal of increasing the number and geographic distribution of drought indicator wells. DWR currently has 43 actively monitored wells in the network and has a short-term goal of adding two wells to that network this fiscal year. The long-term goal is to have a minimum of 60 drought indicator wells. This will allow a much more complete assessment of impending or actual drought conditions in each of the major river basins of the state.

River Basin Drought Management Plans

As part of the relicensing of hydropower projects in the Catawba-Wateree and Yadkin-Pee Dee river basins, procedures will be established for adjusting operations during periods of low inflow to conserve the limited water supply. The Low-Inflow Protocol (LIP) provides trigger points and procedures for how the projects will be operated as well as water withdrawal reduction measures and goals for other water users during periods of low inflow. A trial run of the LIP that has been developed for the Catawba-Wateree Projects by Duke Energy was underway this year. The LIP for the Yadkin-Pee River Basin is still under development.

Efforts are currently underway with stakeholders in the Neuse River Basin to work together with the Division of Water Resources to fund and develop a drought management model for the basin.

Water Resources Information

The Division of Water Resources is working together with the N.C. State Climate Office, the U.S. Army Corps of Engineers, and the U.S. Geological Survey to develop a water resources information, storage, analysis, and retrieval system (WRISARS). This program will provide a single archive of historical and current data about hydrology (including stream flow, groundwater and reservoir data), weather and climate, and water use in North Carolina. Continued funding will be necessary in order to maintain this program. Preliminary products are now available for public use at: **(http://www.ncwater.org/wrisars/index.php)**.

EXHIBIT N

Outline Of Issues
Solid Waste Study
Environmental Review Commission

Brief History: The environment of solid waste management today is different than the late 1980s and early 1990s when significant changes were made to solid waste law and regulations.

Activities of the Division in preparation for the Solid Waste Study

The following issues should be considered as a part of the solid waste study and addressed to enhance the regulatory structure for solid waste management in today's environment:

I. Owner and Operator Liability and Solvency
NC statutes currently provide liability protection to members, managers, directors, and executives of a Limited Liability Company for the obligations of an LLC and provide that they do not become liable by participating, in whatever capacity, in the management or control of the business. In recent years the State has received several landfill permit applications from LLCs; those applications have raised concerns about the ability of LLCs to meet financial qualifications to demonstrate they have the resources to own and operate a landfill.

In addition, federal and state rules provide financial responsibility requirements for closure and post closure care for municipal solid waste landfills and construction and demolition landfills, but only require financial responsibility for releases from landfills once a release occurs.

II. Compliance with NC Bans on Disposal of Certain Waste Types
In North Carolina, both the State and local governments have adopted bans on disposal of certain materials in landfills based on waste reduction goals, toxicity, and pathogenic potential. Some of the new landfills proposed in North Carolina would be receiving waste from states that allow landfill disposal of materials prohibited for landfill disposal in North Carolina. Generators of waste (industry, commercial operations, and citizens) in those states could put material in the waste stream that would be in compliance with requirements in their state, but in violation of North Carolina law and rules. There needs to be a mechanism for insuring that importation of waste does not result in disposal of materials in violation of North Carolina standards.

III. Alternative Analysis and Impact Study
The current landfill permitting process does not require consideration of alternative sites or alternative waste management and waste reduction measures. The existing regulatory system also does not require a comprehensive landfill impact study with a method to weigh the environmental sensitivity of an individual site.

IV. Local Government Franchise/Host Fees

Local government franchise requirements were intended to give local governments an opportunity to regulate the waste collection and disposal activities of private waste management companies in the local government's jurisdiction. The statute requires consideration of local solid waste management needs; state policies on waste reduction, reuse and recycling; and public participation in the decision to grant a franchise. In recent years, the payment of host fees and other financial benefits for the local government have been negotiated in exchange for issuance of a franchise. These negotiated monetary benefits were not anticipated when the legislature gave franchise authority to local governments and may be changing the basis for local government franchise decisions.

The franchise statute was also based on the assumption that siting and construction of a landfill would generally have local impacts. Proposals for very large landfills with multi-state service areas raise the question of whether regional and statewide concerns are adequately addressed in the franchise decision.

V. State Regulatory Program Resources

The state solid waste program was at its highest staffing level in 1996. The program has lost 8 positions though budget reductions since that time. The number of permit applications and complexity of facilities permitted have increased over the period since 1996. Permits for solid waste facilities are one of the few environmental permits that require no permit or operational fee. The state program will need additional resources to adequately review landfill permit applications and provide sufficient oversight for landfill construction and operation. This need becomes even more acute as the size and service area of the proposed landfills increase.

VI. Old Landfill Sites

There are approximately 700 old unlined landfills that operated prior to a permitting program in North Carolina. Many of these sites directly impact the environment through degradation of groundwater and surface water quality and can pose hazards through explosive methane migration. The landfill sites were operated primarily by or for local government as a public health measure. These landfills were not operated for profit and there are no resources currently identified for cleanup of these sites.

VII. Technology/Design/and Operational Enhancements

Regulations for municipal solid waste landfills were adopted for NC 13 years ago. They were formed from existing policy and rules for sanitary landfills and new regulations from EPA for municipal solid waste landfills. Experience with lined municipal solid waste landfills in NC, technology advances, and information from other state's experiences can be applied to rulemaking to enhance current requirements and improve protection of public health and the environment.

EXHIBIT O

Annual Report to the Environmental Review Commission North Carolina General Assembly

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The Status of Leaking Petroleum Underground Storage Tanks, the State Cleanup Funds, and the Groundwater Protection Loan Fund

SEPTEMBER 1, 2006

NCDENR

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES

Underground Storage Tank Section
Division of Waste Management

Annual Report to the Environmental Review Commission North Carolina General Assembly

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The Status of Leaking Petroleum Underground Storage Tanks, the State Cleanup Funds, and the Groundwater Protection Loan Fund

SEPTEMBER 1, 2006

NCDENR

NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

Underground Storage Tank Section
Division of Waste Management

Department of Environment and Natural Resources

Michael F. Easley
Governor

William G. Ross Jr.
Secretary
NC Department of Environment and Natural Resources

Dexter R. Matthews
Director
Division of Waste Management

DENR
Division of Waste Management
UST Section
1637 Mail Service Center
Raleigh, NC 27699-1637
(919) 733-8486
http://wastenot.nc.us/

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Appendix A – Letter from J. I. Palmer, Jr., Regional Administrator, US EPA Region 4, to William G. Ross, Jr., Secretary, NC DENR, dated 19 September 2006
Appendix B - LUSTs reported 7/1/88-6/30/06 *
Appendix C - LUSTs reported 7/1/05-6/30/06 *
Appendix D - LUSTs closed out 7/1/88-6/30/06 *

* Available upon request by contacting Ms. Jane Comer at 919.733.1438

EXECUTIVE SUMMARY

The Department of Environment and Natural Resources is required to prepare an annual report on the status of leaking petroleum underground storage tanks.

The Division of Waste Management's UST Section in DENR administers North Carolina's underground storage tank program. The section enforces UST regulations and manages funds used to perform cleanups of petroleum UST discharges or releases. The program was initiated in 1988 in response to growing reports of USTs leaking petroleum into soil and drinking water supplies. Funding for the program has been provided by the Commercial and Noncommercial UST Trust Funds, the Groundwater Protection Loan Fund, the Federal UST Regulatory Grant, and the Federal Leaking UST Grant.

Summary of Commercial UST Cleanup

Since 2004, the pace of cleanup at sites contaminated by a petroleum release from a commercial UST has been slowed as a result of legislation that limits the amount of cleanup activity based on the availability of funds for reimbursement of those activities. Of over 6,000 active commercial UST contaminated sites, cleanup activities are underway on 311. As directed by the legislation, the UST program orders cleanup activity based on the level of risk posed by the contamination. The need to immediately address sites that pose a risk to water supplies, combined with the prohibition against ordering cleanup activity that cannot be reimbursed within 90 days, means that a number of sites with free petroleum product (a lens of petroleum from several inches to several feet thick floating on the surface of the groundwater) are not currently being remediated. Federal rules require that free product be removed as soon as possible, so the delays in free product removal at a number of North Carolina UST sites has led the United States Environmental Protection Agency to send a letter expressing concern that North Carolina's Commercial UST Trust Fund may not provide adequate financial responsibility for UST owners and operators as required by federal law.

Summary for the period July 1, 2005 through June 30, 2006

Commercial Fund Revenues	$28,143,119
Commercial Fund Total Expenditures	$18,111,218
Noncommercial Fund Revenues *	$ 7,615,613
Noncommercial Fund Total Expenditures	$ 6,304,019
Petroleum UST Incidents – Reported	891
Petroleum UST Incidents – Closed Out	1051

Includes transfer of $1,922,601 motor fuel and kerosene tax from commercial to non-commercial trust fund.

Summary for the entire history of the UST program (7/1/88 -6/30/06)

Commercial Fund Revenues	$452,184,756
Commercial Fund Total Expenditures	$438,407,229
Noncommercial Fund Revenues	$103,911,336
Noncommercial Fund Total Expenditures	$ 98,673,123
Petroleum UST Incidents – Reported	21,102
Petroleum UST Incidents – Closed Out	12,748

Status of the Trust Funds as of June 30, 2006

Commercial Fund Balance	$ 13,747,190
Commercial Fund Claims Pending	$ 2,459,046
Noncommercial Fund Balance	$ 5,240,209
Noncommercial Fund Claims Pending	$ 2,620,641

STATUS OF CLEANUPS UNDER THE COMMERCIAL UST TRUST FUND

Federal law requires that owners and operators of commercial USTs demonstrate financial responsibility for cleanup of any petroleum releases from the UST system. Since 1988, owners and operators of commercial USTs in North Carolina have been able to rely on the Commercial UST Trust Fund to meet the federal financial responsibility requirement (in lieu of an environmental insurance policy or other financial assurance mechanism). A percentage of Trust Fund revenues come from fees paid by commercial UST owners but most of the revenues come from the gasoline tax. Since 2002, claims for cleanup work have exceeded revenues in the Commercial Trust Fund, leading to delays in reimbursement of claims of up to 13 months. Session Law 2004-124, effective in October 2004, made several changes in the UST program designed to reduce the delay in reimbursement of claims. The session law directed the UST program to expend available resources on release incidents that pose the greatest risk. The law also changed the way the program responds to petroleum releases by only allowing the program to order the amount of cleanup work that can be reimbursed from the trust funds within 90 days (with an exception for emergency situations). In essence, Session Law 2004-124 slowed the response activities of the UST program to match the resources that are available to pay for those activities. However, nothing in this law relieves tank owners and operators from their responsibilities to conduct initial abatement activities, assessment activities, and risk determinations immediately upon discoveries of releases. Similarly, nothing in this law relieves tank owners and operators of their responsibilities to clean up releases as resources become available.

To implement Session Law 2004-124, the UST program first determined the relative risks of active release incidents using the criteria listed in 15A NCAC .02L .0400. Those criteria include emergency situations (fire, explosion, etc.); the proximity of a release to receptors (water supply wells, surface water sources, etc.); known, suspected, or potential contamination of receptors; the existence of free product; the number of wells and people potentially affected; and others. The UST program is ordering cleanup of petroleum contamination at the highest risk releases first and at a pace that allows the cost of the work to be reimbursed from the trust funds within 90 days.

The manner in which the UST program has implemented Session Law 2004-124 has ensured, so far, that public health is not at risk from UST releases. However, implementation does not allow the program to immediately remove free product at all incidents. Free product is petroleum that has leaked from a UST system and is floating on top of the ground water table. Sometimes free product is found in lenses more than 10 feet thick, although in about 40% of the incidents, the free product is less than one inch thick. These lenses of free product continue to spread laterally and to dissolve into the ground water, prolonging contamination of the ground water. Of the approximately 6000 active regulated UST incidents (commercial tanks), about 714 (12 %) include existing free product. Of the approximately 2100 unregulated UST incidents (home heating oil tanks), about 190 (9%) include existing free product. At present, the UST program is directing work at only about 35 of these incidents with free product (33 regulated USTs and 2 unregulated USTs). The slow pace of free product removal results from the demand for trust fund resources to clean up higher risk incidents that do not have existing free product, but are contaminating (or threatening to contaminate) water supplies.

Federal UST law requires the removal of free product at UST release incidents as soon as practicable and to the maximum extent practicable. Other cleanup criteria are generally left up to individual states. Since the UST program cannot presently direct free product removal at every incident, the US EPA is questioning whether North Carolina's Commercial Trust Fund is actually providing the financial responsibility required of UST owners and operators by federal law. In a 19 September 2006 letter to NC DENR Secretary William Ross, the US EPA Regional Administrator for Region 4, J. I. Palmer, expresses US EPA's concern that North Carolina's Commercial Trust Fund is not adequate to allow UST owners and operators to comply with federal law. The letter also notes that UST owners and operators would be required to find alternative mechanisms for financial responsibility if EPA withdraws approval of North Carolina's Commercial Trust Fund for that purpose. The letter is attached to this report in the appendices.

At the implementation of Session Law 2004-124 in October 2004, the Commercial Trust Fund was over $18 million in deficit and the Noncommercial Trust Fund was about $500,000 in deficit. At that time, the UST program determined that resources were available to direct work on 87 regulated incidents and 7 unregulated incidents. Every week, the UST program reviews the available fund resources, expenditures, and obligations. Since October 2004, we have adjusted the implementation six times and are now directing work at 311 regulated incidents and 20 unregulated incidents. Unobligated funds total almost $3 million in the Commercial Trust Fund and almost $1 million in the Noncommercial Trust Fund, which will allow us to continue to adjust the implementation and direct work at more and more incidents.

FUNDING FOR THE UNDERGROUND STORAGE TANK CLEANUP PROGRAM

Program funding is provided by revenues from the Commercial and Noncommercial Trust Funds and the Groundwater Protection Loan Fund. The Federal UST Regulatory Grant and the Federal Leaking UST Grant are provided by the Environmental Protection Agency. Of the 91.8 Full Time Equivalent (FTE) positions assigned to the UST program, state revenue funds 63.83 positions and 27.97 are supported by federal grants. In addition, the trust funds and federal grant pay for one laboratory position and four regional administrative positions, which support the program.

Commercial and Noncommercial Trust Funds

The Leaking Petroleum Underground Storage Tank Cleanup Act of 1988 (GS 143-215.94A et.seq) established two separate funds: the Commercial Trust Fund and the Noncommercial Trust Fund. Both may be used to reimburse eligible UST owners, operators and landowners for reasonable and necessary costs incurred as a result of environmental cleanup and third party liability claims. Additionally, both funds enable UST Section staff to:

- record and track UST release incidents;
- register and permit commercial USTs, manage the database and receive annual UST operating fee payments;
- identify responsible parties;
- provide technical assistance to tank owners and operators;
- inspect USTs to ensure compliance with UST regulations;
- monitor site cleanups;

- review site assessments and corrective action plans;
- evaluate innovative assessment and cleanup technologies;
- review reimbursement claim procedures;
- manage contracts for cleanups designated as "State Lead";
- inspect and monitor land applications of contaminated soil; and
- identify and evaluate abandoned petroleum USTs.

The UST Section has the authority to contract for the cleanup of petroleum UST incidents if the owner or operator cannot be identified or located, if the owner or operator is financially unable to perform cleanup or if the owner or operator refuses to perform the required cleanup. In the latter case, the section is authorized by general statute to recover costs incurred during assessment and cleanup activities.

Sources of funding for the Commercial Trust Fund include:

- a motor fuel and kerosene inspection tax (1/4 of $0.01/gallon);
- a re-occurring excise tax (19/32 of $0.005/gallon) on motor fuel and kerosene sales;
- annual payment of UST operating fees;
- costs recovered from UST owners and operators for State Lead sites;
- loan collection and interest for the Groundwater Protection Loan Fund; and
- interest earned on the account.

Owners and operators are required to pay annual operating fees to receive operating permits and to be eligible for the Commercial Fund. Annual fees for commercial USTs began at a rate of $30 for tanks with a capacity equal to or less than 3,500 gallons (small tanks) and $60 for tanks with a capacity in excess of 3,500 gallons (large tanks). Tank fees increased annually from 1989 to 1993. From 1993 to 1997, fees were $150 for small tanks and $225 for large tanks. Beginning Jan. 1, 1997, annual fees were increased to $200 for commercial USTs with a capacity equal to or less than 3,500 gallons and $300 for commercial USTs with capacity in excess of 3,500 gallons.

Revenues received for the Commercial Fund for the twelve-month period from July 1, 2005 to June 30, 2006 were approximately $28 million (Table 1). The relative contributions to the Commercial Fund from each of the funding sources are illustrated in Figure 1.

Table 1 – Commercial Trust Fund Revenues
7/1/05- 6/30/06

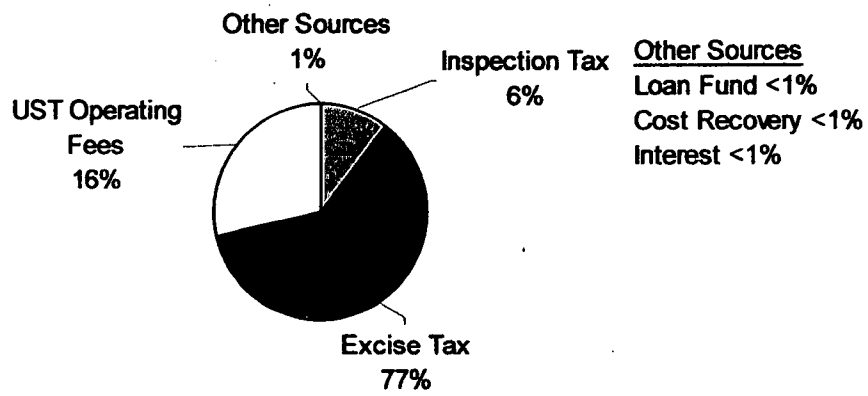
Motor Fuel & Kerosene Inspection Tax	$ 2,836,253
Motor Fuel & Gasoline Excise Tax	$ 17,123,883
UST Operating Fees	$ 7,951,508
State Lead Cost Recovery	$ 24,562
Interest	$ 198,909
Loan Fund Collection and Interest	$ 8,004
Total Commercial Revenues	**$ 28,143,119**
Transfers to Noncommercial	$ (1,922,601)
Net Commercial Revenues	**$ 26,220,518**

Groundwater Protection Loan Fund

The Groundwater Protection Loan Fund Program was created in 1991.* It provided financial assistance to owners of commercial USTs who replaced or upgraded their tanks to meet the performance standards required for all USTs by Dec. 22, 1998. Administrative rules implementing the program were adopted by DENR and became effective Dec. 1, 1992. Revenues for the fund were generated through a 0.0025 cent (one quarter of one cent) per gallon motor fuel excise tax received from Jan. 1, 1992 through Dec. 31, 1994.

*Session Laws 1991, c. 538, s. 25 - G.S. 143-215.94P

Figure 1 - Commercial Fund Revenue Sources



Funding for the Noncommercial Trust Fund is provided by a motor fuel and kerosene inspection tax and excise taxes (0.047 cents per gallon) on kerosene and motor fuel sales.[1] Owners and operators of noncommercial USTs are not required to pay annual operating fees. Revenues received for the Noncommercial Fund for the 12-month period from July 1, 2005 to June 30, 2006 were approximately $15 million (Table 2).

[1] House Bill # 681 of 1993

Table 2 – Noncommercial Trust Fund Revenues
7/1/05 - 6/30/06

Motor Fuel & Kerosene Inspection Tax	$ 2,836,253
Motor Fuel & Gasoline Excise Tax	$ 2,705,441
Interest	$ 150,714
Transfer from Commercial Fund	$ 1,922,601
Cost Recovery	$ 604
Total Noncommercial Revenues	**$ 7,615,613**

Federal UST Regulatory Grant Program

This program promotes compliance with UST regulations. It provides the state's UST Section with $186,675 per year to fund three positions in the DWM central office. The positions provide technical assistance to the owners and operators of USTs, develop materials, conduct educational activities, train regional staff and conduct UST inspections.

Federal Leaking UST Grant

The Federal Leaking UST Trust Grant is used to clean up petroleum contamination from leaking USTs, provide potable water to affected third-parties, perform emergency activities, relocate residents affected by leaking USTs and conduct enforcement activities. The use of this grant is limited to regulated USTs, primarily commercial tanks used for storing motor fuels. Tanks used for heating oil and those used for farm or residential uses (1,100 gallons capacity or less) are not covered by this fund.

Individuals (i.e., owners/operators) do not have access to the grant. Only the federal government and states with cooperative agreements with the EPA can draw on the grant. It may be used in situations when: (1) the responsible party cannot be identified; (2) the responsible party is financially unable to pay for the cleanup; or (3) the responsible party is unwilling and refuses to undertake assessment and/or cleanup actions.

Since the state's UST program began in 1988, the Federal Leaking UST Grant has made 23 awards totaling $43,873,118 to the state's UST Section. As of June 30, 2006, the state spent $43,464,600 from these awards. Of this amount, $19,979,810 was spent for cleanup-related activities and $3,925,890 for enforcement actions. Administrative, operating, travel and equipment costs totaled $19,558,900.

The program is obligated to seek recovery of all costs incurred during state lead cleanups. As of June 30, 2006, the UST Section had recovered $ 1,727,144 in federal cleanup money through cost recovery actions. Of this amount, $ 912,411 came from the North Carolina Commercial Fund for sites determined eligible for Commercial Fund coverage after cleanup activities had begun.

The EPA approved $1,994,660 for North Carolina from the Leaking UST Fund for FY 2005-2006.

PETROLEUM UST INCIDENTS

Discharges or releases from petroleum USTs are reported to DENR regional offices where they are added to an incident management database. Table 3 lists the number of incidents reported and closed out in each region during the twelve-month period from July 1, 2005 through June 30, 2006. It also shows the number of incidents reported and closed out since the UST program began in 1988.

Beginning January 2, 1998, the UST Section implemented risk-based corrective action rules for petroleum UST incidents. Discharges or releases under these rules receive a risk classification of "high," "intermediate," or "low" based on the potential threat to human health and the environment. Of the total number of UST incidents closed since 1988, 67 percent were closed following implementation of Risk-Based Corrective Action. The total number of open incidents has generally increased since 1988; however, recent data indicates the trend may be leveling off (see Figure 2).

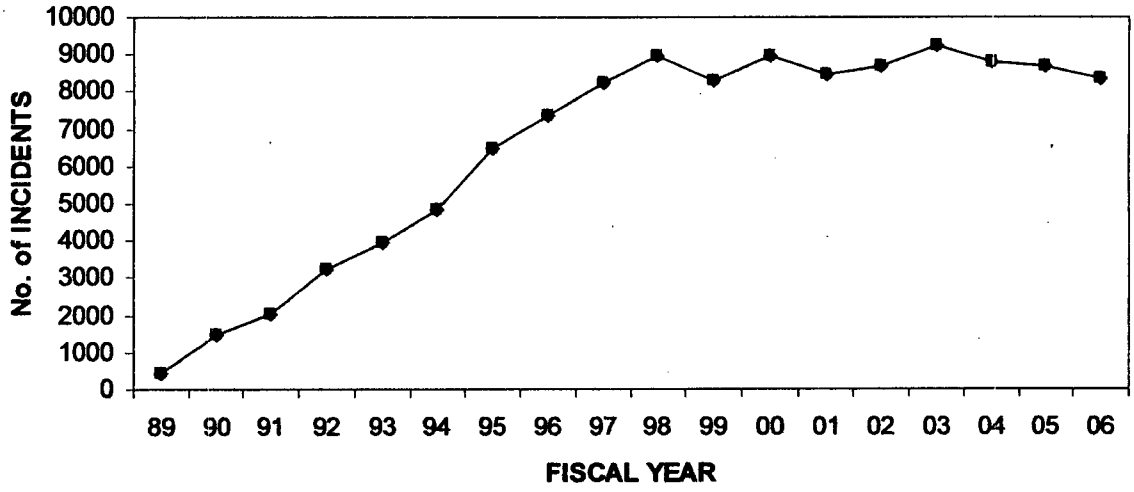
Table 3 – Petroleum UST Incidents by Region[1]

REGION	7/1/05 - 6/30/06		7/1/88 - 6/30/06	
	Reported	Closed	Reported	Closed
Asheville	94	61	2,151	1343
Fayetteville	57	57	1,598	818
Mooresville	151	202	4,194	2,713
Raleigh	202	253	4,287	2,572
Washington	128	114	2,763	1,606
Wilmington	81	97	1,599	878
Winston-Salem	178	267	4,510	2,818
TOTAL	**891**	**1051**	**21,102**	**12,748**

Total reported releases affecting groundwater that have been closed out:	4,293
Total reported releases closed out since implementation of RBCA[1]:	8,536
Total remaining open sites:	8,354
Open commercial sites:	6,565
Open noncommercial sites:	1,789

1. Risk-based corrective action implemented 1/2/98.

Figure 2 - Open UST Incidents



RECEIPTS AND DISBURSEMENTS: COMMERCIAL AND NONCOMMERCIAL TRUST FUNDS AND GROUNDWATER PROTECTION LOAN FUND

Commercial and Noncommercial Funds

UST owners, operators and landowners may submit reimbursement claims for reasonable and necessary costs incurred during environmental assessment and cleanup activities. Claims may be submitted if the eligibility requirements for the trust funds are met. Deductibles that must be met before receiving reimbursement from the Commercial Fund range from $20,000 to $75,000. Noncommercial Fund deductibles are $0 for UST owners and operators, and $5,000 for landowners. Table 4 lists the receipts and disbursements by fiscal year for both funds for the period July 1, 1988 to June 30, 2005.

Table 4 – Receipts & Disbursements for Cleanups
7/1/88 - 6/30/05

FISCAL YEAR	RECEIPTS		DISBURSEMENTS[1]	
	Commercial	Noncommercial	Commercial	Noncommercial
FY 88-89	$ 2,337,685	$ 0	$ 14,768	$ 0
FY 89-90	5,773,632	2,905,035	79,080	0
FY 90-91	7,330,573	2,934,347	1,616,760	564,206
FY 91-92	13,484,008	3,018,344	4,409,229	2,143,155
FY 92-93	18,032,784	7,693,288	9,651,948	4,069,497
FY 93-94	24,438,966	3,404,086	22,904,802	2,012,312
FY 94-95	56,037,135[2]	5,194,725	37,405,510	2,900,368
FY 95-96	28,178,768	5,215,550	44,060,639	5,029,109
FY 96-97	28,564,034	5,587,781	44,163,273	5,924,799
FY 97-98	27,291,220	5,717,592	30,267,392	3,869,091
FY 98-99	26,783,344	5,945,461	16,104,152	2,776,105
FY 99-00	27,178,623	5,636,563	22,820,069[3]	5,028,505
FY 00-01	27,240,303	5,811,666	24,566,132[4]	7,890,618[5]
FY 01-02	27,124,210	6,620,808[6]	36,872,426	9,182,320
FY 02-03	27,055,759	7,664,329[7]	26,498,565	9,898,806
FY 03-04	26,934,685	8,060,151	23,514,179[8]	7,756,579
FY 04-05	50,255,908[10]	14,885,997[10]	46,966,083[2]	11,326,318
FY 05-06	28,143,119	7,615,613[11]	15,474,991[11]	5,005,578
TOTAL	**$452,184,756**	**$103,911,336**	**$407,389,998**	**$85,377,366**

[1] Does not include administrative costs.
[2] Commercial receipts for FY 94-95 included $31,288,889 that was transferred from the Groundwater Protection Loan Fund.
[3] Adjustment due to a transfer from the Commercial Fund to the Federal Trust Fund of $288,117 as a cleanup expenditure rather than as an administrative cost.
[4] $33,866 transferred to Federal Trust Fund as a cleanup expenditure.
[5] $2 million transferred out of Noncommercial Fund to the state's General Fund.
[6] Includes transfer of $784,382 from Circle K Settlement Fund
[7] Includes transfer of $3,418,990 of motor fuel and kerosene tax from Commercial to Noncommercial trust fund due to balance below $5 million - General Statute 119-18(b).

[8] Includes transfer of $2,036,932 from Commercial to Noncommercial trust funds per GS 119.18(b); transfer of $90,000 to Dept. of Agriculture; and transfer of $52,722 to Federal trust fund as a cleanup expenditure.
[9] Includes transfer of $3,150,730 from Commercial to Noncommercial trust fund per GS119:18(b). Transfer from Agriculture Department; transfer of $38,702 to Federal trust fund.
[10] Includes additional revenue from the 1-year 1.1 cent per gallon excise tax or $19,000,000 to the Trust Fund.
[11] Includes $1,922,601 transfer to Noncommercial Fund, $90,000 transfer to Dept. of Agriculture, and $30,016 transfer to repay Federal Trust Fund for State Lead program expenses.

The administrative budget for the state-funded portion of the UST program is derived from the Commercial and Noncommercial Funds. Table 5 lists past administrative expenditures since the beginning of the UST program.

Table 5 – Administrative Expenditures

FISCAL YEAR	COMMERCIAL	NONCOMMERCIAL
FY 89-90	$ 201,255	$ 201,254
FY 90-91	547,595	547,595
FY 91-92	517,221	517,221
FY 92-93	601,687	601,686
FY 93-94	694,424	694,423
FY 94-95	666,270	666,270
FY 95-96	2,322,632	783,684
FY 96-97	2,623,339	801,143
FY 97-98	2,530,036	667,724
FY 98-99	2,567,668	620,574
FY 99-00	2,579,540*	570,738
FY 00-01	2,730,236	733,811
FY 01-02	2,397,264	913,755
FY 02-03	2,221,851	1,166,494
FY 03-04	2,527,451	1,244,864
FY 04-05	2,654,447	1,265,079
FY 05-06	2,636,228	1,298,441
TOTAL	**$ 28,382,916**	**$11,996,315**

Incorporating the administrative costs into receipts and cleanup disbursements yields these Commercial and Noncommercial Fund balances:

Commercial Fund Balance (as of June 30, 2006)	**$13,747,190**
Noncommercial Fund Balance (as of June 30, 2006)	**$ 5,240,209**

*Adjustment due to a transfer of $288,117 from the Commercial Fund to the Federal Trust Fund as a cleanup expenditure rather than an administrative cost.

Groundwater Protection Loan Fund

After the Groundwater Protection Loan Fund was created, 11 North Carolina banks agreed to administer the loan program. As of June 30, 1995, four loans totaling $1,228,350 had been closed. After this date, remaining funds of $31,288,889 were deposited into the Commercial Trust Fund. Loan repayments are also deposited into the Commercial Fund. During the twelve-month period ending June 30, 2006, $ 24,562 was repaid. Total receipts for the Loan Fund since its inception in January 1992 are $33,168,709. The program is no longer active, but loan payments continue to be received.

CLAIMS AGAINST THE CLEANUP FUNDS

Claims against both the Commercial and Noncommercial Funds are processed on a "first-come, first-served" basis. The status of all claims requesting reimbursement from both funds that were received as of June 30, 2006 is presented in Table 6. These claims only include costs claimed to date, and do not represent the total costs for cleanups.

UST Section staff have supervised contract cleanups at 558 commercial and noncommercial sites (Table 6, 443 commercial and 115 noncommercial). In FY 2005-2006, DENR went through a new contract selection process. Twenty-six firms submitted proposals for DENR consideration. Based on the firms' technical expertise, project qualifications and cost proposals, DENR selected six environmental engineering/geology firms to work in the Trust Funds State Lead program. The firms perform a range of assessment and cleanup actions. The new contract period started with FY 2005-2006.

Table 6 – Claims Against the Cleanup Funds
7/1/88 - 6/30/06

	Commercial Fund		Noncommercial Fund	
	Number	Cost	Number	Cost
Claims Paid	25,741	$387,581,510	9,909	$ 80,252,212
Incidents Denied Totally [1]	33	$ 4,573,040	4	$ 59,845
Claims Denied Partially [2]	14,798	$ 79,218,134	4,456	$ 10,909,354
Total Deductibles Paid	-------	$ 72,212,204	-------	$ 661,007
Claims Pending	263	$ 2,420,870	274	$ 2,532,273
Contracted Cleanups [3]	443	$ 10,611,297	115	$ 2,906,797

[1] Ineligible
[2] Excessive or undocumented costs
[3] State Lead actions undertaken or completed

COMMERCIAL AND NONCOMMERCIAL FUNDS BALANCES AND PROJECTED NEEDS

Commercial Fund

As of June 30, 2006, the Commercial Fund balance was $13,747,190 with pending claims of $2,459,046 (see Figure 3, Page 9). From fiscal year 2000 through 2004, the difference between the fund balance and the pending claim amounts steadily increased (see Figure 4, Page 9). This was largely due to the fact that the UST Section implemented an expedited review process during fiscal year 2001-2002 in an effort to reduce the time for claim review. While claim review time was reduced, the result was a delay in the reimbursement payment, since the Commercial Fund could only pay out what had been received for the month. This trend continued up to fiscal year 2004-2005. With the passage of Session Law 2004-124, the difference decreased markedly. The present situation represents a significant change in the commercial fund program over previous years because the UST Section now directs most of the work that can be accomplished, and only those commercial and noncommercial sites with a threshold level risk will be directed to continue on with assessment and remediation. This results in greater fiscal control over the program, while focusing on those sites exhibiting the greatest risk to human health and the environment.

Figure 3 - Commercial Fund Balance and Claims Pending Amount

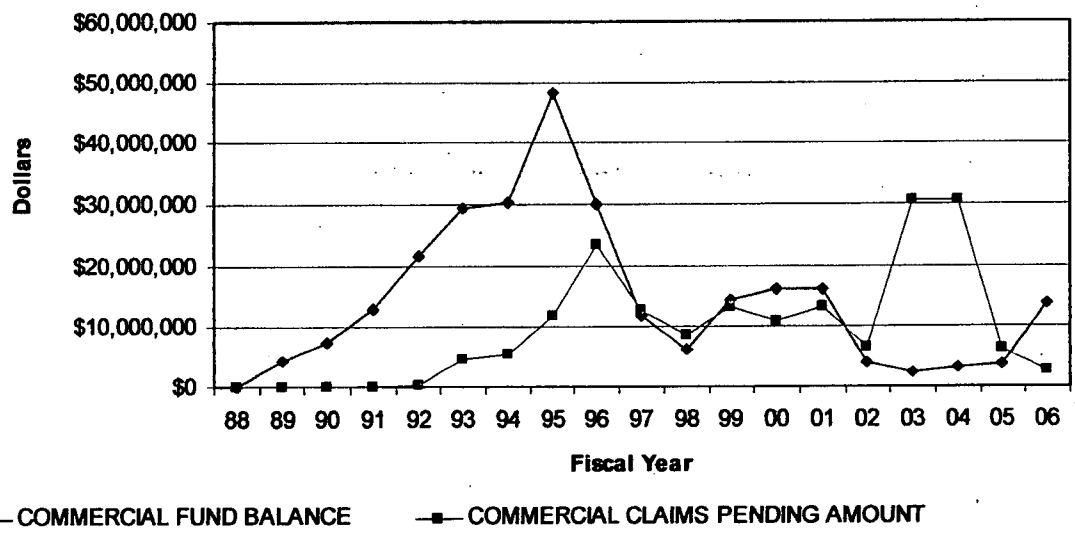


Figure 4 - Commercial Fund Balance Minus Claims Pending Amount

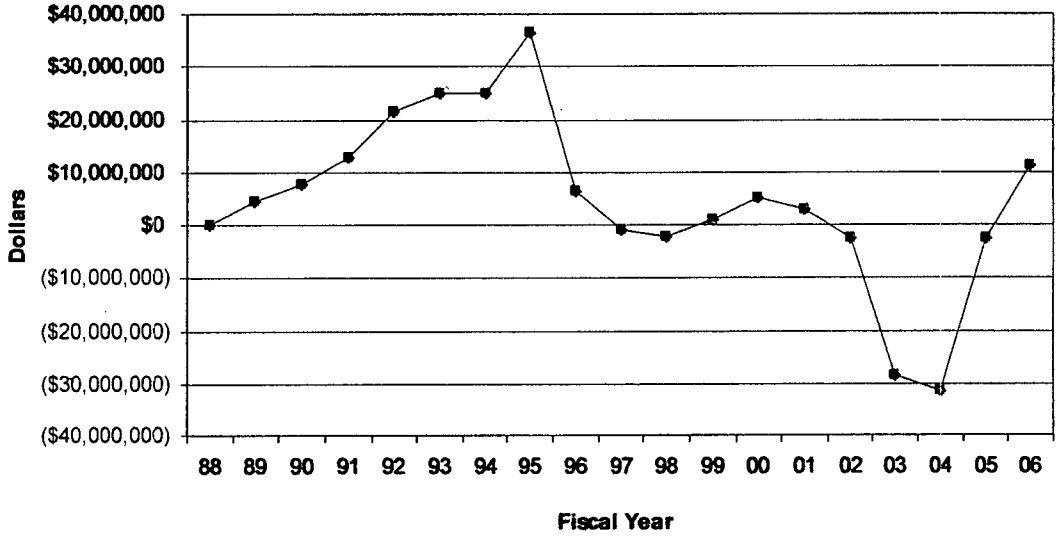


Table 7 - Total Commercial Fund Revenues and Expenditures
7/1/05 – 6/30/06

Total Commercial Revenues (see Table 1)	**$28,143,119**
Total Claims and Contracted Cleanups	$13,432,373
Transfers[1]	2,042,617
Administrative Costs	$ 2,636,228
Total Commercial Expenditures	**$18,111,218**

1-From Table 4, footnote 11 monies transferred to the Noncommercial Fund, Dept. of Agriculture, and Federal Trust Fund for State Lead expenses.

One initiative which may affect a future demand on the Commercial Fund is pay-for-performance based cleanups. On Oct. 1, 2001, the General Assembly ratified House Bill 1063, which allows responsible parties to participate in the pay-for-performance program on a voluntary basis. Pay-for-performance is a reimbursement method that requires cleanup goals to be met before payments can be made to environmental consultants. This reimbursement method requires the Trust Fund to obligate the contracted cleanup costs. Pay-for-performance obligations may initially place a higher demand on the Trust Fund, but should greatly decrease the costs of cleanups and thus result in a lesser burden to the Trust Fund.

Other factors that may affect future demands on the Commercial Fund are claims for bodily injuries and property damages brought by third parties. There are currently several pending third-party claims totaling approximately $1.7 million (less the $100,000 deductible per incident amount) that will place an additional burden on the Commercial Fund. Other third party claims may be planned that have not yet been submitted for review.

After UST operating fees were raised on Jan. 1, 1997, revenue from this funding source declined through the end of FY 1998-99 (see Table 8). This decrease was likely due to the reduction in the number of registered USTs that occurred as a result of the federal 1998 upgrade regulations. Overall, since 1998, the number of registered USTs has generally decreased. As in FY 2004-05, the number of registered USTs has decreased during the period from July 1, 2005 to June 30, 2006. UST operating fees have remained essentially stable.

Table 8 - Commercial UST Population and Operating Fee Revenue

Fiscal Year	No. of Commercial USTs Billed	Operating Fee Revenue
FY 1988-89	-	$ 4,322,917
FY 1989-90	-	$ 8,086,895
FY 1990-91	57,385	$ 6,889,969
FY 1991-92	52,529	$ 9,910,737
FY 1992-93	48,812	$18,032,784
FY 1993-94	43,314	$ 23,661,875
FY 1994-95	39,289	$ 8,500,000
FY 1995-96	37,529	$ 11,050,000
FY 1996-97	37,776	$ 10,839,975
FY 1997-98	36,563	$ 10,008,917
FY 1998-99	34,428	$ 8,697,468
FY 1999-00	33,558	$ 8,844,093
FY 2000-01	33,776	$ 8,464,019
FY 2001-02	32,839	$ 8,553,715
FY 2002-03	31,155	$ 8,087,033
FY 2003-04	32,005	$ 8,309,807
FY 2004-05	31,518	$ 7,987,101
FY 2005-06	30,638	$ 7,951,508

At present, there are approximately 6,991 commercial incidents that have yet to be closed out. Risk levels at these sites rank from low to high. With implementation of Session Law 2004-124, the Department now directs most work done at both Commercial and Noncommercial incidents. In addition, all high risk incidents have been assigned a relative risk, and further assessment and remediation is being directed on only those incidents with a high enough relative risk. While the statutory responsibility of the responsible party to address their incident remains, the Session Law limits the number of incidents that can be addressed and the cost of work reimbursed. This improves fiscal control and management, but it will result in a longer time necessary to address all petroleum releases.

Data tracking improvements are continuously made to the UST incident management database. These changes will enable the UST Section to better predict the number of incident closures and project Commercial Fund expenditures.

UST systems pose a substantial threat to human health and the environment. On average, over 1,200 leaks are reported each year. Maintaining the quality of North Carolina's drinking water and groundwater depends on preventing releases to the environment. Direct education and technical assistance for tank owners and operators is critical. Only education and assistance

ensure responsible handling of petroleum products (including methyl tertiary-butyl ether) and early detection in the event of a leak.

North Carolina currently has about 30,638 active regulated USTs at 11,003 facilities. We estimate that 40 to 50 percent of the facilities are located within 500 feet of both domestic and public drinking water supplies. Our inspection data show that over 30 percent of tank owners and operators do not comply with UST regulations. These regulations cover proper operation and maintenance, with an emphasis on leak detection. If we are to preserve the quality of North Carolina's drinking water, improving compliance must be given increased priority.

To ensure that all UST facilities are in compliance with the rules and regulations necessary to prevent releases, the UST program presently has 11 inspectors, one support staff, and one attorney. These inspectors are responsible for all phases of facility compliance, including inspection preparation, on-site inspecting, inspection data entry, follow-up inspections, owner and operator training, and enforcement activities. Each inspector can complete approximately 250 inspections per year. This inspection rate only allows the program to inspect each facility once every 4 to 5 years. Experience has shown that more frequent inspections lead to improved compliance and fewer releases, particularly since many facilities change ownership each year and many new owners are unfamiliar with UST regulations. The preferred inspection frequency is once every two years and, in fact, the federal Energy Act mandates a three-year inspection frequency by 2010. This year, the UST program focused more resources on compliance by creating two inspector positions from two incident management positions, and by negotiating 2.5 time-limited inspector positions under a federal grant from US EPA. Although these actions will help, more are needed to meet inspection and compliance goals. An additional nine full-time inspectors, one support staff, and one attorney are needed to get the inspection rate to the desired two-year cycle

Noncommercial Fund

As of June 30, 2006, the Noncommercial Fund balance was $5,240,209. The total for pending claims stood at $2,620,641. Based on the past 12 month period, the demands on the Fund have decreased. We anticipate that this will improve the timeliness of payments, just as in the Commercial Fund (see Figure 5).

Figure 5 - Noncommercial Fund Balance and Claims Pending Amount

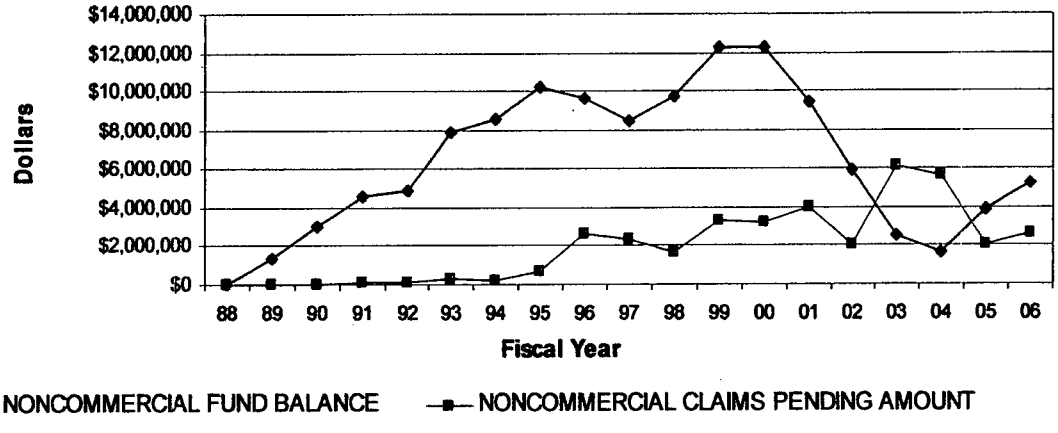


Figure 6 - Noncommercial Fund Balance Minus Claims Pending Amount

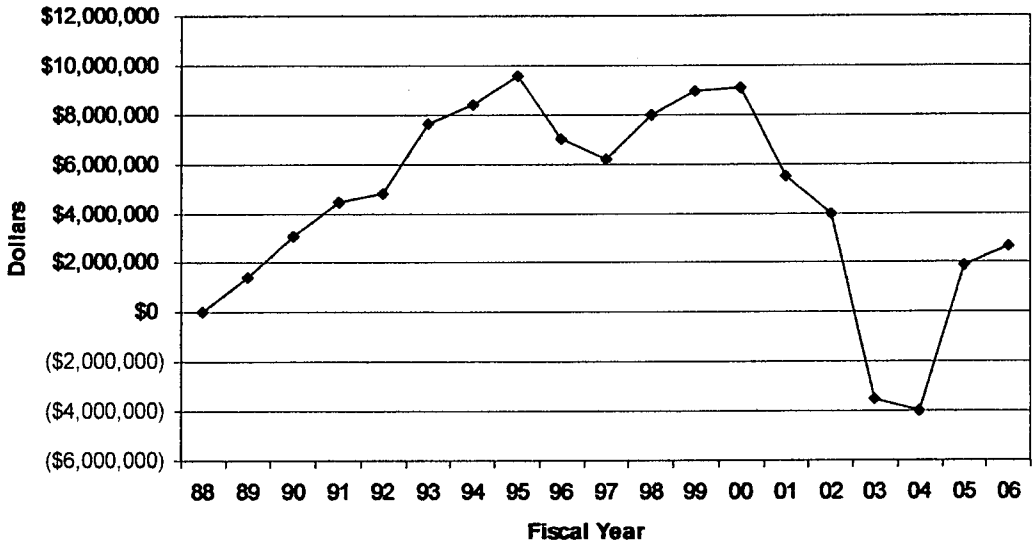


Table 9 – Total Noncommercial Fund Revenues and Expenditures
7/1/05-6/30/06

Total Noncommercial Revenues (see Table 2, page 3)	**$ 7,615,613**
Total Claims and Contracted Cleanups	$ 5,005,578
Administrative Costs	$ 1,298,441
Total Noncommercial Expenditures	**$ 6,304,019**

Table 10 shows the estimated cost to complete cleanups for noncommercial incidents reported from July 1, 2005 to June 30, 2006. It should be noted, however, that cleanups can easily extend over several years and costs may vary greatly. In addition, these figures do not include remedial costs for reported releases from past fiscal years.

Table 10 - Estimate of Cleanup Costs for Noncommercial Incidents
7/1/05-6/30/06

Region	Incidents*	Total Estimated Cleanup Cost**
Asheville	94	$ 2,321,800
Fayetteville	57	$ 1,407,900
Mooresville	151	$ 3,729,700
Raleigh	202	$ 4,989,400
Washington	128	$ 3,161,600
Wilmington	81	$ 2,000,700
Winston-Salem	178	$ 4,396,600
Total	**891**	**$22,007,700**

* Calculations of the last twelve-month period indicate that approximately 22 percent of reported new releases are from noncommercial sites.

** An average cost of $24,700 is used as an estimate of total cleanup costs for noncommercial sites.

PAY FOR PERFORMANCE

On October 15, 2001, House Bill 1063 was enacted by the North Carolina General Assembly. This bill gives the Division of Waste Management's Underground Storage Tank program the authority to allow performance-based cleanups of sites where petroleum has been discharged or released from underground storage tanks. Sites selected for the pilot program were posted for competitive bidding in the North Carolina Interactive Purchasing System. A performance-based contract was awarded to the qualified environmental services firm that submitted the lowest, technically qualified bid for an acceptable remedial proposal for the advertised site. A series of milestones (generally percentage reductions in contaminate levels in the soil and groundwater) must be achieved before payments are made to the cleanup firm from the Commercial or Non-Commercial Fund.

On November 2, 2001, the Division of Waste Management convened a stakeholders workgroup consisting of representatives of the Professional Engineers of North Carolina, the Consulting Engineers Council of North Carolina, the North Carolina Board for the Licensing of Geologists and the North Carolina Petroleum Marketer's Association to develop a temporary rule. A follow-up meeting on November 9, 2001 resulted in the further refinement of the rule and the discussions of the contract and bidding procedures proposed for use with the rule.

The proposed temporary rule was presented to the Groundwater Committee of the Environmental Management Commission on December 12, 2001 and received a favorable vote to proceed to full commission review in February 2002. On February 14, 2002, the EMC voted to approve the publication of the temporary rule in the North Carolina Register. The temporary rule was published for public comment between March 15 and April 15, 2002 in Volume 16, Issue 18, p. 2019 of the NC Register. No comments were received. The Commission adopted the temporary rule on May 14, 2002. On July 11, 2002 the Commission voted to allow the Division of Waste Management to proceed with permanent rule making. The permanent rule was published in the September 2004 issue of the NC Register.

In July of 2003, House Bill 897 was passed, allowing $2.5 million from the Commercial Fund and $250,000 from the Non-Commercial Fund to be allocated for the Pay-for-Performance Program in each fiscal year. At present, there have been four commercial sites accepted into the pilot program. Of the four sites, one has naturally attenuated to the point that a Notice of No Further Action has been issued with the filing of a Notice of Residual Petroleum. A contract has been awarded for the second site and installation of the remediation system has begun. Bid specification packages for the last two sites are being prepared.

In June of 2005, the UST Section opened and reviewed six offers for the first Pay for Performance contract to be placed out to bid for cleanup. Unfortunately, the six offers were not detailed enough in the technical proposal to justify the cost proposals submitted. The performance contract was placed back out to bid, with an updated technical proposal description, on July 21, 2005 with a closing date of August 31, 2005.

In order to be considered for the Pay for Performance Program, an incident must have a completed comprehensive site assessment and not be considered an emergency cleanup. Any responsible party who would like their incident considered for the program, and who can meet the requirements, may contact the UST Trust Fund Section.

On January 4, 2006, the first voluntary Pay for Performance contract, #N06004, was awarded to Pyramid Environmental & Engineering, P.C. and then amended on May 12, 2006 to finalize the contract terms and conditions. In June and July of 2006, the first milestone was met: installation and startup of the remediation system. Monitored attenuation of the plume will be conducted under the terms of the contract until the site has met the cleanup levels stipulated in the contract.

In 2001, the UST Section entered into a Pay for Performance based cleanup contract as part of a third party lawsuit settlement agreement. This contract, while not allowing for flexible cleanup goals due to the settlement agreement between the responsible party and the affected party, did set the cleanup timetable and fix the cleanup costs. Over the past five years, this site has met all contractual milestones up to and including the 99% contaminant reduction goal. At present, the consultant of record is trying to meet the final cleanup goals and begin the one year of monitoring following system shut down to ensure that the cleanup milestone has been met and that contamination levels do not rebound.

RECOMMENDATIONS

Based on the results of this report, the UST Section makes the following recommendations for the Commercial and Noncommercial Trust Funds:

1) Continuing as the primary recommendation, transition (and ultimately terminate) the providing of required financial responsibility (FR) for owners and operators of regulated, commercial USTs by the trust fund to other mechanisms, such as private insurance and self-insurance. Ending the use of the trust fund as a provider of FR will eventually greatly reduce the need to use trust fund resources to clean up new releases. Transitioning to private insurance, self-insurance, or other non-trust fund mechanisms of FR will also tend to reduce the number and severity of releases by making tank owners and operators more fiscally involved and more vigilant in preventing releases early, before the contamination of significant areas of soil and ground water.

2) Continue to increase the inspection frequency for USTs in North Carolina. More frequent inspections will have the following positive effects: detect and correct more out-of-compliance equipment and operating procedures that could allow a release, detect some undiscovered releases, and provide more frequent release prevention and detection training to UST owners and operators. This last benefit is particularly important due to the large number of UST facilities being bought and operated by new and inexperienced owner/operators each year.

3) Incrementally increase the annual operating fees for USTs in order to increase the amount of money available in the trust fund for cleaning up existing releases and to provide an incentive for tank owners and operators to transition from the trust fund to other FR mechanisms.

4) Implement a phase-in of secondary containment requirements for existing UST systems. Implement a phased approach by requiring secondary containment of the oldest and most failure-prone UST systems first.

5) Increase the amount of money coming into the trust funds in order to clean up the existing UST releases.

6) Continue to find and implement better and more cost-effective methods for assessing and cleaning up petroleum releases, including reviewing existing rules and regulations and reducing or eliminating requirements whenever practical, while maintaining a sufficient level of protection for public health and the environment.

7) Implement technical changes to existing law, such as setting time limits on filing claims and seeking eligibility determination, in order to lessen the logistics of the process and to determine the trust fund's total liability for cleaning up releases.

8) Continue to encourage responsible parties of UST releases to consider pay-for-performance cleanups of their incidents. Pay-for-performance (PFP) is a reimbursement method that requires cleanup goals to be met before payments can be made to environmental consultants. States which incorporate the use of PFP programs for corrective actions have realized a reduction in their costs for cleanups over non-PFP based cleanups. Two states, Florida and

South Carolina, have used PFP programs for several years. In evaluating their effectiveness, these states have experienced overall reductions in cleanup costs, primarily through a decrease in the length of time required to achieve remediation. South Carolina's program continues to realize an average cost reduction of 40 percent. The Department of Environment and Natural Resources will monitor the obligated costs for pay-for-performance contracts and the potential cleanup cost savings of the PFP program.

9) Renew and expand the PFP effort based on the initial pilot PFP program results.

APPENDICES

Appendix A – Letter from J. I. Palmer, Jr., Regional Administrator, US EPA Region 4, to William G. Ross, Jr., Secretary, NC DENR, dated 19 September 2006

Appendix B - LUSTs reported 7/1/88-6/30/06 *
Appendix C - LUSTs reported 7/1/05-6/30/06 *
Appendix D - LUSTs closed out 7/1/88-6/30/06 *

* Available upon request by contacting Ms. Jane Comer at 919.733.1438)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

SEP 19 2006



William G. Ross, Jr., Secretary
North Carolina Department of Environment
and Natural Resources
1601 Mail Service Center
Raleigh, NC 27699-1601

Dear Secretary Ross:

The U. S. Environmental Protection Agency (EPA) has monitored the status of North Carolina's Commercial Leaking Petroleum Underground Storage Tanks Cleanup Fund (State Fund) over the past several years as the State has worked to clean up leaking underground storage tank (UST) sites. Because it serves as a financial responsibility mechanism for tank owners and operators to ensure the availability of funds to clean up new releases from regulated tanks and provides funds to clean up many sites contaminated before the establishment of financial responsibility requirements, the State Fund is a vital component of the State UST Program. I am concerned that the State Fund is not adequately capitalized to meet its current and future liabilities.

As part of annual reviews of the State's UST Program undertaken during fiscal years 2002 through 2005, our staff expressed growing concern about the solvency of the State Fund. From 2002 to 2004, the Fund's unpaid claims liability ballooned to more than $31,000,000. In 2004, the North Carolina General Assembly responded to our concerns by providing money from the Highway Trust Fund to pay backlogged claims and placing controls on future State Fund obligations to prevent unchecked increases in claims. Those controls limited the number of sites subject to remediation based on the State Fund's financial ability to reimburse for claims. As a result, the number of contaminated sites undergoing assessment and remediation immediately decreased. I understand that state policymakers expected a steady increase in the number of sites that could be funded under the new controls as the Department of Environment and Natural Resources (DENR) modified its reimbursement procedures. During the past two years, DENR has worked hard to implement the provisions of 2004 N.C. Sess. Laws 124 by prioritizing sites and has periodically increased the number of sites that could be addressed based on the availability of funds; however, it appears to us that many sites required to be addressed under federal and state UST rules remain unattended as a result of inadequacies in the State Fund.

I recently requested and received information from your staff showing that only 33 of the 714 contaminated sites, with a measurable level of free petroleum in the ground water, are being addressed because of the State Fund's financial status. While it is understandable that the priority scheme implemented by DENR focuses on sites posing the greatest risks to public health and the environment, we are concerned about the deficient response at the other 681 sites with free product. Under federal rules, many aspects of leaking underground storage tank site remediation are left to the discretion of the state; however, removal of free product is a federal requirement that exists to ensure protection of ground water as a vital natural resource.

As you are aware, the Underground Storage Tank Compliance Act of 2005 (Title XV, Subtitle B of the Energy Policy Act of 2005) authorizes the EPA Administrator to withdraw approval of state assurance funds as a financial responsibility mechanism without withdrawing approval of an entire state UST program. If approval is withdrawn, UST owners and operators would be required to arrange an alternative means to comply with state and federal financial responsibility rules. These rules require that tank owners and operators maintain a minimum of $1,000,000 liability coverage to pay for corrective action and third party damage claims. Within the next few months, EPA anticipates issuing guidelines for implementing these provisions of the 2005 Act.

In conclusion, we are concerned that the State Fund is not adequately funded at this time to allow DENR to address all sites requiring clean up. Given our concerns that the State Fund may be deemed inadequate under the draft guidance, I strongly encourage North Carolina to have a strategy in place for addressing its fund solvency issues before implementation occurs. Our staff stands ready to work with you in addressing issues and concerns. If you would like to discuss this matter further or need additional information, please feel free to contact me or have a member of your staff contact John Mason of our UST Section at (404) 562-9441.

Sincerely,

J. I. Palmer, Jr.
Regional Administrator

cc: Dexter Matthews, Director
Division of Waste Management Division, DENR

EXHIBIT P

Presentation to the North Carolina Environmental Review Commission on the North Carolina Underground Storage Tank Program

9 October 2006

presented by
Grover Nicholson, Chief, UST Section
919-733-1300
grover.nicholson@ncmail.net

A: The Universe of Underground Storage Tanks (as of 31 December 2006)

1. In North Carolina, there are 11,926 UST facilities, which have 33,852 tanks.

2. These facilities are owned by 5,432 owners.

3. Of these 33,852 tanks, 29,391 are regulated and 3,566 are commercial heating oil tanks.

4. Of the 29,391 regulated USTs, 19% were installed more than 30 years ago; 26% were installed 20-29 years ago; 38% were installed 19-10 years ago; and 17% were installed less than 10 years ago.

5. We estimate that there are also 250,000 home heating oil tanks in the state. These are unregulated tanks.

B: The UST Program's Corrective Action Progress (as of 30 June 2006)

1. Since the program's inception, we have recorded 21,102 incidents of leaking tank systems.

2. We have closed 12,748 of these incidents.

3. Of the remaining 8,354 active incidents 2,371 are High-Risk; 1,455 are Intermediate-Risk; 2,815 are Low-Risk; and 1,713 are Unconfirmed-Risk.

4. In FY2005, about 97 new releases were reported each month. The majority of these new releases (about 57 %) were from non-regulated (home heating oil) tanks.

5. In addition, there have been 6,357 "clean closures" of tank systems. These were closures where there was no release of petroleum (and therefore no reported incident).

C: The UST Program's Compliance Progress

In North Carolina, there are approximately 11,926 UST facilities. These facilities contain just over 33,852 UST systems (underground storage tanks, piping, dispensers, related valves, vents, sumps, and fill pipes, leak detection equipment, corrosion protection equipment, and monitoring equipment). In the North Carolina program, inspectors are responsible for all phases of UST system inspection and compliance, including pre-inspection preparation, on-site inspection activity, data accumulation and data entry, follow-up inspection, violation notification, violation follow-up, compliance monitoring, compliance enforcement, oversight of initial release investigation, and UST owner/operator training. At present, the UST program has 13 inspectors (up from 11 inspectors last year) and each inspector can inspect about 250 facilities each year, which means that the UST program can inspect each facility once every 3-1/2 to 4 years. Nine additional inspectors, and support staff, will enable the UST program to inspect every facility at least once every two years, which is the inspection frequency that protects the environment and public health, and minimizes the severity of releases and the costs of cleaning up releases. This additional inspection capability will also allow the UST program to ensure that the installations of new UST systems meet construction and testing standards and are not constructed too close to water supply wells.

D: The Commercial Fund

1. Since the inception of the Commercial Trust Fund in 1988, it has received about $452 million and disbursed about $407 million. 93% of that money been spent cleaning up UST releases and paying third-party claims. 7% of the money has been used to administer the UST program.

2. As of 30 June 2006, the balance of the Commercial Fund was $13,747,190. Claims pending against the Commercial Fund total $2,459,046.

E: The Non-Commercial Fund

1. Since the inception of the Non-Commercial Trust Fund in 1988, it has received about $104 million and disbursed about $85 million. About 86% of that money has been spent cleaning up releases from USTs. 14% of the money has been used to administer the UST Program.

2. As of 30 June 2006, the balance of the Non-Commercial Fund was $5,240,209. Claims pending against the Non-Commercial Fund total $2,620,641.

The primary effects of the Federal Energy Policy Act Of 2005 on North Carolina's Underground Storage Tank Program

The short title of the Act is the Underground Storage Tank Compliance Act of 2005. It was enacted on August 8, 2005 and amends Subtitle I of the Solid Waste Disposal Act (42 USC 6991 et seq.)

***Sec. 1522. LUST Trust Fund Distribution.**

(1) Prohibits EPA from distributing LUST Trust Fund appropriations to a state that has diverted funds from a state fund or state assurance program for purposes not related to the regulation of USTs. This applies to diversions of funds taking place after the date of Act enactment.

(2) Provides EPA with authority to withdraw approval of a state fund or state assurance program for cause without withdrawing approval of the State UST program.

(3) Allows LUST Trust Funds to be used for inspection and enforcement of release detection/prevention requirements for regulated USTs (including federal and tribal USTs), operator training and delivery prohibition. [*This provision cannot be implemented until funds are appropriated and allocated to the States. Also Congress must remove a penalty in the tax law that automatically reduces or eliminates LUST Trust fund revenues when funds designated for LUST (corrective action) are used for another purpose].*

Required Actions: It may be necessary to include in NC State law, a provision that prohibits any person from diverting funds from the Commercial State Trust Fund for purposes other than for regulation of USTs.

***Sec. 1523 Inspections of USTs.**

A State receiving LUST Trust Funds must conduct on-site inspections within two years to determine compliance for all USTs not inspected since December 22, 1998. After completion of these inspections, a State must conduct on-site inspections at least once every three years thereafter. EPA may extend the first three-year inspection interval up to one additional year if a State demonstrates that it does not have sufficient resources to comply. It is expected that a State will track inspection/compliance and enforcement data collected and generate periodic performance reports for EPA and Congress.

Required Actions:

August 8, 2007 – Complete inspections of USTs not inspected since December 22, 1998. It is expected that NC will meet this deadline with its current resources.

August 8, 2010 – Complete the first three-year inspection cycle. EPA may extend this deadline by one year if a State has insufficient resources to accomplish this goal. NC will

not meet this deadline with its current number of inspectors. To accomplish the three-year cycle, NC will need an additional 9 full-time inspectors, one additional supervisor to supervise and train these inspectors, and one attorney to process the additional enforcement action appeals. The program also must continue to develop and maintain a data management system to track, store and retrieve the inspection/compliance/enforcement data. The required reporting for EPA and Congress will be far more complex that what is being required now. These new inspectors should be hired and trained, and a data management system developed and put into production, by August 2007, the beginning of the first three year cycle.

***Sec. 1524 Operator Training.**

EPA, in consultation and cooperation with States, and after public notice and comment, must issue guidelines that specify training requirements for three distinct classes of operators responsible for operation and maintenance of regulated UST systems. Within two years of the date on which EPA publishes its guidelines, a State receiving LUST Trust Funds must develop state-specific training requirements based on EPA's guidelines. EPA can award a financial incentive to a State of up to $200,000 for this purpose

Required Actions:

August 8, 2007 – EPA must publish final operator training guidelines.

August 8, 2009 – States must complete development of state-specific operator training program in accordance with EPA's guidelines. Statutory authority and rules will be necessary to make operator training a requirement in NC.

Depending on EPA's guidelines, it is hoped that the State can accomplish this mandate with as little cost as possible. There are two ways this might be done relatively inexpensively. The first alternative incorporates operator training into the facility inspection process. All operators would be trained at the time the State inspects the facility that they operate. This is desirable because the operators will be trained by the State and will be provided with information that is specific to their UST release detection/prevention equipment and methods. Further, the inspection itself serves as a testing mechanism. The second alternative involves inviting a third party testing company such as International Code Council (ICC) to administer a state-specific test to operators and to notify the State of the test results. The State would work with ICC to develop a state-specific test. The cost for testing would be borne by the operator. Training for the test would also be left up to the operators and private trainers.

Both methods will require that the UST program develop and maintain a data management system to store, track and retrieve this information to ensure that the requirement is being met. Compliance with this requirement will have to be tied into the existing permitting and enforcement processes. Currently, the program has no operational data management system that can handle this component.

Sec. 1526 Public Record.

Within two years, a State receiving LUST Trust Funds must submit a report to EPA that contains inspection and compliance information about all USTs owned or operated by Federal, State and local governments. In addition, a State must maintain, update and make available to the public, a record of all regulated USTs. To the maximum extent practicable, the record must include each year: the number, sources and causes of UST releases, a record of compliance for all regulated USTs, and data on the number of UST equipment failures.

Required Actions:

August 8, 2007 – The State's compliance report on government-owned USTs and first annual public record is due. NC will be able to comply with the reporting deadline for the government-owned USTs. However, the State does not currently collect and track detailed information on the sources and causes of releases or the number of equipment failures for all regulated USTs. A data management system will be needed to store, manage and retrieve this information. To meet the reporting requirements, database development must begin immediately.

***Sec. 1527 Delivery Prohibition.**

Within two years of the date of enactment of the Energy Policy Act, it will be unlawful to deliver, deposit into or accept a regulated substance into an UST at a facility that has been identified by the EPA or a State as being ineligible to receive the regulated substance. Within one year after the date of enactment, EPA in consultation with the States, UST owners and product delivery companies, must publish guidelines on implementation of this section. States that receive LUST Trust Funds must comply with the processes and procedures established EPA's guidelines.

Required Actions:

August 8, 2007 – States must implement EPA's guidelines in order to receive LUST Trust Funds. Depending on EPA's guidelines, it appears that NC already complies with most of this requirement through its UST annual operating permit statute (NCGS 143-215.94U). However, the Energy Policy Act is somewhat broader than State law in that it appears to cover all USTs containing regulated substances. This includes hazardous substance USTs as well as petroleum USTs. Currently, the NC UST operating permit statute only covers USTs storing petroleum. If EPA includes hazardous substance USTs in its implementation guidance, then the State's operating permit statute will need to be amended to include hazardous substance tanks also. At present, about 216 active hazardous substance USTs are registered with the State.

Sec. 1528 Federal Facilities.

This section clarifies and underscores that all USTs owned or operated by any department or agency of the federal government must comply with all federal, state, interstate and local government UST requirements. This section also explicitly waives any federal sovereign immunity from such requirements. The only exception is a specific waiver that the President may invoke if the President determines that waiving such a requirement is in the "paramount interest" of the United States. Within one year of the date of enactment of the Energy Policy Act, each federal department or agency that owns or operates USTs must submit an extensive UST compliance report to EPA and Congress.

Required Actions:

August 8, 2006 – Federal facilities must submit a UST compliance report to EPA and Congress. NC will need to provide inspection and compliance information to federal facilities to assist them in preparing their compliance reports.

***Sec. 1530 Additional Measures to Protect Groundwater.**

Within 18 months of enactment of the Energy Policy Act, a State receiving LUST Trust Funds must require one of the following two options:

(1) New or replaced tanks and piping within 1,000 feet of an existing community water system or existing potable drinking water well must be secondarily contained (includes interstitial leak detection monitoring). New dispenser systems in the above areas must have under dispenser spill containment.

(2) Manufacturers and installers of UST systems must maintain evidence of financial responsibility in order to provide for the costs of corrective action related to releases caused by improper manufacture or installation. Also, an installer must have one of six forms of certification (already required in the existing federal and state UST regulations).

Required Actions:

February 8, 2007 – States must implement secondary containment or financial responsibility provisions. NC already meets the secondary containment requirements for UST systems installed or replaced within 100 feet of a potable well, within 500 feet of a well serving a public water supply and within 500 feet of surface water classified as Water Supply (WS)-I and WS-II. In addition, existing legislation specifies that new installations or replacements of non-tank components including UST dispensers at all locations must be provided with secondary containment. North Carolina already has draft rules in the rulemaking process that will require secondary containment for all new or replacement UST systems.

MINUTES
ENVIRONMENTAL REVIEW COMMISSION
15 November 2006

The Environmental Review Commission (ERC) met on Wednesday 15 November 2006 at 9:30 a.m. in Room 1228 of the Legislative Building. Representative Pryor Gibson presided.

The following members were present: Senators Albertson, Bingham, Clodfelter, Dorsett, Forrester, Kinnaird and Weinstein; and Representatives Gibson, Hackney, Harrell, Harrison, Justice, McComas and Warren. Mr. George Givens, Commission Counsel; Jeffrey Hudson, Assistant Commission Counsel; Jennifer McGinnis, Assistant Commission Counsel; Susan Iddings, Assistant Commission Counsel; Jennifer Mundt, Commission Analyst; and Dot Waugaman, Commission Clerk, were also present.

On 31 October 2006, notice was sent to members and interested parties via e-mail and regular mail. A copy of the notice is included in the attachments to these minutes as **Exhibit A**. Copies of the agenda for the meeting and visitor registration sheets are included in the attachments as **Exhibits B** and **C**.

Representative Gibson called the meeting to order and asked George Givens to present his report and explain the agenda items. Mr. Givens pointed out that a package of two groups of reports with an explanation memorandum from Ms. Jennifer Mundt was at their desks (see **Exhibit D**). The first group of six reports consists of reports that have been submitted to the Commission since the last meeting that are designated as Read Only. They include the annual report of the Coastal Habitat Protection Plan Program, 2005-2006 (see **Exhibit D-1**); report to the General Assembly on the Inactive Hazardous Sites Program, dated October 2006 (see **Exhibit D-2**); 2006 semiannual report for the Pilot Program for Inspections of Animal Waste Management Systems, dated October 2006 (see **Exhibit D-3**); annual report on Basinwide Water Quality Management Plans, dated October 2006 (see **Exhibit D-4**); annual report on the Dry-Cleaning Solvent Cleanup Act Program, dated October 2006 (see **Exhibit D-5);** and annual report on Implementation of Stormwater Rules and Programs, dated October 2006 (see **Exhibit D-6)**. The second group of reports was also submitted to the Commission since the last meeting. Those reports relate to items on the agenda. They are placed in the minutes according to the agenda item to which they relate. Mr. Givens added that also at their desks was a document entitled, "Status of Reports to the ERC Required by Law", dated 14 November 2006 (see **Exhibit E**). The only reports being held are those relating to Parks and Recreation issues. They will be distributed at a meeting when parks and recreation issues are discussed sometime before the convening of the 2007 session.

Mr. Givens noted that the public-staff planning meeting for this meeting was held at 10:00 a.m. on 13 October 2006. He then reviewed the agenda for Commission members. In regard to Agenda Item #12, he reported he has heard from some people who want to be heard on the issue and therefore the agenda item will appear again at the January meeting. He added that the Nutrient Offset Payment Working Group has met once and will meet again on Wednesday 22 November at 10:00 a.m. The group is working on a Request for Proposals for a consultant to assist with a study of the issue. The next meeting of the ERC will be Wednesday 13 December 2006 in Room 1228 of the Legislative Building. One of the items on the agenda will be issues related to abandoned manufactured or mobile homes. Another will be a report on the Sedimentation Control and Pollution Control Act. The Utilities Commission is scheduled to complete its study and report to the ERC on renewable energy portfolio standards at that meeting, and Leaking Underground Storage Tank program will also be discussed.

Representative Gibson recognized Mr. Givens to report on the proposed merger of the organization and functions of the Ecosystem Enhancement Program (EEP) with the Clean Water Management Trust Fund (CWMTF) as required by Part 16 of the 2006 studies bill. Mr. Givens said Transportation Oversight staff members are working on a Request for Proposals (RFP) to hire a consultant as is authorized by the legislation. The Transportation Oversight Committee met the previous day and approved the draft RFP. It is before the ERC for approval today. The staff recommendation is

that it be approved subject to technical and scheduling modifications necessary as it is perfected. Transportation Oversight and ERC staff will work together to select the consultant who will be charged with preparing a fair and balanced report.

Representative Gibson recognized Ms. Lisa Hollowell, Senior Fiscal Analyst, Fiscal Research Division, North Carolina General Assembly, to outline the RFP with particular focus on the scope of the work to be performed by the consultant (see **Exhibit F** for a copy of the draft RFP).

Senator Clodfelter asked if the study could be done by existing staff and how much the outside consultant would cost. Representative Gibson remarked that with the complexity of this and other issues staff is dealing with, and the short time frame required, current staff is unable to fit it into their work schedules. Mr. Givens replied that the study has been postponed for a year because the 2005 studies bill did not pass, and that the same language was in the 2006 studies bill which did pass, including the authorization to hire a consultant.

Senator Weinstein moved that the Commission approve the draft Request for Proposals for a consultant to assist the Commission and the Joint Legislative Transportation Oversight Committee (JLTOC) in the joint study of the merger of the organization and functions of the Ecological Enhancement Program with the Clean Water Management Trust Fund, subject to technical and scheduling modifications by the staff, and to authorize the Commission Counsel to work with the staff of the JLTOC in the selection of a consultant from among the proposals received. The motion includes the following understandings: (1) that the employment of the consultant is subject to approval by the Legislative Services Commission; (2) that the consultant will be paid from funds available to the Commission and the JLTOC through the Legislative Services Commission; (3) that the consultant will report its findings and recommendations in time for the 2007 session to consider the recommendations; and (4) that the Commission will review the cost and work schedule of the consultant at its December or January meeting. The motion carried.

Representative Gibson recognized Ms. Robin Smith, Assistant Secretary for Environment, DENR, for a report on recent action by the Environmental Management Commission (EMC) on the Clean Air Mercury Rule (see **Exhibit G** for a copy of the rule as recommended by the hearing officers to the full EMC at their 9 November 2006 meeting). The EMC did adopt the rule. In the process they made a couple of minor changes that affected only the reporting requirement, but it did not alter the rule at all.

Ms. Smith explained the background of the rule. The U.S. Environmental Protection Agency adopted a mercury rule addressing emissions from power plants. Part of the rule set a national cap for mercury emissions. A cap was then assigned to each state individually. Under the federal rule, North Carolina has a cap for mercury emissions that our power plants will have to comply with by 2018. Within the cap for each state, the federal program allows for cap and trade. Essentially, the power companies across the country have the opportunity to meet the emissions allocations under the state caps, either by actually reducing their mercury emissions, or by trading for credits in a national cap and trade program. If a given utility was not able to actually reduce their emissions to the limit of the allocations within their state cap, they could buy credits in the national cap and trade program to offset their shortfalls. There has been a lot of concern nationally about addressing mercury with a cap and trade program, because such a program would allow some utilities to achieve their reductions not by actually controlling mercury but by buying credits that would leave hotspots. Across the country, a number of states (approximately 20) have looked at adopting more stringent rules than the federal rule that is allowed under the federal regulatory program. The biggest concern in those states has been how and whether to participate in the national cap and trade program for mercury credits.

In North Carolina, the EMC has struggled with the issue for about 18 months. Much of the struggle had to do with how to use the cap and trade program. There was a strong sentiment that we wanted to get the largest amount of actual mercury reductions in North Carolina that we could achieve without relying on the trading program. There was discussion over the last 18 months about the feasibility of achieving up to 90 percent reductions in mercury emissions without trading, but there was also a great

deal of uncertainty over what is achievable. How much could be reduced depends on many factors such as how much mercury is in the coal that an individual utility is using, what types of mercury control equipment is installed, along with a number of other variables. There is no good mercury emissions data in existence to rely on, so decisions have been based on modeling and estimates of what reductions will be achieved by installing different types of equipment. The uncertainty has the utilities nervous about their ability to reach certain targets. At the end of the process, the Division of Air Quality had looked at estimating emissions reductions that could be achieved in North Carolina based first on the clean smokestacks controls.

It is known that the installation of the technologies to control for NOx and SOx2 emissions in the state would reduce some mercury emissions. DENR estimates that by 2013, five years ahead of any mandatory emissions reductions under the federal rule, North Carolina is expected to achieve about 73 percent reductions in mercury emissions in the state from power plants based on the installations of clean smokestacks controls. However, additional reductions would be required to reach the federal cap. The rule ultimately sets a numerical target for the second phase reductions. The EMC adopted a narrative standard that requires the utilities to return to the Commission in 2013 with a mercury control plan for their entire system.

The plans will have to address the clean smokestacks units as well as any units that remain uncontrolled, and propose a plan for installing additional mercury control technology to achieve the maximum level of actual reductions that is technically and economically feasible.in North Carolina without reliance on the trading program. The EMC will have to approve the plans. It also requires controls on all units with an exception for very small units. It may not be technically and economically feasible to control the very small units because there would not be sufficient mercury reduction from those units to justify the cost of the technology. If the EMC found that that to be true, and also found that allowing a particular unit to function without controls would not create a localized problem with respect to human health and the environment, they could allow that unit to remain uncontrolled as long as the utility achieved additional reductions from another unit in their system. If by 2018 when these plans have been approved and the utilities have installed all their mercury control equipment in compliance with their approved plan, it turns out that they have not quite met the level of emissions reduction required to fall under the federal cap, they could use the national cap and trade program to buy credits to offset the difference. The point of the rule is to make the effort to obtain the maximum actual feasible reductions before participating in the trading program.

It was a difficult rulemaking process, but agreement has been achieved with the utilities in the past three weeks. The agreement on the rule met the utilities' concerns that even with all the controls installed they would still not be able to reach the reductions needed. It met the environmental concerns of the EMC and the environmental community that they not go to a cap and trade program that would allow for localized mercury impact unless there was no other option.

Senator Clodfelter asked if our utilities reach their reductions and would be able to reduce the emissions even more they would be able to sell their credits to other utilities. Ms. Smith answered that presumably they would. She added that the way the rule is written, the utilities do not need to stop when they reach the federal cap. If it turns out 4-5 years from now that the control equipment is actually more efficient than currently thought, and they can exceed the level of reductions required under the federal cap, they are expected to sell their credits to other utilities.

Senator Albertson asked if Ms. Smith has a map showing the mercury hotspots. She replied she does not, but that she would get the information for the committee.

Senator Clodfelter asked if the state could put any limitations on where we buy and sell our credits to protect our environment. Ms. Smith said because the trading program is a federal program, we cannot have that kind of control. She added that the state could adopt standards for North Carolina power plants and affect what their standards are in the state before they can take advantage of the trading program. Mr. Givens commented that there are some court case incidents that would suggest that a state's attempt to manipulate the trading program process would be considered interference with

the federal plan and would therefore be unconstitutional. With the smokestacks program, the utilities voluntarily agreed to surrender all their smokestacks credits to the state, but the General Assembly actually has control of those and presumably will have them sequestered forever. Senator Clodfelter asked if there was any discussion about what to do if credits were donated. Ms. Smith said she did not believe there had been, and added that she does not believe this could function as the smokestacks program did because in that situation the state was ahead of any federal program. In this case, there is a federal cap and trade program established and functioning under federal rules. Mr. Givens said the issue would be worth another look.

Senator Forrester asked if this program would mean there would be no more coal fired electric plants built in the state. Ms. Smith replied that the rule is written with a growth allowance. The rule takes the state cap that EPA set and subtracts from that cap a certain percentage to put in a new growth account. That amount then comes out of what was allocated to the existing units and their mercury allocations. The actual level of emissions reductions that existing units have to reach is tighter because DENR has taken a percentage off the top to put in a growth account for potential energy source development.

Senator Kinnaird commented that because of the properties of mercury versus NOx and SOx2, she believes there should not be a cap and trade program. Senator Albertson added that the report shows that we need to be developing alternative sources of energy, energy efficiency and energy conservation in the state.

Mr. Givens told the ERC that the rule will now go to the Rules Review Commission, and either will or will not be subject to legislative review during the 2007 session depending on that review.

Mr. Givens also announced that procedurally, in regard to the RFPs (see above), the statute requires that the RFPs be approved by the Legislative Services Commission (the Speaker of the House and the President *Pro Tempore* of the Senate).

Representative Gibson recognized Mr. Paul Crissman, Head, Planning and Program Management Branch, Solid Waste Section, Division of Waste Management (DWM), DENR, to report on a survey of solid waste management regulations of other states and on issues related to the processing of solid waste management permits by the Division of Solid Waste. The moratorium bill passed during the 2006 session directed the study of solid waste.

Mr. Crissman first answered questions from the previous meeting (see **Exhibit H** for a copy of his PowerPoint presentation and **Exhibit I** for a map showing states with tip fee surcharges). He also shared two studies on illegal dumping and the causes of illegal dumping (see **Exhibit J** and **Exhibit K**). The two primary causes of illegal dumping are (1) lack of access or a collection program and (2) lack of a local enforcement program. The North Carolina experience supports the studies with one additional comment:. there seems to be a local custom of illegal dumping in some specific areas of the state.

The states studied have some things in common: they are seaboard states and neighbor states. They are the states from which we expect to receive waste if we become a host state for waste, or they are states that are host states that currently receive waste from states that we would expect to receive waste from. Besides the questions shown in the PowerPoint presentation, the study is looking at whether or not there are bans on certain types of waste and what types of articles are banned, what types of wastes are accepted, and what screening processes are used. A meeting was held yesterday to determine what data they still need to collect.

Mr. Crissman said he believes the existing landfills are performing well. The current system is not broken. There are no base liners that they are aware of that leak today. We know the monitoring systems work. There have been some problems with some of the leachate collection systems, with some of the leachate collection ponds, and some sabotage at a landfill. The moratorium gives us a chance to look at our rules in comparison with other states, and in comparison with our performance. We have

experience in the state with lined landfills. We have a history of working with local governments. There are some big landfills, some with over 1,000,000 tons a year, and there are some very small ones.

In December, DWM will come to the ERC with recommendations. One recommendation consists of a list of rules that need to be written. A second is the idea of designating sensitive areas such as a brown water recharge area, or a groundwater recharge area. Some states have a specific defined regulatory response for sensitive areas. The defined response may be a double liner with a leak protection system. A third option would be to have an open-ended response for a sensitive area. The response would be a design or site-specific response, subject to the applicant's design. That would require a legislative change because the Rules Review Committee will not allow DWM the flexibility in their rules to have an open ended response. Another recommendation would be to require a full environmental impact statement for every proposed landfill.

Many states also require a transportation study. One of the major complaints and frustrations of landfill neighbors is the transportation of the waste to the landfill. DENR has no regulatory control or influence over anything outside the landfill. Another suggestion could be expanding the list of location restrictions based on certain criteria.

The study is comprehensive. It is being done by DSWM staff at the cost of time. The existing permit backlog is growing for a couple of reasons: permits are growing in complexity and frequency, and the public is more vigorously and contentiously involved than they used to be. It is difficult to recruit people to do permit work and the budget shortfalls have contributed to the problem.

Representative Gibson recognized Ms. Sara Evans, Manager, Recycling and Local Assistance Branch, Division of Waste Management, Department for Environmental Protection, Environmental and Public Protection Cabinet, Commonwealth of Kentucky, to discuss the Kentucky solid waste tipping fee surcharge and solid waste management programs (see **Exhibit L** for a copy of her PowerPoint presentation). Ms. Evans said Kentucky faced some of the same problems North Carolina is now facing, and they have had successful outcomes. She added that their permit backlog has decreased from three years in 2002 to a currently backlog of two months.

Representative Gibson recognized Mr. Richard Whisnant, Associate Professor of Public Law and Government, UNC-CH School of Government, to discuss legal limits and policy options (see **Exhibit M**). Mr. Whisnant said the one thing that can be done to keep on safe constitutional ground is to focus on local and state benefits of whatever it is that is being proposed to do. He said the state needs to consider if the current tipping fee fully covers all the costs of solid waste disposal. He spoke about conflicting interests between local and state and regional jurisdictions.

Representative Gibson recognized Mr. Paul Meyer, Assistant General Counsel, North Carolina Association of County Commissioners, to speak on local government perspectives on solid waste management. Mr. Meyer made three points. For many reasons, landfills have become a viable economic development option. The problem then becomes a revenue problem, not a solid waste problem. The siting of landfills is a necessary component for the disposal of trash in the state. Local governments play an interesting role. They are both owners and operators of landfill facilities and may be franchisors. Until there are more cost effective technologies, landfills will continue to play a significant role in terms of trash disposal and overall economic development. Market forces dictate that less populous areas and less valued land will lead to lower disposal costs. It is inevitable that due to low cost land and low cost labor in North Carolina, landfills and trash will be coming to this state. Further complicating this, the state has a large list of fiscally strapped county governments. Some of the counties that have triggered the current situation are Columbus County (23% poverty rate in the county—5th highest in the state, 12% of their budget is spent on Medicaid), Scotland County (21% poverty rate, 10% of their budget is spent on Medicaid), and Hyde County (16% poverty rate, and 5% of their budget goes to Medicaid).

With no other economic development options, landfills become a viable solution. However, it is a long and arduous process for local governments to enter into landfill agreements. The receipt of host fees by local governments is a standard practice throughout the country. The money is used to recoup

some of the costs related to the landfill. Camden County has done everything right; however, they are receiving a significant amount of heat for their decision to bring a large landfill to their county. Imposing a state tipping excise tax could actually hurt the counties that are trying to survive economically because the companies will use the existence of a state excise tax to negotiate a lower local host fee. In fact, some of the existing contracts between private industry and local government have a clause that says if there is a state imposed excise tax, the local government will absorb the fee.

Although counties look at landfills as a way to help economic development, county leaders are also concerned with the environment and public health. Conventional wisdom says that because a local government receives host fees they will turn their backs on environmental and public health concerns; however, that is not the case. No county wants to destroy the groundwater quality in their county or damage the natural resources in their jurisdictions. They do not want to deter future economic development. Many local governments already hire additional inspectors at landfills because they acknowledge that DENR does not have the resources and staff to conduct the inspections. Mr. Meyer said the state should not become an active franchisor of solid waste facilities. There is a significant local role in land use and franchising as well as the development of landfills. He added that as North Carolina becomes more fully populated, and fully urbanized, the need for landfill capacity will continue to grow, and large regional landfills could very well be a necessary solution to that problem.

Mr. Meyer ended his presentation by saying that counties should not be prevented from exercising local autonomy over what their citizens want and need. There is a state interest, but it should not result in elimination of local control and local participation in the process.

Representative Gibson recognized Mr. Edward Repa, Director, Environmental Program, National Solid Wastes Management Association, to speak to the private solid waste management industry perspectives on solid waste management. Mr. Repa brought materials concerning the interstate movement of municipal solid waste (see **Exhibit N**). He said his Association works with the federal government in developing regulations. He first discussed the safety of the landfills. Modern landfills are well-designed and engineered facilities that are located, designed and operated to insure environmental protection. In the mid-1980s, as a result of the Federal Resource Conservation and Recovery Act (RCRA), the EPA put together the Subtitle D regulations, which are under 40 CFR part 258, and which the state adopted. The purpose of the federal rules was to set a minimum standard so that no matter where a landfill was sited, and no matter what a state did, the rules would insure protection of the environment and human health. The federal rules require liners, leachate collection systems, groundwater monitoring, financial assurance, closure and post-closure care for the facilities and if there is a problem, the responsible party is required to perform corrective actions. The RCRA regulations have forced the closing of old smaller landfills because they could not meet the requirements.

Since the rules have been in place, no new landfills have had any problems in protecting groundwater and the environment. This includes sensitive areas. Although coastal areas have been a problem because of the high water table, there have been over 20 years experience operating the landfills without a groundwater contamination problem. The Association looks for new technologies to assure environmental protection around landfills, including new materials for liners and leachate collection systems. Some states have bioreactor landfills in which the waste decomposes more quickly than in traditional landfills. In the 1980s, the average tipping fee was $8 a ton; today it is $34 a ton. This increase in cost is a result of concern for the environment.

Over 39 million tons or about 10 percent of waste generated across the country moves between states for disposal. There are basically 207 waste interactions—trades between one state and another. Almost 70% of the interactions are between neighboring states. Only three states do not dispose of waste outside their borders. North Carolina, for example, ships over 1 million tons of waste out of state for disposal. Sixty-two counties in North Carolina ship some of their waste out of state, not all to neighboring states. The landfill problem is not an engineering problem, it is a political problem. The counties have been looking at landfills as a way to help increase their revenues, take care of their waste, and also help them finance schools, fire departments and police departments.

Representative Gibson recognized Mr. Jim Stephenson, Program Analyst, North Carolina Coastal Federation, to speak on behalf of the Coastal Federation, the Sierra Club and the Conservation Council of North Carolina (see **Exhibit O**). Mr. Stephenson spoke to the issue of DENR regulation of mega-landfills and made seven recommendations for the Commission to consider. He added that the coastal plain is particularly vulnerable to mega landfills. He showed a graph that demonstrated the heights of the proposed mega landfills in relation to the Cape Hatteras Lighthouse at 208 feet. All but one of the landfills was planned to be higher that the Cape Hatteras Lighthouse.

Mr. John Runkle, General Counsel of the Conservation Counsel of North Carolina, spoke from the perspective of the environmental advocacy community. He told the ERC that in his private practice he has represented over 20 private groups that have opposed landfills or wanted to modify landfills. Presently he is representing citizen groups and landowners in Camden, Hyde, Duplin, Brunswick, Scotland, Bladen and Richmond Counties. The reason the groups are opposing or wanting to modify the proposed landfills is that landfills have effects on their neighbors, the near community and some regionally. In the last 20 years, there have been two troublesome trends. The first is that landfills are getting larger. The proposed Camden landfill is six times as large as the next largest landfill, the Charlotte Motor Speedway Landfill. It would take 10,000 tons per day, much of it barged into the City of Chesapeake. The City of Chesapeake has sued Camden County Commissioners because the landfill would affect all the truck traffic and barge traffic through their town, and the landfill sits in their watershed next to a state park. Secondly, as the landfills are getting larger, the owners and operators are now relying more on the LLC form of organization, with a growing concern for assuring that financial resources would be available in case of the need to remedy a landfill problem. He stated that the entity operating the landfill needs to be able to be financially responsible.

Representative Gibson recognized Ms. Joyce Hartman, a realtor from Camden County who was representing herself and her family, to speak on the community perspective of large landfills. Ms. Hartman brought some photographs of the area showing standing water after a fairly simple rain storm in August (see **Exhibit P**) and a map of the Camden County landfill area (see **Exhibit Q**). She thanked the members for the moratorium that allowed the County to look more closely at the issue. Last week, a new group of County Commissioners decided to postpone a vote on the extension of the franchise agreement. When the former County Commissioners were approached by the waste company to purchase the land and make a franchise agreement, the citizens of Camden County were not informed. Appropriate legal notices were not given to adjacent landowners. It is important to have policies and procedures put in place and enforced to protect the citizens.

The land bought for the landfill is former converted wetland, converted into farmland between 30 and 50 years ago. The area is extremely sensitive. The water table in the northeastern part of Camden County is two feet below ground level. Runoff from routine storms will be an issue. Because of Ms. Hartman's family's proximity to the landfill, they were invited to special public meetings by the landfill applicant to ask questions and express concerns. One meeting detailed the latest and greatest landfill liner that would be used. At another meeting, they were divided into groups of five or six and at her table, a state employee was there to answer her questions about the proposed landfill. The employee had not had a tour of the site for the landfill and could not answer questions about its proximity to houses.

Ms. Hartman said the moratorium has given citizens time to reassess the situation. She ended her remarks by stating she hopes that the ERC will put into place some protocols for local governments to follow so no other citizens have to experience what the citizens of Camden County have experienced.

Senator Forrester commented that any LLC that owns a landfill should be required to have a 100-year bond for $10 billion to assure their liability is covered. He also asked Mr. Crissman about fuel generation plants in which solid waste is burned for fuel energy. Mr. Crissman said the plants were found to be too expensive to build and operate. It provides an inconsistent and irregular fuel supply which is difficult to maintain and manage. New Hanover County is still keeping their facility active, but it is extremely expensive to operate. It does significantly reduce what has to be placed in a landfill, but it is more expensive.

Senator Kinnaird asked why a full environmental impact statement has not been required for landfills. Mr. Crissman said landfills are exempt from the State Environmental Policy Act (SEPA). Mr. Givens said it was exempted in legislation to allow a particular landfill to be permitted more quickly. Senator Kinnaird suggested the Commission look at changing that exemption. She added that the General Assembly must provide enough funds for the Solid Waste Section to do its job. She also asked for information about the Rules Revision lawsuit.

Representative Harrison asked if there is enough staff for regular monitoring of landfill sites. Mr. Crissman replied they are behind on inspections this year. Staffing in general is a growing problem. With a staff of 42 in the section, 36 are devoted to traditional solid waste. A series of budget reductions have reduced the staff by six positions compounded by the need to hold on filling vacant positions during the very tight budget years. There has also been a growing workload and an growing number of increasingly complex facilities to inspect. The public is also becoming more aware of environmental concerns and has higher expectations. Division staff also has to respond to complaints. Mr. Crissman asked Mr. Mark Poindexter, head of the Inspections Branch, to comment on a new task which requires mapping of risk assessments within a 1500 foot radius of landfills. Staff members are also working with counties that have a large poultry population to plan for disposal of a large number of birds in case of an avian flu epidemic. Staffing level, workload change, and complexity of the 1500 facilities that require inspections have caused the backlog. Representative Harrison asked if they would need statutory authorization to impose a permit fee. Mr. Crissman replied they would.

Senator Clodfelter asked Mr. Meyer if it could be said that since counties are authorized by statute to operate certain public enterprises for the purpose of serving their citizens, but also that anything counties are authorized to operate to serve citizens as a public enterprise can be franchised to a private operator to operate, the General Assembly could take the policy position that the counties' authority to franchise extends only as far as they can operate a public enterprise to serve their own citizens. What counties are now purporting to do with their franchises is to begin to authorize the operation of private business entities that are not intended to serve the purposes of serving only their citizens. The only franchising counties (or cities) are authorized to do is in substitution of local government offering the service directly to their citizens. Mr. Meyer responded that there could be more than one interpretation of the phrase "serve your citizens." It could mean that they could derive revenues with which other general governmental functions could be provided. He added that any of the landfills that bring waste from other jurisdictions would also include the home county. Senator Clodfelter suggested counties have authority to franchise for the service of their county, but beyond that, the state would have to approve a franchising permit.

Mr. Givens commented that the franchise statute was created solely for the purpose of getting at the importation of out of state waste without calling it that. It was done specifically with respect to the Kernersville landfill. He added that the only reason there has not been a constitutional challenge is because the franchise grants are so large that they have excluded potential plaintiffs. Senator Clodfelter said he believes the state could be a plaintiff in the situation. It is probably unconstitutional to grant a franchise under the perpetuities and monopoly clause for the purposes Mr. Meyer discussed. He added that if the discussion is about landfills that are not local service landfills, the policy should come from the state, not local governments. Representative Gibson commented that the franchise statute was constructed to protect those entities that do not have the expertise to take on an issue that is as complex and complicated as landfills or water treatment. Mr. Meyer said that fewer and fewer counties and cities are feeling competent to run these types of facilities, and they are turning to entities that do have the professional expertise.

Representative Gibson asked how long it takes to fully permit a landfill. Mr. Crissman replied that it takes five to seven years for the full planning and building of the landfill.

Senator Albertson asked about what happens to areas where the landfills have been sited. Mr. Runkle responded that property values decrease significantly. In some locations in the state, residences have been bought by the local governments because no one would buy or rent them. People do not want to live around landfills. In contrast, Mr. Repa said the end use determines what the property values are.

Multi-million homes are being built around landfills in California, Illinois, Indiana, and Virginia. He added that the Archdiocese of Chicago allowed landfilling on their property so they could convert land that was not usable into something that could be used as a cemetery. Ms. Hartman commented that what drives property value is a person's perception of the landfill. A landfill that is 75 feet tall is much different than a landfill that is 280 feet tall. Different kinds of waste also make a difference.

Senator Albertson asked if a landfill donor state can be required to have a recycling program comparable or superior to North Carolina's recycling program. Mr. Whisnant replied that Virginia had tried to use that criterion, but the court struck the Virginia law down because Virginia had said out of state waste could not be trusted to be of the same waste quality as Virginia's, and therefore they would require more stringent inspection on all incoming waste. The Fourth Circuit said if the state did that, it is discriminating against out of state waste and inspections must be done in the least restrictive method possible. The Court suggested if Virginia had determined how each individual state's waste would be handled, it might pass legal muster. Operationally, that approach sounds very difficult. It is not as clear that a state cannot do anything to enforce its standards. If you are going to have standards, you have to be as unrestrictive as possible so as to not burden interstate commerce unduly.

Senator Albertson asked if the fees charged are more for a more expensively constructed landfill over a less expensively constructed landfill. Mr. Crissman said the permit charge would be the same to review the permit, but the construction and design costs of a double-lined landfill would be more. The costs associated with the construction, design and operation may be more, so there would be increased costs associated with disposal; however, a fee cost or a tax would not be affected. Different fees are charged at different places based on the cost of construction.

Representative McComas asked Mr. Crissman about the proposed Brunswick County landfall, whether the industrial waste that the landfill is being proposed to handle is considered hazardous waste in Europe. Mr. Ed Mussler, Chief of the Permitting Section, said they are not far enough along in the permitting process to answer the question. Representative McComas asked if, after getting a permit to one type of waste, a company decides to handle another type of waste, they would need to go through the permitting process again. Mr. Mussler said they would.

Representative McComas referred to Senator Clodfelter's question concerning the authority of the counties to franchise for larger areas than their jurisdiction. He said in Brunswick County, the County Commissioners are unanimous in their opposition to the landfill; however, a small local government is granting the franchise. Mr. Givens said the unit of local government that has the zoning jurisdiction over the property in question has the franchise authority. In the Brunswick County situation, there was either a satellite annexation or an ETJ that affected that particular piece of property and put it under the Town of Navassa instead of Brunswick County.

Representative Justice asked whether a local government could stop development of a landfill. Mr. Whisnant replied that local government has to approve it before it comes to the state for permitting. If the Board of Commissioners does not want to grant the approval because it does not meet the county's land use ordinances or for whatever reason, the Commissioners would not have to grant the approval. Representative Justice asked if all the soils along the coast are hydric. Mr. Stephenson replied that not all soils in the coastal plain are, but there are areas where there are hydric soils that supported wetlands at one time. Representative Justice asked Mr. Crissman if there is a restriction for hydric soils. Mr. Crissman commented that there is some question if there is a state law that would allow a local government to supersede a state environmental law. Mr. Givens said he recalled that state law provides for a uniform system of solid waste regulation perhaps relating to hazardous waste only. He added that the SEPA exemption for landfills was passed in 1983 as a special provision in the budget bill.

Senator Clodfelter asked about solid waste that is on its way to the landfill. He asked if a fee could be imposed based on the distance the waste has to be transported because there is a direct correlation between the transportation of the waste and how much litter shows up on the roadsides. Mr. Whisnant said that probably has been tried, but he will have to research to find out when and where. He added that constititutionally, it would be a gray area and would be difficult to predict what a court would

decide. He added that if a good basis for local or state benefits or environmental benefits such as litter control existed, it would make a good argument in front of the court.

Ms. Evans said that in Kentucky it was recognized in the late 1960s that hosting a solid waste facility could have an impact on the roads, so counties were given the authority to impose a fee of 6.25 percent of gross receipts on the revenues of that particular facility. The money so collected could be used for litter abatement and other solid waste management programs.

Senator Clodfelter asked Ms. Evans what Kentucky did in three years' time to cut costs for cleanup from $54 a bag to $12 a bag and increase by ten times the number of bags picked up. Ms. Evans replied that prior to the funding being distributed by the cabinet department, the funding for litter cleanup came from the county governments. They would then report to the state what they were spending. When the money was transferred from the Department of Transportation to the Department of Environmental Protection, the fund was administered to the counties with strict standards attached. Prior to the legislation, the counties could conduct cleanups when it was determined to be necessary. Now they are required to do the equivalent of three road cleanups for every mile of road in their county every year. Senator Clodfelter asked Mr. Meyer if the counties would agree to do that. Mr. Meyer replied they would be willing to discuss the idea.

Representative Gibson asked how the $1.75 tipping fee was passed by the legislature. Ms. Evans said it was largely driven by the counties, since they are the ones that are responsible for cleaning up illegal dumps and abandoned landfills. The only counties that benefited from host agreements were the 26 counties that hosted a landfill (out of 120 total counties in the state). She added that the private solid waste haulers supported the fee because of their concerns with the permit backlog and abandoned landfills.

Senator Bingham asked Ms. Evans if the volume of imported waste stayed the same through the process of raising the tipping fee. She replied that it did remain steady, although there was a quadrupling of imported waste through the 1990s and into 2001. The higher fees perhaps affected the importation. It did not increase; it stayed the same, whereas prior to that time it had increased. Senator Bingham asked if the state has looked into accepting only biodegradables in landfills. Ms. Evans said the end users who make products from recycled materials are not as enthusiastic about accepting only biodegradables because that affects the amount of material available for them to use in making their products. Staff said they would look into the possibility.

Representative Harrison asked if Kentucky has bans on specific items such as aluminum cans, plastics or other items from landfills. Ms. Evans replied the only landfill bans Kentucky has is on whole tires. She added that they are trying to encourage the recycling of electronics by providing options for disposal to forestall the possibility of illegal dumping when they are banned.

Mr. Crissman asked to add something to the question of workforce retention and staffing of the Solid Waste Section. He said that 30 percent of their staff is either at retirement age or within less than 2 years of retirement age. Therefore there will be a significant challenge with retention and transition in the near term.

The Commission took a lunch break at 12:40 p.m. and reconvened at 1:30 p.m.

Representative Gibson recognized Ms. Miriam S. Perry, Director, Public Transportation Division (PTD), Department of Transportation (DOT), to make an annual report on development and implementation of a plan to reduce vehicle miles traveled by State employees and vehicle emissions resulting from job-related travel, including commuting to and from work, and an annual report on development and implementation of a plan to reduce vehicle miles traveled by private sector employees and vehicle emissions resulting from job-related travel, including commuting to and from work (see **Exhibit R**).

Last summer the DOT revised the process by which they allocate Federal Highway Administration congestion mitigation and air quality funds. They provided an allocation by formula to all Metropolitan Planning Organizations (MPOs) and Rural Planning Organizations (RPOs) that were in non-attainment areas. It was the responsibility of the MPOs and RPOs to solicit local applications for the Congestion, Mitigation and Air Quality (CMAQ) funds. There were 37 transit projects state-wide that were selected to receive CMAQ funding. The funds are being used to expand express commuter service in Charlotte from neighboring cities, to convert transit vans in Chatham County from gas to biodiesel, and to initiate new transit service in Greensboro to provide service to area colleges and universities. To support this effort, the Public Transportation Division submitted an application for CMAQ funding. It was approved for funding to support a commuter assistance program manager and to develop a state-wide transit awareness campaign. They are in the process of evaluating proposals received through a formal solicitation process for a firm to work with their Public Information Office on developing a state-wide transit awareness campaign. The position will be posted shortly and Ms. Perry hopes to have the position filled within six to eight weeks.

The PTD continues to operate the state-wide rural vanpool program. They are in the process of completing the evaluation of the proposals received for actual operation of the state-wide rural vanpool program. There are currently 31 vans in the state—from Transylvania County to Hyde County—and they hope to expand to 50 vanpools within the first year of the contract period.

Representative Gibson asked if there is any information on the federal-state interface relating to the programs. Ms. Perry said under the reauthorization bill, there is an emphasis on more coordinated planning and delivery of services, recognizing there will never be enough federal money or state money to meet the demand. NCDOT has initiated a program to encourage smaller transit systems in rural areas to team up with fixed route systems in their areas. They are trying to move the smaller transportation systems operating in individual counties to more regional transportation systems that recognize regional travel patterns. PTD's emphasis has been on coordinated delivery of transit services and DOT has followed suit. Representative Gibson asked if there is coordination between what the Public Transportation Division is doing and what some of the internal human resources offices within state government are doing about teleworking. Ms. Perry replied that teleworking policies are being tightened up in her Division.

Representative Gibson recognized Mr. Dexter Matthews, Director of the Division of Waste Management (DWM), DENR, to update the Commission on the cleanup activities as a result of the fire at Environmental Quality Industrial Services of North Carolina, Inc. (EQ) that occurred 5-7 October 2006. EQ was one of 11 permitted commercial hazardous waste management facilities in North Carolina and is subject to the permitting standards of the federal Resource Conservation and Recovery Act (RCRA). It is also under compliance monitoring under the state's Resident Inspector's Program.

The DWM has had one to two staff members on the EQ site to monitor all activities during daylight hours since the fire was extinguished and various agencies completed their investigations of the causes of the incident. No nighttime activities have been allowed on the site. EQ is providing 24 hour security guards with hourly checks of the entire facility, documented in writing. Berms have been maintained around the site and all precipitation has been collected in tanks. On 25 October, the Division suspended the portions of EQ's permit that allowed hazardous waste operations at the site, using the state's imminent hazard authority. That suspension remains in effect today. The other parts of the permit that allow cleanup of the site, financial assurance and so forth, remain in place. The DWM has allowed EQ to process and ship non-hazardous waste that was on site at the time of the fire to an off-site location. The waste is being sent to the Upper Piedmont Environmental Landfill in Person County.

The waste residue from the fire has been characterized for purposes of disposal. It has been contained in 32 covered roll-off boxes. Formal approval has been issued for off-site shipment of 25 of the roll-offs to a hazardous waste landfill in Michigan. The hazardous waste in the remaining roll-offs was to have been shipped to a hazardous waste incinerator in Ohio. However, as of the previous day, the off-site shipment has been halted because the DOT weight limits were exceeded on some of the roll-offs. The concrete pad that served as the containment area for the facility where burned wastes were stored

has been pressure washed a number of times with wash water being stored pending analysis and shipment off-site. Final evaluation of the pad is pending final approval of the post-incident site investigation plan. DWM is currently reviewing EQ's post-incident site investigation sampling and analysis plan prior to approving EQ to begin a detailed assessment of the on-site impact of the fire. Once the residue from the fire itself has been removed from the site, there will be further assessment to see if there is remaining contamination of soils that needs remediation. Off-site sampling data is being compiled and analyzed by the Division of Air Quality, the Division of Waste Management, and the Division of Public Health from approximately 35 locations, including air, groundwater, surface water, soil, external surfaces, and interiors of residences, schools and churches. The results of the off-site sampling are expected to be announced on Friday 17 November.

On 24 October, four plaintiffs obtained a protective order in Federal District Court that temporarily halted assessment and remediation activity on the site. DWM worked with the involved parties to have that order vacated by allowing the plaintiffs to take some samples from the site for one day. DWM will be defending the decision to suspend permitted hazardous waste operations at the facility before an Administrative Law Judge. The pre-hearing statements on that matter are due Monday 27 November.

In addition, the formation of the Governor's Hazardous Materials Task Force, co-chaired by Dempsey Benton, Chief Deputy Secretary, DENR, and Doug Hoell, Director of the Division of Emergency Management, Department of Crime Control and Public Safety, was announced on 17 October. The task force has met twice. DWM made a number of recommendations to the taskforce at their meeting the previous day. Some of the areas they recommended enhancing in the Hazardous Waste Regulations are to look at additional financial assurance requirements specifically for immediate response activities and to fund the agencies to do sampling off-site. They have also called for strengthening the requirements for the contingency plan with local fire responders. The current plan is that DWM gets a statement from the applicant stating that the contingency plan has been sent to local authorities such as hospitals, police departments and fire departments. DWM wants to strengthen the requirement so that they receive concurrence as a part of the application for any commercial hazardous waste treatment, storage or disposal facility to assure that local authorities have seen it and concurred that they have the right type of personnel and equipment to respond to an event. They want the concurrence to be renewed on an annual basis.

DWM is also looking at enhancing the public notification and public participation requirements by requiring that letters be sent out to any property owner within a one-quarter mile radius of the facility for any permit action that the agency would be taking. Another recommended enhancement is increasing the security requirements by requiring 24-hour-a-day, 7-day-a-week security by the owner-operator at the facility. They want to use changing land use patterns around commercial hazardous waste treatment, storage and disposal facilities to determine the number of inspections required by the resident inspectors program. They also recommend shortening the permit period for commercial facilities from 10 years to 5 years as well as a number of specific technical requirements to strengthen the containment separation and construction standards at commercial hazardous waste facilities. They are also looking at regulating 10-day transfer sites and requiring a permit for transporters to store waste for ten days. Currently, there can be a great deal of waste on a particular site that is not required to be permitted, and not subject to a number of requirements of treatment, storage and disposal facilities, so they recommend initiating rulemaking in that particular area. These recommendations were gone over in greater detail before the Governor's Hazardous Waste Task Force.

Representative Gibson recognized Ms. Liz Cannon, Chief of the Hazardous Waste Section, DWM, DENR, to present two annual reports: the first on the NC Hazardous Waste Management Plan (see **Exhibit S**) and the other on the Resident Inspectors Program (see **Exhibit T**).

The Hazardous Waste Section is funded by federal funds (70 percent) and fees collected from the regulated universe as well as from state appropriations. It provides for a staff of 56 and a budget of $4.5-5 million. The functions of the program are to permit hazardous waste facilities, conduct inspections of generators of hazardous waste and permittees, to undertake enforcement action against violators, and to oversee the closure and cleanup of the permitted facilities as well as to provide administrative support

functions. The universe is composed of generators (the entities who create the waste), and the treatment, storage and disposal facilities who manage the waste after it is generated. Treatment, storage and disposal facilities are divided into commercial facilities, facilities that are operating businesses, and facilities that used to have land disposal of hazardous waste and are now closed and are being cleaned up. A large quantity generator of hazardous waste is a generator who creates more than 220 pounds per month. Large quantity generators are inspected every other year and more frequently if violations are found. Small quantity generators create between 200 and 220 pounds of hazardous waste per month. Exempt small quantity generators create less than 200 pounds of hazardous waste per month. In addition to the core functions, the Section provides technical and compliance assistance to the regulated community, responds to complaints, manages a financial assurance program for closure and cleanup, assists in emergency response, and maintains a database that tracks and records all their activities.

The Resident Inspector Program is a subset of the overall Hazardous Waste Program. It was established in the early 1990s by the General Assembly to provide closer regulatory oversight of companies that receive and process waste for a fee. The program is self-supporting from fees from the commercial facilities located in North Carolina. For the last fiscal year, the receipts totaled $295,000. It supports two inspectors, one supervisor and one administrative assistant. During the last fiscal year, the 11 facilities in the state received 30,000 tons of hazardous waste. Hazardous waste generation rates rise and fall with the economy. When the economy is booming, generation goes up. When the economy is down, generation rates fall. The largest facility in the state is Clean Harbors in Reidsville. It received 10,560 tons of waste last year. The smallest ones are four safety clean facilities that receive on an average of 300-400 tons per year. EQ is the second largest facility in terms of receipts, receiving 7,345 tons of hazardous waste in 2005-2006.

The number of inspections required in these facilities is determined by a formula set out in regulations. The formula considers the capacity of the facility, the nature of the hazardous waste managed, and the types of treatment. All the activities are given a score and the facility is classified as a Class 1, 2 or 3, with Class 1 being the least risky. Class 1 facilities are subject to two inspections a month, Class 2, 4 inspections a month, and Class 3, 6 inspections a month. Last year, 49 inspections were conducted at EQ. Two compliance orders with penalty were ordered and one notice of violation the previous year, but there were many other minor deviations from the regulations that the inspector corrected immediately while on site. Compliance rates at the facilities tend to be high.

Based on experience, HWS believe there are two root causes of non-compliance at these facilities. One is a change in personnel, when the person on duty on inspection day is not completely familiar with the requirements. The other is a similar matter. When the company has recently changed procedures, deviations from the procedures often will be found. The recent events at EQ and the subsequent investigations, the Governor's Task Force, and the review by the Chemical Safety Board will give the Section more information on how the program can be improved so that events such as occurred at EQ in October will not be repeated.

Representative Gibson asked if the Governor's Task Force will address the situation of assuring that the surrounding cities and counties will have the information they need to respond to a problem at a hazardous waste site. Mr. Matthews replied he expected so, because representatives of cities and counties are represented on the Task Force. He added that all the facilities and the zoning around the facilities have been mapped so local governments and services will know what they need to know to protect the citizens. He said that the key is to increase the interaction between the facilities and the local responders so the local responders are aware of the types of materials at the facilities on a regular basis.

Mr. Givens asked if some of the recommendations of the Governor's Task Force would require legislation. Mr. Matthews replied they would look at each of the recommendations to identify which ones would. The final report to the Governor is due 15 December. Mr. Givens commented there is no hazardous waste disposal capacity in the state. He added he was part of a search 17 years ago to look for a place to site one but no appropriate site was located. Therefore the state is a net exporter of hazardous waste. He commented that if we are successful in excluding out-of-state trash from being

landfilled here, other states might use whatever mechanism they could to keep us from using their hazardous waste disposal sites and we would have a problem.

Representative Harrison asked what happens to the hazardous waste that requires disposal. Mr. Givens replied that a landfill in Alabama gets a lot of it. Mr. Matthews added that a great deal of hazardous waste generated within the state is treated to make it non-hazardous.

Representative Gibson recognized Mr. Todd Bennett, Environmental Engineer, Animal Feeding Operation Unit, Aquifer Protection Section, DWQ, DENR, to give the annual report on permitting and inspecting animal waste management systems (see **Exhibit U** for a copy of his PowerPoint presentation and **Exhibit V** for a copy of the annual report). He noted that in drier years there were fewer violations, probably because the waste is easier to manage with less rain. Inspections by both DWQ and the Division of Soil and Water Conservation (DSWC) consist of looking at the records, the facility, the conditions of the fields, and the conditions of the structures on site. The DWQ is more concerned with enforcement and issue violations; Soil and Water Conservation more with technical assistance. In response to a question from Representative Harrison, Mr. Givens said there was a pilot program in two to four counties for several years in which the Soil and Water Conservation did both inspections. There is a report of the pilot program in the packet (see **Exhibit D-3**).

Representative Hackney asked if any of the 18 discharges to surface water were of great magnitude. Mr. Bennett replied the discharges were in the 1,000 to 10,000 gallon range.

Representative Justice asked if there would be a problem if a farm does not have enough land to spray waste to get ready for impending storms. Mr. Bennett replied that the facilities are required to follow the permit which spells out exactly under what conditions they can apply waste to fields. If the conditions are not suitable for those applications, the farmer is responsible for finding another way to reduce lagoon levels. Farmers can call DWQ for assistance in finding alternative solutions, such as pump and haul. Representative Justice asked for the opportunity for ERC to discuss an early adoption program proposal to protect the health of the people who work in the facilities as well as the health of the livestock. She cited an article from the Associated Press on 12 October that reported the recent outbreak of e-coli from contaminated spinach was an example of the potential for devastating effects of failing to control livestock waste. Representative Gibson conferred with Senator Albertson who agreed that it should be calendared at later meeting.

Senator Albertson asked for the number of gallons of discharges into surface waters from hog lagoons and for numbers of gallons of discharges from municipalities. Mr. Bennett said he would provide that information.

Representative Gibson recognized Mr. Tom Belnick, Environmental Specialist, Point Source Branch, Surface Water Protection Section, DWQ, DENR, to give the annual report on compliance with and enforcement of water quality laws for facilities that discharge into surface waters (see **Exhibit W** for a copy of his PowerPoint presentation and **Exhibit X** for a copy of the annual report). He focused on two programs: the Non-Polluting Discharge Enforcement System (NPDES) and some of the results for the sewer collection program to reduce sanitary sewer overflows (SSOs). The compliance figures of almost 90 percent for the NPDES are impressive, because one non-compliant report in a year means the facility is reported as out of compliance for the entire year. The purpose of the permits is to encourage the facilities to become more proactive to spills. It requires more inspections of their sewer lines, the development of better operations maintenance plans, and more pro-activity in regard to repairs and capital improvements requirements over the next ten years. Rainfall also has an effect on overflows. There are still sewer blockages due to fats, oils and greases in sewer lines. Mr. Belnick said he believes there will be an increase in civil penalties assessed in the future for major overflows that reach surface waters.

Representative Justice asked if there is any way to force municipalities to use the moneys collected from sewer enterprise funds for maintenance of the sewer lines instead of putting the proceeds into their general funds.

Senator Albertson asked how much waste needs to be spilled before the event is labeled a discharge. Mr. Belnick replied a spill to land of over 1,000 gallons must be reported. Any spill that reaches surface waters must be reported.

Representative Gibson recognized Mr. William Holman, Chairman of the State Water Infrastructure Commission and Executive Director, Clean Water Management Trust Fund (CWMTF), to give the annual report of the State Water Infrastructure Commission on its activities and findings, including recommendations of the Commission that require action by the General Assembly (see **Exhibit Y** for a copy of the recommendations to the Governor and **Exhibit Z** for the report of the Infrastructure Commission to the Governor). Mr. Holman commented on the good work done through the CWMTF and thanked the General Assembly for the investments made by the legislature through its lifetime.

Mr. Holman said the General Assembly created the State Water Infrastructure Commission in 2005 as part of a rewrite of the state's water financing laws. There are 13 people on the Commission, representatives from DENR, Commerce, Association of County Commissioners, League of Municipalities, engineers, and the General Assembly. The state has a lot of aging infrastructure, a lot of growth, and it is difficult to keep up with the need for infrastructure. The federal government's role in financing drinking water and waste water infrastructure is declining. There are still North Carolinians who lack indoor plumbing, failing or no septic tanks, and unsafe drinking water. He next presented the recommendations from the Commission. Local governments and local rate payers will share most of the burden for water, waste water and stormwater. For a variety of reasons, the Commission believes the state should continue to play an important role in helping local communities address the infrastructure needs, particularly in the Tier 1 counties.

Senator Kinnaird commended and thanked Mr. Holman for his work with the Commission and the Clean Water Management Trust Fund, as he has taken a position with Duke University beginning in January of 2007.

Representative Gibson recognized Mr. Manley Wilder, Director, Division of Soil and Water Conservation (DSWC), DENR, to report on the evaluation, training and qualification requirements for approval as an animal waste management systems technical specialist (see **Exhibit AA** for a copy of his PowerPoint presentation and **Exhibit BB** for a copy of the report). He described conservation partnerships as federal, state, local and private. At the federal level is the Natural Resources Conservation Service in the U. S. Department of Agriculture; at the state level it is DSWC; at the local level it is the Soil and Water Conservation District employees; and at the private level it involves a variety of people such as technical service providers.

In regard to the recommendation to consider legislation, Mr. Wilder requested the General Assembly wait until he has heard back from the PE Board to see what they will recommend as a result of DSWC's request for a review of the determination on specific practices.

Mr. Givens told Commission members he handed out a memorandum from Mr. Richard Phillips, PE, concerning "District Technician Job Approval Authority" for their information. Mr. Phillips asked to be on the agenda, and Mr. Givens said the item may be on the January 2007 agenda. Senator Kinnaird asked that the item be placed at the beginning of the January agenda.

Representative Gibson recognized and welcomed two new members of the House, Representative-elect Braxton from Lenoir County and Representative-elect Brissom from Bladen County.

The meeting adjourned at 3:40 p.m.

Representative Pryor Gibson, Co-Chair, Presiding

Senator Charlie Albertson, Co-Chair

Dot Waugaman, Commission Assistant

Senator Daniel Clodfelter, Co-Chair

LIST OF EXHIBITS

Exhibit A Notice of Meeting dated 31 October 2006

Exhibit B Agenda of Meeting

Exhibit C List of Attendees

Exhibit D Package of Reports with memorandum from Jennifer Mundt dated 15 November 2006

D-1 Annual Report of the Coastal Habitat Protection Plan Program, 2005-2006, dated September 2006

D-2 Report to the North Carolina General Assembly on the Inactive Hazardous Sites Program, dated October 2006

D-3 2006 Semiannual report for the Pilot Program for Inspections of Animal Waste Management Systems, transmitted 3 October 2006

D-4 Annual Report on Basinwide Water Quality Management Plans, transmitted 1 October 2006

D-5 Annual Report on the Dry-Cleaning Solvent Cleanup Act Program, transmitted 1 October 2006

D-6 Annual Report on Implementation of Stormwater Rules and Programs, transmitted 1 October 2006

Exhibit E Status of reports to the ERC Required by Law, dated 14 November 2006

Exhibit F DRAFT Request for Proposals for Report on the study of the merger of the Ecological Enhancement Program and the Clean Water Management Trust Fund, dated 18 November 2006

Exhibit G Chapter II, 15A NCAC 02D .2501 proposed rules for Mercury Rules for Electric Generators

Exhibit H Solid Waste Section Moratorium Study, State of Kentucky

Exhibit I EPA Illegal Dumping Prevention Guidebook, dated March 1998 - Survey

Exhibit J Illegal Dumping Prevention Guidebook, dated March 1998

Exhibit K Map showing States with Tip Fee Surcharges

Exhibit L PowerPoint presentation by Sara Evans, 15 November 2006

Exhibit M Memorandum from Richard Whisnant, School of Government, UNC-CH – dated 15 November 2006, re Legal limits and policy possibilities for NC solid waste disposal facilities

Exhibit N Materials from National Solid Wastes Management Association

Exhibit O Remarks of Jim Stephenson on behalf of the NC Coastal Federation, Sierra Club and Conservation Council of NC, dated 15 November 2006

Exhibit P Photographs of Camden County Landfill Site

Exhibit Q Map of Camden County Landfill Site and Surroundings

Exhibit R Report on Implementation of Senate Bill 953

Exhibit S Hazardous Waste Program 2006 Annual Report, dated 1 October 2006

Exhibit T Resident Inspectors Program 2006 Annual Report, dated 14 November 2006

Exhibit U PowerPoint presentation by Todd Bennett on the Animal Waste Compliance Report

Exhibit V Animal Waste Management Annual Report, July 1, 2005-June 30, 2006, transmitted 15 October 2006

Exhibit W PowerPoint presentation by Tom Belnick on the Compliance and Enforcement of Water Quality Laws for Facilities that Discharge into Surface Waters

Exhibit X Status Report on Individually Permitted Discharging Systems Beginning July 1 2005 and Ending June 30, 2006

Exhibit Y Recommendations to Governor Michael F. Easley and Members of the General Assembly of North Carolina from the North Carolina Water Infrastructure Commission

Exhibit Z Report and Recommendations from State Water Infrastructure Commission, dated 1 November 2006

Exhibit AA PowerPoint presentation by Manley Wilder on the Evaluation of the Training and Qualification Requirements for Approval as an Animal Waste Management Systems Technical Specialist

Exhibit BB Report on the Evaluation of Training and Qualification Requirements of Animal Waste Technical Specialists, dated 15 November 2006

Exhibit CC Memorandum from Richard L. Phillips, PE, Guilford Soil and Water Conservation District, to Environmental Review Commission re District Technician Job Approval Authority, prepared for 15 November 2006 meeting of the ERC

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

EXHIBIT A

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 733-2578
FAX: (919) 715-5460

SUSAN S. IDDINGS
ASSISTANT COMMISSION COUNSEL
401 LEGISLATIVE OFFICE BUILDING
(919) 733-6660

JENNIFER L. McGINNIS
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

DOT WAUGAMAN
COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 715-2525
FAX (919) 754-3232

JEFF W. HUDSON
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

JENNIFER R.F. MUNDT
COMMISSION ANALYST
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

31 October 2006

TO: Members of the Environmental Review Commission
Interested Parties

FROM: George F. Givens, Commission Counsel
Dot Waugaman, Commission Clerk

RE: **Notice of Commission Meeting**
Notice of Planning Meeting
Schedule of Future Meetings
Meetings of Interested Parties (605 Working Groups)
Additional Information

COMMISSION MEETING:

The Environmental Review Commission (Commission) will meet at 9:30 a.m. Wednesday 15 November in Room 1228 of the Legislative Building in Raleigh.

At this meeting, the Commission will begin or continue studies for which the Commission is responsible, hear reports from State agencies, discuss topics to be considered at future meetings, and attend to other matters. Listed below are potential agenda topics for this meeting and for future meetings. More specific information regarding the agenda for the 15 November meeting of the Commission will be developed at the staff planning meeting discussed below.

STUDIES

1) Issues related to solid waste management (S.L. 2006-244, Sec.4)

2) Issues related to the nutrient offset payment program with regard to the costs associated with providing nutrient controls that are adequate to offset point source and nonpoint source discharges of nitrogen; whether nutrient offset payments should be authorized for additional nutrients, including phosphorus; and whether the nutrient offset program should be expanded to other areas of the State (S.L. 2006-215, Sec. 2)

3) Issues related to abandoned manufactured (mobile) homes with regard to impacts on public health and safety, the environment, and the State's scenic resources (S.L. 2006-248, Sec. 8.3)

4) The merger of the organization and functions of the Ecosystem Enhancement Program and the Clean Water Management Trust Fund with the Joint Legislative Transportation Oversight Committee (S.L. 2006-248, Sec. 16)

REPORTS *(Report due dates are indicated in parentheses)*

General/Miscellaneous:

5) Annual report on the evaluation and adjustment of the boundaries of the area served by each Metropolitan Planning Organization (G.S. 136-202(d)) *(1 November)*

Air Quality:

6) Annual report on the cost of the Title V Program (G.S. 143-215.3A(c)) *(1 November)*

7) Annual report on the desirability of requiring and the feasibility of obtaining reductions in emissions of oxides of nitrogen (NOx) and sulfur dioxide (SO2) beyond those required by the Clean Smokestacks Act (S.L. 2002-4, Sec. 11) *(1 September)*

8) Annual report on development and implementation of a plan to reduce vehicle miles traveled by State employees and vehicle emissions resulting from job-related travel, including commuting to and from work (G.S. 143-215.107C(d)) *(1 October)*

9) Annual report on development and implementation of a plan to reduce vehicle miles traveled by private sector employees and vehicle emissions resulting from job-related travel, including commuting to and from work (G.S. 143-215.107C(e)) *(1 October)*

Coastal Management:

10) Annual report on the progress in developing and implementing the Coastal Habitat Protection Plans and reports on the completion or substantial revision of each draft Coastal Habitat Protection Plan (G.S. 143B-279.8(e) and G.S. 143B-279.8(f)) *(1 September)*

Hazardous Waste Management:

11) Annual report on the Inactive Hazardous Sites Program (G.S. 130A-310.10) *(1 October)*

12) Annual report on implementation of the Resident Inspectors Program at commercial hazardous waste facilities (G.S. 130A-295.02(m)) *(1 October)*

13) Annual report on the North Carolina Hazardous Waste Management Plan (G.S. 130A-294(i)) *(1 October)*

14) Annual report on the Effectiveness of the Brownfields Property Reuse Act (G.S. 130A-310.40) *(1 October)*

Land Resources:

15) Annual report on implementation of the Sedimentation Pollution Control Act of 1973 (G.S. 113A-67) *(1 October)*

Water Quality:

16) Report on the evaluation of the training and qualification requirements for approval as an animal waste management systems technical specialist (S.L. 2006-38, Sec. 2) *(15 November 2006)*

17) Annual report on permitting and inspecting animal waste management systems/Animal Waste Compliance Report (G.S. 143-215.10M) *(1 October)*

18) Semiannual report on the pilot program for inspection of animal waste management systems including a comparison of the costs of conducting operations reviews and inspections under the pilot program with the costs of conducting operations and inspections under G.S. 143-215.10D and G.S. 143-215.10F (S.L. 2003-340, Sec. 6.2) *(15 October)*

19) Annual report on the compliance/enforcement of water quality laws for facilities that discharge into surface waters (G.S. 143-215.9A) *(1 October)*

20) Annual report on the Wastewater Discharge Elimination Program (S.L. 2001-452, Sec. 2.9) *(15 October)*

21) Annual report on Basinwide Water Quality Management Plans (G.S. 143-215.8B) *(1 October)*

22) Annual report on the Dry-Cleaning Solvent Cleanup Program (G.S. 143-215.104U) *(1 October)*

23) Annual report on the implementation of stormwater rules and programs (G.S. 143-214.7(e)) *(1 October)*

24) Commercial Leaking Petroleum Underground Storage Tanks Cleanup Fund – Follow up on the USEPA, Region 4 letter sent to Secretary Ross regarding concerns that the State Fund is not adequately capitalized to meet current and future liabilities.

Water Quantity:

25) Annual report by the State Water Infrastructure Commission on its activities and findings, includes any recommendations of the Commission that require action by the General Assembly to implement (G.S. 159G-67) *(1 November)*

PLANNING MEETING:

To facilitate development of the agenda for the 15 November meeting of the Commission, to begin planning for subsequent meetings of the Commission, and to receive input from interested persons regarding the work of the Commission, the Commission Counsel will hold an informal planning meeting at **10:00 a.m. on Friday 3 November 2006 in Room 605 of the Legislative Office Building**. Persons who wish to participate in the development of the agenda for meetings of the Commission, or who are interested in any matter before the Commission, are invited to attend.

SCHEDULE OF FUTURE MEETINGS:

Below is a schedule of meetings of the Environmental Review Commission for November 2006 through January 2007. This schedule is tentative and subject to adjustment. For planning purposes, however, please reserve these dates. Please note the following:

1. Commission meetings normally begin at 9:30 a.m., include a lunch break, and run until mid-afternoon. Please plan on meeting from 9:30 a.m. until at least 3:30 p.m. The Commission will meet in the Legislative Building (LB) or the Legislative Office Building (LOB) as indicated.

2. To facilitate development of the agenda for meetings of the Commission and to receive input from interested persons regarding the future work of the Commission, the Commission Counsel holds informal planning meetings for staff and interested parties. Commission members are not expected to attend these meetings. Unless otherwise announced, public staff planning meetings will be held at 10:00 a.m. in Room 605 LOB.

3. The 2007 Regular Session is scheduled to begin at 12:00 noon on Wednesday 24 January 2007. The Commission may meet shortly after the beginning of the session to complete work and to consider any legislative proposals and recommendations.

Commission Meeting	Location	Staff Planning Meeting (605 LOB)
Wednesday 15 November 2006	1228 LB	Friday 3 November 2006
Wednesday 13 December 2006	1228 LB	Friday 1 December 2006
Wednesday 17 January 2007	544 LOB	Monday 8 January 2007
Tuesday 23 January 2007	1228 LB	Monday 8 January 2007

MEETINGS OF INTERESTED PARTIES (605 WORKING GROUPS):

The Commission Counsel will hold meetings of interested parties on specific topics as indicated below:

Nutrient Offset Payment Working Group
2:00 p.m. Monday 6 November 2006 – 605 Legislative Office Building

ADDITIONAL INFORMATION:

If you have questions related to the Commission, you may contact the Commission Counsel or other Commission staff at (919) 733-2578.

EXHIBIT B

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 733-2578
FAX: (919) 715-5460

SUSAN S. IDDINGS
ASSISTANT COMMISSION COUNSEL
401 LEGISLATIVE OFFICE BUILDING
(919) 733-6660

JENNIFER L. McGINNIS
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

DOROTHY M. WAUGAMAN
COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 715-2525
FAX: (919) 754-3232

JEFF W. HUDSON
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

JENNIFER R. F. MUNDT
COMMISSION ANALYST
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

AGENDA
9:30 a.m. Wednesday 15 November 2006
Room 1228 Legislative Building
Raleigh, North Carolina

1. Call to order
   Representative Pryor A. Gibson, Presiding

2. Introductory remarks by Cochairs (*5 minutes*)
   Representative Pryor A. Gibson
   Senator Charles W. Albertson
   Senator Daniel G. Clodfelter

3. Report to the Commission and explanation of agenda items (*10 minutes*)
   George F. Givens, Commission Counsel

4. Study of the merger of the organization and functions of the Ecosystem Enhancement Program with the Clean Water Management Trust Fund (Part XVI, Section 16 of S.L. 2006-248) (*10 minutes*)
   George F. Givens, Commission Counsel

   Lisa Hollowell, Senior Fiscal Analyst
   Fiscal Research Division

5. Report on recent action by the Environmental Management Commission on the Clean Air Mercury Rule (*10 minutes*)
   Robin W. Smith, Assistant Secretary for Environment
   Department of Environment and Natural Resources (DENR)

6. Continuation of the discussion of issues related to solid waste management (S.L. 2006-244, Sec.4) (*1 hour and 50 minutes*)

Survey of the Solid Waste Management Regulations of Other States and report on Issues Related to the Processing of Solid Waste Management Permits by the Division of Solid Waste (*30 minutes*)

Paul S. Crissman, Head
Planning and Program Management Branch, Solid Waste Section, Division of Waste Management (DWM), DENR

Ed F. Mussler, Branch Head
Solid Waste Permitting Branch, Solid Waste Section, DWM, DENR

Discussion of the Kentucky solid waste tipping fee surcharge and solid waste management programs (*10 minutes*)

Sara D. Evans, Manager
Recycling and Local Assistance Branch, Division of Waste Management, Department for Environmental Protection, Environmental and Public Protection Cabinet, Commonwealth of Kentucky

Discussion of legal limits and policy options (*20 minutes*)

Richard B. Whisnant, Associate Professor of Public Law and Government
UNC School of Government

Local government perspectives (*10 minutes*)

Paul A. Meyer, Assistant General Counsel
North Carolina Association of County Commissioners

Private solid waste management industry perspectives (*20 minutes*)

Edward Repa, Director
Environmental Program, National Solid Wastes Management Association

Environmental advocacy community perspectives (*20 minutes*)

Jim H. Stephenson, Program Analyst
North Carolina Coastal Federation

John D. Runkle, General Counsel
Conservation Council of North Carolina

Joyce F. Hartman, Realtor
Camden County

7. Air quality: reduction in vehicle miles traveled (*10 minutes*)

Annual report on development and implementation of a plan to reduce vehicle miles traveled by State employees and vehicle emissions resulting from job-related travel, including commuting to and from work (G.S. 143-215.107C(d))

Annual report on development and implementation of a plan to reduce vehicle miles traveled by private sector employees and vehicle emissions resulting from job-related travel, including commuting to and from work (G.S. 143-215.107C(e))

Miriam S. Perry, Director
Public Transportation Division, Department of Transportation

***LUNCH** – Estimated for noon to 1:00 p.m.*

8. Hazardous Waste Management (*30 minutes*)

Update on the investigation of the fire at the Environmental Quality Industrial Services of North Carolina, Inc, hazardous waste facility located in Apex, North Carolina

Annual report on implementation of the Resident Inspectors Program at commercial hazardous waste facilities (G.S. 130A-295.02(m))

Annual report on the North Carolina Hazardous Waste Management Plan (G.S. 130A-294(i))

Dexter R. Matthews, Director
DWM, DENR

Elizabeth W. Cannon, Chief
Hazardous Waste Section, DWM, DENR

9. Annual report on permitting and inspecting animal waste management systems (Animal Waste Compliance Report) (G.S. 143-215.10M) (*10 minutes*)

Todd A. Bennett, Environmental Engineer
Animal Feeding Operation Unit, Aquifer Protection Section, Division of Water Quality (DWQ), DENR

10. Annual report on compliance with and enforcement of water quality laws for facilities that discharge into surface waters (G.S. 143-215.9A) (*10 minutes*)

Tom J. Belnick, Environmental Specialist
Point Source Branch, Surface Water Protection Section, DWQ, DENR

11. Annual report by the State Water Infrastructure Commission on its activities and findings, including any recommendations of the Commission that require action by the General Assembly to implement (G.S. 159G-67) (*15 minutes*)

William E. Holman, Chairman
State Water Infrastructure Commission and
Executive Director, Clean Water Management Trust Fund

12. Report on the evaluation of the training and qualification requirements for approval as an animal waste management systems technical specialist (S.L. 2006-38, Sec. 2) (*15 minutes*)

Manley S. Wilder, Director
Division of Soil and Water Conservation, DENR

13. Commission discussion and announcements (*10 minutes*)

14. Adjourn (*Estimated for 2:30 p.m.*)

SCHEDULE OF FUTURE MEETINGS:

Below is a schedule of meetings of the Commission for November 2006 through January 2007. This schedule is tentative and subject to adjustment.

To facilitate development of the agenda for meetings of the Commission and to receive input from interested persons regarding the future work of the Commission, the Commission Counsel holds informal planning meetings for staff and interested parties. The schedule of these public Commission staff planning meetings is also set out below.

9:30 a.m. Wednesday 13 December 2006
Location: 1228 LB
Staff Planning Meeting: 10:00 a.m. Friday 1 December 2006 – 605 LOB

9:30 a.m. Wednesday 17 January 2007
Location: 544 LOB
Staff Planning Meeting: 10:00 a.m. Monday 8 January 2007 – 605 LOB

9:30 a.m. Tuesday 23 January 2007
Location: 1228 LB
Staff Planning Meeting: 10:00 a.m. Monday 8 January 2007 – 605 LOB

OTHER MEETINGS:

The Commission Counsel will hold meetings of interested parties on specific topics as indicated below:

Nutrient Offset Payment Working Group (S.L. 2006-215 (SB 1862), as amended by S.L. 2006-218 (SB 927))
10:00 a.m. Wednesday 22 November 2006 – 605 Legislative Office Building

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — November 15, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Chad Essick	Poyner & Spruill, LLP
Steve Wall	DENR
David Oliver	N.C. State University
Rebecca Highfill	NC State University
KATHERINE BASS	N.C. STATE UNIVERSITY
Zac Spivey	N.C State University
Bob Davis	Scotland County
Dexter Matthews	DENR - Waste Management
John Tuttle	Bone Tuttle
C Taylor	SELC
Tom Bean	NC ED / NCSEA

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — November 15, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Mark Hubbard	DENR - DWQ
Todd Bennett	DENR - DWQ
Tommy Stevens	NCPC
Joyce Hartman	305 Ponderosa Dr, Camden County South Mills - representing self & family
DONNIE REDMOND	DENR-DAQ
FREDDIE C DAVIS	SCOTLAND COUNTY LAUREL HILL, NC 28351
Nicole Stewart	NC Conservation Network
Erin Kimrey	NC Conservation Network
DAVID THOMPSON	NCACC
Phil Carter	WASTE INDUSTRIES USA
DAVID BARNES	Poyner Spruill

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — November 15, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Christa Wagner	NC Sierra Club
Molly Diggins	Sierra Club
Christine Wunsche	Environment North Carolina
Ellen Lorscheider	Div of Waste Mgmt
Mark Poindexter	"
ED mussler	Div of WM -
GARY HARTONG	THE WOOTEN COMPANY
JEREMY O'BRIEN	REPRESENTING WAKE CO. SOLID WASTE
ED Regan	NSWMA
Bill Schrum	Republic Services
DON EVANS	DENR-WATER QUALITY

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — November 15, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Scott Mouw	NC DENR
SARA D. EVANS	Ky. Environmental & Public Protection Division of Waste Mgmt.
Pam Cleaveland	NC DENR
Lisa Martin	NC Home Builders
Richard Roberts	NC DENR
Gayle Wilson	Orange County
RICHARD WHISNANT	UNC-CH School of Government
Garrett Davis	UNC-CH SOG/EFC
JEFF HUGHES	UNC-CH SOG/EFC
Kim Hibbard	NC League of Municipalities
Toni Norton	Catawba County PO Box 389 Newton NC 28658

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — November 15, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Jim Lowry	NC Utility Contractors Association
Katherine Daerr	ElectriCities
Doug Loftin	NCSTA
Paul Meyer	NCACC
Alan Mebane	Poyner Spruill
Robin Smith	DENR
Elizabeth Self	DENR
Daniel Baum	Kennedy Covington
Pat Dennis	Duplin Co.
Frances Parks	Duplin County
Becky Horn	Interested citizen

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — November 15, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Randall Gossick	Waste Management, Morrisville NC
Charlie Carter	Troutman Sanders, Raleigh, NC
Jennifer Willis	Wake County
S. Hunt McCleer	McCleer Consulting
John Noble	GOO Office
Sharon Stroud	State Energy Office
Anita Watkins	NCLM
Dan Holman	CWMTF
[illegible]	RANC
W. Potter Jr	NCDS & NCPIA
John Runkle	Conservation Council of NC

VISITOR REGISTRATION SHEET **EXHIBIT C**

ENVIRONMENTAL REVIEW COMMISSION 11/15/06
Name of Committee Date

VISITORS: PLEASE SIGN BELOW AND RETURN TO COMMITTEE CLERK.

NAME	FIRM OR AGENCY AND ADDRESS
Pat Harris	DSWC / DENR
David Williams	DSWC / DENR

EXHIBIT D

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 733-2578
FAX: (919) 715-5460

SUSAN S. IDDINGS
ASSISTANT COMMISSION COUNSEL
401 LEGISLATIVE OFFICE BUILDING
(919) 733-6660

JENNIFER L. McGINNIS
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

DOROTHY M. WAUGAMAN
COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 715-2525
FAX: (919) 754-3232

JEFF W. HUDSON
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

JENNIFER R.F. MUNDT
COMMISSION ANALYST
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

15 November 2006

MEMORANDUM

To: Members of the Environmental Review Commission
From: Jennifer Mundt, Commission Analyst
Re: Reports to the Commission

The following reports have been submitted by the Department of Environment and Natural Resources (DENR) to the Environmental Review Commission since the last reports distribution on 9 October 2006 are designated as read only reports. Copies of the reports are attached to this memorandum:

1. Annual Report on the Progress in Developing and Implementing the Coastal Habitat Protection Plans. 1 September 2006. Statutory Authority: G.S. 143B-279.8(e) and G.S. 143B-279.8(f).

2. Annual Report on the Inactive Hazardous Sites Program. 1 October 2006. Statutory Authority: G.S. 130A-310.10.

3. Semi-Annual Report on the Pilot Program for Inspection of Animal Waste Management Systems. 15 October 2006. Authority: S.L. 2003-340, Sec. 6.2.

4. Annual Basinwide Water Quality Management Plans. 1 October 2006. Statutory Authority: G.S. 143-215.8B.

5. Annual Report on the Dry-Cleaning Solvent Clean-Up Program. 1 October 2006. Statutory Authority: G.S. 143-215.104U.

6. Annual Report on the Implementation of Stormwater Rules and Programs. 1 October 2006. Statutory Authority: G.S. 143-214.7(e).

The following reports have been submitted by the indicated agency to the Environmental Review Commission and are distributed in connection with Agenda Items as noted below:

1. Annual report by the Department of Transportation on the development and implementation of a plan to reduce vehicle miles traveled by State employees and vehicle emissions resulting from job-related travel, including commuting to and from work. The annual report on

development and implementation of a plan to reduce vehicle miles traveled by private sector employees and vehicle emissions resulting from job-related travel, including commuting to and from work. 1 October 2006. Statutory Authority: G.S. 143.215.107C(d) and G.S. 143.215.107C(e). ***Agenda Item #7***

2. Annual Report by DENR on the North Carolina Hazardous Waste Management Plan. 1 October 2006. Statutory Authority: G.S. 130A-294(i). ***Agenda Item #8***

3. Annual Report by DENR on the Resident Inspectors Program at Commercial Hazardous Waste Facilities. 1 October 2006. Statutory Authority: G.S. 130A-295.02(m). ***Agenda Item #8***

4. Annual Report by DENR on Permitting and Inspecting Animal Waste Management Systems (Animal Waste Compliance Report). 1 October 2006. Statutory Authority: G.S. 143.215.10M. ***Agenda Item #9***

5. Annual Report by DENR on compliance with enforcement of water quality laws for facilities that discharge into surface waters. 1 October 2006. Statutory Authority: G.S. 143-215.9A. ***Agenda Item #10***

6. Annual Report by the State Water Infrastructure Commission on its Activities and Findings. 1 November 2006. Statutory Authority: G.S. 159G-67. ***Agenda Item #11***

7. Report by DENR on the evaluation of the training and qualification requirements for approval as an animal waste management systems technician. 15 November 2006. Authority: S.L. 2006-38, Sec. 2. ***Agenda item #12***

Please contact George Givens, Jeff Hudson, Jennifer McGinnis, or Jennifer Mundt at (919) 733-2578 if you have any questions or comments.

EXHIBIT D-1

NORTH CAROLINA MARINE FISHERIES COMMISSION
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

MICHAEL F. EASLEY
Governor

WILLIAM G. ROSS, JR.
Secretary

MAC CURRIN
Chairman

COMMISSIONERS

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Gloucester

DAVID HILTON
Ocracoke
JAMES LEUTZE
Wilmington
RUSTY RUSS
Shallotte
BRADLEY STYRON
Cedar Island

September 29, 2006

Environmental Review Commission
North Carolina General Assembly
Legislative Building
16 West Jones Street
Raleigh, NC 27603-5925

Gentlemen:

Attached is the 2005 – 2006 Coastal Habitat Protection Plan report of the Marine Fisheries Commission, Coastal Resources Commission, and Environmental Management Commission. This report is submitted in compliance with the Fisheries Reform Act of 1997.

Please let us know if additional information is needed.

Sincerely,

Mac Currin, Chairman
Marine Fisheries Commission

Courtney Hackney, Chairman
Coastal Resources Commission

David H. Moreau, Chairman
Environmental Management Commission

P.O. Box 769, Morehead City, NC 28557-0769
www.ncfisheries.net

COASTAL HABITAT PROTECTION PLAN PROGRAM

2005 - 2006

ANNUAL REPORT

TO THE

JOINT LEGISLATIVE COMMISSION ON SEAFOOD AND AQUACULTURE

AND

ENVIRONMENTAL REVIEW COMMISSION

OF THE

NORTH CAROLINA GENERAL ASSEMBLY

FROM

NORTH CAROLINA MARINE FISHERIES COMMISSION,
NORTH CAROLINA COASTAL RESOURCES COMMISSION, AND
NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION
AND
NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

September 2006

Highlights

September 2005 – August 2006 Accomplishments

- The Department of Environment and Natural Resources (DENR) allocated a position with primary responsibility for coordinating implementation of the Coastal Habitat Protection Plan (CHPP). The position of Eastern Region Field Officer was filled in January of 2006.
- The Intercommission Review Committee (IRC) officially changed its name in December of 2005 to the CHPP Steering Committee. The primary function of this committee is now to facilitate communication among the commissions, staff of the three primary divisions charged with implementing the CHPP, and DENR.
- Elizabeth City State University continued its federally funded work to support the CHPP Program. Mapping of sea grass in the Albemarle-Pamlico system is the primary task for this work.
- The Marine Fisheries Commission and the Division of Marine Fisheries (MFC/DMF):
  - Enhanced three existing oyster reef sanctuaries, one with mitigation money from NC DOT and established two new oyster reef sanctuaries – the Bluff Point and Neuse River sanctuaries
  - Continued to develop guidelines for identification, delineation, and management of Strategic Habitat Areas
  - Closed 36,940 acres to the mechanical harvest of shellfish in order to further protect shallow water fish habitat
  - Established an agreement under which Marine Fisheries aircraft regularly take Coastal Management personnel aloft to survey the status of coastal development projects,
  - Closed over 4,000 acres in Core Sound to mechanical shellfishing to protect SAV habitat
  - Requested that the Environmental Management Commission begin actions to control effects of coastal stormwater pollution in shellfish waters
- The Coastal Resources Commission and the Division of Coastal Management (CRC/DCM):
  - Developed and received public comment on proposed rules that define beach nourishment sediment compatibility utilizing guidelines developed and recommended by the Commission's Science Panel on Coastal Hazards
  - Enhanced habitat education through the "Estuary Live" web-based learning program and added new displays at public meetings
  - Obtained a new partial set of coastal aerial photographs to aid in permit management and mapping of coastal fish habitats
- The Environmental Management Commission and the Division of Water Quality (EMC/DWQ):
  - Conducted on-site inspections for all coastal state stormwater permits up for renewal in 2005-2006
  - Included special provisions in the Phase II Stormwater Rules that will provide an enhanced level of protection for shellfishing waters in Phase II communities
  - Completed a survey of all non Phase II municipally-owned stormwater outfalls to salt waters
  - Procured, via an EPA Grant, 3 additional staff members that will be tasked to perform technical assistance and compliance inspections of wetlands certifications and stormwater permits in areas covered under the CHPP.
- Public outreach efforts continued with talks on the CHPP at various local government, state and federal agency, and interest group meetings, as well as an enhanced web site at (http://www.ncdmf.net/habitat/index.html) that includes the following:
  - North Carolina Coastal Habitat Protection Plan
  - CHPP Implementation Plan for all three regulatory Commissions, their administrative agencies (Divisions of Water Quality, Coastal Management, and Marine Fisheries), and DENR
  - Report on research needs identified in the CHPP

- Hosting of the web site was moved from Marine Fisheries to DENR in the Office of Conservation and Community Affairs
- The University of North Carolina Sea Grant College Program, under a grant from the Division of Coastal Management, managed a multi-agency project to address management issues associated with siting and operation of multi-slip docking facilities in coastal waters
- There were productive quarterly meetings among the state and federal permitting and review agencies that manage development in the coastal area at the Washington and Wilmington DENR offices
- The General Assembly funded several CHPP implementation initiatives:
  - Three positions and operations for DMF oyster sanctuaries and shell recycling
  - Five positions and operations for DMF shell bottom and SAV mapping
  - Four positions and operations for DCM permit compliance review
  - Three positions and operations for DEH shellfish sanitation shoreline surveys
  - Funding to begin development of a coastal beach and inlet management plan
  - Funding to begin removal/retrofitting of municipal stormwater outfalls to coastal waters
  - Funding for continuation of cooperative university-DOT water quality monitoring in Pamlico Sound through the FERRYMON program

September 2006 – August 2007 Planned Actions

- The Marine Fisheries Commission and Division of Marine Fisheries will
  - Expand the oyster sanctuary program in Pamlico Sound, including biological monitoring of planted sites
  - Expand shell bottom mapping to the lower Cape Fear River and Brunswick County
  - Participate with other agencies in coast wide mapping of submerged aquatic vegetation (SAV)
  - Adopt and begin using the Strategic Habitat Area identification/selection process
- The Coastal Resources Commission and Division of Coastal Management will
  - Begin development of, in cooperation with the Division of Water Resources and other agencies, a coastal beach and inlet management plan
  - Enhance compliance monitoring of permitted projects in the coastal area
- The Environmental Management Commission and Division of Water Quality will:
  - Develop improved compliance and renewal strategies for the coastal stormwater permitting program that will include education and outreach, on-site permit compliance evaluations, and standard permit renewal procedures
  - Reduce negative effects of coastal stormwater pollution through implementation of Phase II stormwater rules (as revised by the North Carolina General Assembly) and other initiatives
  - Assess cumulative but unmitigated wetland and stream losses in the Cape Fear and White Oak River basins, and based on analysis, determine if additional controls are needed
  - Review existing coastal stormwater programs and development trends to determine if additional coastal areas need to be considered for designation by the EMC as EPA Phase II Stormwater areas or if rulemaking action needs to be initiated to revise the existing State and Shellfishing Waters Stormwater Rules
  - Complete the update of the Division of Water Quality's Stormwater Best Management Practices Manual
- The Department of Environment and Natural Resources through other divisions will
  - Enhance shoreline sanitary surveys to identify specific pollution sources (DEH)
  - Utilize new funding to begin development of a coastal beach and inlet management plan (DCM and DWR)
  - The Albemarle-Pamlico National Estuary Program will provide funding for cooperative SAV mapping in the coastal area

Introduction

Fisheries Reform Act

The North Carolina General Assembly established the Coastal Habitat Protection Plan program within the North Carolina Department of Environment and Natural Resources (DENR) with passage of the Fisheries Reform Act of 1997. The Act (General Statute or G.S. 143B-279.8) requires preparation of Coastal Habitat Protection Plans (CHPPs) for critical fisheries habitats in the coastal area. The Act states "[t]he goal of the Plans shall be the long-term enhancement of coastal fisheries associated with each coastal habitat." Within DENR, the Divisions of Marine Fisheries, Water Quality, and Coastal Management are designated as the lead agencies for implementing the CHPP program. Many other DENR agencies also participate in CHPP work. By law the CHPP includes:

1. A description of fisheries habitats and their biological systems;
2. An evaluation of the functions, fisheries' values, status, and trends within the habitats;
3. Identification of existing and potential threats to the habitats and impacts of those threats on coastal fishing; and
4. Recommended actions to protect and restore the habitats.

Role of the Commissions

The Coastal Resources, Environmental Management, and Marine Fisheries commissions adopted the CHPP in December of 2004. Now that the CHPP has been adopted, along with implementation plans which were adopted by each commission in June and July 2005 (see Implementing the North Carolina Coastal Habitat Protection Plan 2005), rule making and policy actions taken by all three commissions are to comply "to the maximum extent practicable" with the plan.

The three commissions are to report by 1 September each year to the Joint Legislative Commission on Seafood and Aquaculture and the Environmental Review Commission on their progress in implementing the Coastal Habitat Protection Plan. This document reports on the progress made, by the respective commissions, in implementing the CHPP during year beginning in September 2005 and ending in August 2006.

Recent Progress

North Carolina Coastal Habitat Protection Plan (CHPP)

The CHPP focuses on six basic fish habitat: water column, shell bottom, submerged aquatic vegetation (SAV), wetlands, soft bottoms, and ocean hard bottom. A chapter is devoted to each type. Each of the habitat chapters is organized to provide the information specified in the Act:

- Description and distribution of the habitat,
- Ecological role and function,
- Status and trends,
- Threats, and
- Recommended management actions to deal with the threats.

The CHPP describes the functions of habitats necessary for production of economically important fish stocks and the links between those habitats and various life history stages of the fish. The CHPP also discusses the various types of threats to the habitats upon which productive coastal fisheries depend.

Moreover, the plan summarizes the institutional structures for management of fisheries habitat, adjacent lands, water quality, and fisheries in eastern North Carolina. Finally, the plan includes 19 management recommendations for the Coastal Resources, Environmental Management, and Marine Fisheries Commissions, DENR (primarily the divisions of Water Quality, Coastal Management, and Marine Fisheries), and others to implement in order to address the identified threats.

Attachment 1 lists the current members of the CHPP Steering Committee.

Administration, Products, and Public Outreach

- Administrative Activities

After the CHPP was formally adopted in December of 2004, the commissions, their administrative divisions, and DENR also developed and adopted implementation plans during the summer of 2005. These implementation plans detail more than 100 specific steps they would take during the 2005/06 – 2006/07 fiscal years to implement the CHPP recommendations. The draft and approved implementation plans were placed on the CHPP web site to facilitate public review.

The CHPP also identified more than 90 research needs. The CHPP Team summarized those needs in a report placed on the CHPP web site and distributed to the academic, and state and federal agency research community. These research needs continue to be a vital component of the CHPP and its implementation.

The CHPP Steering Committee, comprised of two members each from the Environmental Management, Coastal Resources, and Marine Fisheries commissions, continues to be very active role in the CHPP implementation process. Members of the Steering Committee meet quarterly with senior DENR officials and technical staff from DENR divisions and the Wildlife Resources Commission (CHPP Team) to discuss CHPP related topics and exchange information regarding CHPP implementation activities of the respective commissions and divisions.

The DENR assigned its Eastern Region Field Officer as the coordinator for CHPP implementation. This person is strategically housed in the DENR Office of Conservation and Community Affairs, which also include the Albemarle-Pamlico National Estuary Program (APNEP) and the One North Carolina Naturally program, both of which focus heavily on improved management of important habitats, including the coastal area.

The CHPP Coordinator and the CHPP Team members participate in relevant meetings and give numerous CHPP presentations at various gatherings concerning coastal issues: DENR and its agencies, the Commissions, Coastal Resources Advisory Council, North Carolina Sea Grant Program, APNEP, Outer Banks Association of Realtors, The Nature Conservancy, the Coastal Caucus, the North Carolina Coastal Federation, local governments, and several local civic clubs and groups with environmental concerns.

- Products

The CHPP program published, in the fall of 2005, the booklet *Implementing the North Carolina Coastal Habitat Protection Plan 2005* to provide an easy-to-understand version of the CHPP Implementation Plan. In the summer of 2006, DENR released a series of three posters focused on the theme "Home is where the habitat is … ." The posters feature SAV and shell bottom habitats, and habitat use by fish.

- Public Outreach

The DCM scheduled its Fall 2005 *Estuary Live* program around the CHPP and habitat functions. Unfortunately, Hurricane Ophelia caused cancellation of the program. The DCM presented the live, interactive program in May 2006 to a school audience of thousands of students in North Carolina and elsewhere.

The CHPP poster was updated and used at several meetings concerned with coastal habitat, such as the three North Carolina Oyster Summit programs in March 2006. CHPP Team members gave talks at meetings of the NC Sedimentation Control Commission; the boards of directors of the Clean Water Management Trust Fund, the Natural Heritage Trust Fund, and the Parks and Recreation Trust Fund; and the annual meeting of the NC Beach, Inlet, and Waterway Association in November 2005.

Specific Implementation of the CHPP Implementation Plan

Numerous specific actions have been accomplished or are underway. All three commissions and their DENR agencies are active in using the CHPP and its recommendations as guidance in their regulatory and operational programs. Attachment 2 lists the overall CHPP Implementation Plan, and activities and accomplishments for each of the three Commissions, their administrative divisions, and DENR relative to that plan.

Other Accomplishments

With assistance from the divisions of Coastal Management and Marine Fisheries, as well as the Albemarle-Pamlico National Estuary Program, Elizabeth City State University (ECSU) continued to operate a remote sensing program and laboratory. Much of the justification for the grant was based on the need to obtain and analyze remotely sensed data (including satellite imagery and aerial photography) to aid in preparation of the CHPP. Under this program, ECSU staff is mapping sea grass beds in northeastern North Carolina, including Currituck Sound and Back Bay, Kitty Hawk Bay, and portions of Albemarle Sound.

ATTACHMENT 1.

CHPP STEERING COMMITTEE MEMBERS, 2005 – 2006

Marine Fisheries Commission

Dr. Barbara Garrity-Blake	Gloucester	252-729-8021
Dr. B. J. Copeland	Pittsboro	919-837-5024

Environmental Management Commission

Dr. Charles H. Peterson	Morehead City	252-726-6841
Mr. Tom Ellis	Raleigh	919-872-0897

Coastal Resources Commission

Dr. Courtney Hackney	Wilmington	910-962-3759
Mr. Bob Emory	New Bern	252-633-7417

ATTACHMENT 2.

NORTH CAROLINA COASTAL HABITAT PROTECTION PLAN GOALS AND IMPLEMENTATION RESULTS

North Carolina has a number of programs in place to manage coastal fisheries and the natural resources that support them. The Coastal Habitat Protection Plan (CHPP) has identified gaps in the protection provided for important fish habitats under these programs, and also notes that these habitats would benefit from stronger enforcement of existing rules and better coordination among agencies. The focus of the CHPP, per the Fisheries Reform Act of 1997, is on activities regulated by the Marine Fisheries, Coastal Resources and Environmental Management Commissions. In 2005, each commission and the Department of Environment and Natural Resources (DENR) adopted plans to implement the recommendations found in the CHPP, with a focus on actions that could be taken based on existing resources and within the 2005-2007 budget cycle. Some actions are completed. Some are underway, and most will be completed before the update of this plan in 2010. There is also an understanding among agencies that all recommendations and their associated actions will be supported regardless of lead agency. Listed in this attachment are some of the completed recommendations as well as those which will be completed within the year.

Department of Environment and Natural Resources

DENR is the lead stewardship agency for the preservation and protection of North Carolina' outstanding natural resources. The organization, which has offices from the mountains to the coast, administers regulatory programs designed to protect air quality, water quality, and the public's health. Through its natural resource divisions, DENR works to protect fish, wildlife and wilderness areas. The DENR implementation plan focuses on coordination among the Commissions and the Department, as well as ensuring that all DENR Divisions are taking actions consistent with the goals and recommendations of the CHPP.

Marine Fisheries Commission and Division of Marine Fisheries

The Marine Fisheries Commission (MFC) and Division of Marine Fisheries (DMF) manage the commercial and recreational fisheries in North Carolina's estuarine and ocean waters. These waters, including their specific physical habitats (water column, wetlands, sea grasses, soft and hard bottoms, and shell bottoms), produce the finfish, shrimp, crabs, oysters, and other economically important species sought by fishermen, as well as the forage base that supports them. The Division implements the Commission's rules and Department initiatives. The Division's mission is to ensure sustainable marine and estuarine fisheries for the benefit of the people of North Carolina. Division staff drafted the CHPP, and they will staff many of the groups working on implementation actions. Staff in DMF district offices will also utilize CHPP information to review potential impacts of coastal development projects.

Environmental Management Commission and Division of Water Quality

The Environmental Management Commission (EMC) is responsible for adopting rules for the protection, preservation and enhancement of the State's air and water resources. The Commission oversees and adopts rules for several divisions of DENR, including the Divisions of Air Quality, Water Resources, and Water Quality. The goal of the Division of Water Quality (DWQ) is to maintain or restore and improve the aquatic environment and to ensure compliance with state and federal water quality

standards. In coordination with the CRC and MFC, and their respective staffs, the EMC and DWQ have developed specific actions to begin implementation of the CHPP recommendations.

Coastal Resources Commission and Division of Coastal Management

The Coastal Resources Commission (CRC) establishes policies for North Carolina's Coastal Management Program and adopts implementing rules for both the N.C. Coastal Area Management Act (CAMA) and the N.C. Dredge and Fill Law. The commission designates areas of environmental concern, adopts rules and policies for coastal development within those areas, and certifies local land-use plans. The Division of Coastal Management (DCM) serves as staff to the CRC and works to protect, conserve, and manage North Carolina's coastal resources through an integrated program of planning, permitting, education and research. With jurisdictional authority at the interface of many of the habitats identified in the CHPP, the CRC and DCM take actions to compliment those of the MFC/DMF and EMC/DWQ.

GOAL 1

IMPROVE EFFECTIVENESS OF EXISTING RULES AND PROGRAMS PROTECTING COASTAL FISH HABITATS

Division of Coastal Management

(1.1) Ongoing - DCM signed a MOA with DMF for 2006 to provide a plane and pilot to conduct aerial enforcement flights. Several Dredge & Fill violations were detected during the routine surveillance flights, and DCM followed-up with enforcement actions. The contract with the DMF Marine Patrol has been successful and efficient.

(1.1) New – CAMA Civil Penalties. House Bill 1523 was signed into law by Governor Easley on August 10, 2006 to amend G.S. 113A-126(d) raising the civil penalty for a minor CAMA development violation from $250 to $1,000 and the penalty for a major development violation from $2,500 to $10,000.

(1.1) New – CHPP Compliance Coordinators. The General Assembly took action in the 2006-07 State budget to include four new positions in DCM to improve the Division's focus on compliance and enforcement of CAMA rules. Staff will be able to provide oversight of projects as they are being constructed. The most frequent comment from the public during the CHPP development was that current rules are not adequately enforced. This perception of slow or inadequate enforcement response portrays an image that violations go unchecked, providing an incentive for noncompliance and further violations to occur. The Compliance Coordinators will also perform proactive compliance assistance activities, such as workshops for realtors and contractors, ultimately leading to a decrease in violations.

(1.1) Ongoing - DCM is coordinating quarterly meetings with DENR agencies and the USACE to discuss projects and enforcement issues. Cooperation among agencies has been enhanced.

(1.3) New – Estuary Live Highlights CHPP. In May 2006, the NC National Estuarine Research Reserve included a segment on Estuary-Live focusing on fish habitat hosted by Anne Deaton with DMF. Ms. Deaton discussed the six habitats detailed in the CHPP, concentrating on the importance of marshes and shell bottom.

(1.3) New – The NC Coastal Reserve Program completed a "critter posters" series highlighting oysters which are geared toward elementary students.

(1.4) Ongoing - DWQ Basinwide Planners are reviewing CAMA Land Use Plans (LUPs) including: New Hanover County/Wilmington, Kure Beach, and Carteret County.

Division of Water Quality

(1.1) Additional action: Secured EPA funding for three new regional positions, including one in the Washington Regional Office. Positions will be primarily responsible for conducting 401 Water Quality Certification compliance inspections.

(1.1) Additional action: Secured funding from NOAA to continue inspections of coastal stormwater permit sites that are up for renewal in 2007. In addition, to help improve permit compliance, will prepare and conduct training on stormwater treatment best management practice installation and

maintenance requirements, and develop protocols for processing permit renewals that assures site compliance prior to permit re-issuance. Project is scheduled to begin in fall 2006.

(1.1) Provided funds to local governments for educating citizen in their jurisdictions about DWQ's Neuse and Tar-Pamlico riparian buffer rules.

Division of Marine Fisheries

(1.1) Submitted a proposal for funding to enhance permit application review program

(1.1) Coordinating aerial surveillance with DCM

(1.3) Enhanced habitat web pages. In May, the Division transferred the CHPP web site responsibilities to DENR and the Office of Conservation and Community Affairs (OCCA).

Department of Environment and Natural Resources

(1.1) Supported legislative actions to increase civil penalties for violations of CRC and EMC rules and permits

(1.2) Received funding for continuation of cooperative university-DOT water quality monitoring in Pamlico Sound through the FERRYMON program

(1.2) DEH received funding for three new positions from the General Assembly. One position is for GIS Data Management and the other two are for shoreline surveyors.

GOAL 2

IDENTIFY, DESIGNATE AND PROTECT STRATEGIC HABITAT AREAS

Division of Marine Fisheries

(2.1) The Strategic Habitat Area Advisory (SHA) Committee has reviewed the SHA selection process using the lower Chowan sub-basin and the Core-Bogue sounds area as its test regions. The process appears to be objective and understandable. The Committee will have a draft report to the MFC in the fall and complete its work by December 2006.

(2.1) The Division's shell bottom mapping work continues, with current work in the western Pamlico Sound. The mapping staff based in Wanchese, also completed out-of-sequence mapping of all of Stumpy Point Bay to aid several DENR agencies in evaluation of a proposed DOT dredging project and a proposed community wastewater treatment project.

Division of Coastal Management

(2.1) New - Submerged Aquatic Vegetation Mapping. In addition to serving on the interagency SAV Mapping Workgroup being coordinated by the Albemarle-Pamlico National Estuary Program, Coastal Reserve staff is beginning an SAV mapping project for the Rachel Carson National Estuarine Research Reserve.

Division of Water Quality

(2.2) Ongoing - Study the Feasibility and Benefits of an SAV Mitigation Program: This project is currently ongoing as a result of the settlement agreement between DENR and DOT over the Currituck ferry incident.

GOAL 3

ENHANCE HABITAT AND PROTECT IT FROM PHYSICAL IMPACTS

Division of Marine Fisheries

(3.1) Work is ongoing on Pamlico Sound oyster sanctuaries with new state funding for positions and operations, including expansion of the oyster shell recycling program.

(3.3) The MFC closed an additional 36,940 acres in the Pamlico Sound system to mechanical harvest of shellfish to protect shallow water fish habitat. The DMF closed 4,642 acres in northern Core Sound to mechanical harvest of shellfish to protect shallow water fish habitat, especially SAV.

(3.3) Consideration is being given to closure of some SAV areas in Bogue Sound to use of mechanical harvest methods as part of preparation of the Bay Scallop FMP.

(3.3) The MFC closed approximately 6,900 acres in Core Sound to shrimp trawling in order to protect SAV as part of the Shrimp FMP.

Division of Coastal Management

(3.1) New – Consistency of CRC Rules with DMF Oyster Reef Program. During March 2006, DCM and DMF staff reviewed the CRC's rules for consistency with the DMF's efforts to establish oyster reefs. The creation of oyster sanctuaries by DMF has not been interpreted as constituting development under CAMA and has not created any permitting issues for either agency. In addressing the specific action in the CRC/DCM CHPP Implementation Plan, the CRC's rules and policies are not causing a hindrance to this important program.

(3.2) Ongoing – Proposed beach nourishment sediment compatibility standards drafted and reviewed (Technical Standards for Beach Fill Projects: 15A NCAC 7H .0312); will go to public hearing September 21, 2006. Proposed effective date of rules is December 1, 2006.

(3.2) New - Beach and Inlet Management Plan (BIMP):
Included in draft NOAA CZMA Section 309 5-Year Program Enhancement Strategy (2006-2011) being finalized based on NOAA review.

* A workgroup has been formed and a federal-level funding request made by the USACE to support NC efforts in developing Regional Sediment Management Planning.
* Developed a beach fill project database. Includes over 100 articles used in developing the sediment criteria, monitoring reports and university databases.
* DWR received initial funding in their capital budget ($500,000) to partner with DCM for development of a Beach and Inlet Management Plan.

(3.4) New – CRC Estuarine Shoreline Stabilization Subcommittee. The CRC Estuarine Shoreline Stabilization Subcommittee (ESSS) met in February to review the Commission's Concepts and Principles for Estuarine Shoreline Stabilization Policy Assessment and Development. The Subcommittee also reappointed an Estuarine Shoreline Biological Processes Workgroup to develop recommendations for shoreline stabilization relative to shoreline type. The Workgroup met several times and is ranking eight preferred stabilization techniques associated with 11 shoreline types. The ESSS received an update on the progress of the Work Group at the June CRC meeting. The Workgroup hopes to finish its task before the end of 2006.

(3.4) Ongoing - Draft NOAA CZM Section 309 5-Year Program Enhancement Strategy (2006-2011) being finalized based on NOAA review. The following activities are proposed specific to the estuarine shoreline: Development of tools and methodology for estuarine shoreline delineation. An inventory of engineered structures on the estuarine shoreline in three CAMA counties (Carteret, Craven and Pamlico). Convene/staff the Estuarine Shoreline Stabilization Subcommittee review and update the Estuarine Waters of Environmental Concern AEC.

(3.4) Ongoing - CRC approved for public hearing a rule to raise permit fees for bulkheads and riprap estuarine shoreline stabilization projects sited below high water. The rule was adopted by the CRC at its June 2006 meeting.

GOAL 4

ENHANCE AND PROTECT WATER QUALITY

Division of Marine Fisheries

(4.7) The Division is participating in the initial marina management improvements through the Multi-Slip Docking Facility work group being led by NC Sea Grant.

Division of Coastal Management

(4.5) New – Stormwater Education for Real Estate Professionals Workshops. In January and February of 2006, the NC Coastal Reserve staff hosted two workshops for realtors focusing on stormwater pollutants, the water cycle, low impact development and retrofits to existing developments. The workshops were attended by 45 real estate professionals and were held in Wilmington and New Bern in cooperation with the Craven County Cooperative Extension Service. Reserve staff also conducted two workshops, one for teachers/educators and one for teaching fellows in Manteo and Currituck. Both workshops included critical coastal habitat activities and information. Additional workshops are planned in June and September that will highlight some information found in the CHPP. In addition, CHPP implementation activities are being incorporated into student field trips and summer public field trips by focusing on habitats such as oysters and the water column represented at Coastal Reserve sites.

(4.6) The CRC enacted a rule to establish a General Permit specifically for Ecosystem Enhancement Program mitigation projects

(4.7) Ongoing - Sea Grant Marina Advisory Group formed and meeting to discuss marina siting policies and multi-slip docking facilities (MSDF's). The group is addressing uses of multi-slip docking facilities as well as appropriate water depths for slips. Two public meetings were held in March in Wilmington and Washington to gather public comment on issues. The meetings were attended by 58 people who provided comments on the need to consider cumulative impacts of MSDF's, CAMA permit application structure, the need for property owner guidance, and stricter siting standards. The public comments will be used by the Advisory Group in the development of recommendations.

Division of Water Quality

(4.3) Ongoing - Develop an optional plan that local governments could undertake to meet multiple stormwater regulatory requirements: the Universal Stormwater Management Program (USMP) Rule. The USMP Rule went to three public hearings throughout the State, and the public comment period closed on May 15, 2006. As a result of the public comment, a proposed maximum impervious surface limit of 36% for development within 575 feet of shellfishing waters has been added to the revised rule.

(4.4) Revision of DWQ Coastal Stormwater Rules: As a result of a DWQ survey regarding the effectiveness of the State's existing coastal stormwater rules that was presented to the EMC in October 2005, the CRC in January 2006, and the MFC in April 2006, the MFC prepared a letter to the EMC requesting the WQC/EMC to initiate rulemaking proceedings to revise these rules to make them more protective of coastal waters. In its letter, the MFC suggested some actions the EMC might consider. This letter was discussed at the July WQC meeting.

(4.8) Work with Department on reducing NPS pollution from large-scale animal operations: Proposed administrative rules for the regulation of third party animal waste applicators ("Manure Haulers") have been approved by the EMC, awaiting final approval by the RRC. The rules, as proposed, require registration and annual reporting for all "Manure Haulers" who land apply more than 100 tons of manure per year. The proposed rules also require land application at agronomic rates and set forth setbacks for land application and stockpiles.

Department of Environment and Natural Resources

(4.5) Three new water quality forester positions were established in DFR to help reduce water quality impacts from forestry operations.

EXHIBIT D-2



North Carolina Department of Environment and Natural Resources
Michael F. Easley, Governor **Division of Waste Management** William G. Ross Jr., Secretary

MEMORANDUM

TO: ERC Co-Chairs
Senator Daniel Clodfelter
Senator Charlie Alberston
Representative Pryor Gibson

FROM: William G. Ross, Jr.

RE: Inactive Hazardous Sites Annual Report to the Legislature

In 1987 the North Carolina General Assembly enacted the Inactive Hazardous Sites Response Act (N.C.G.S. 130A-310) to address sites with non-permitted releases of hazardous substances. This legislation requires annual reporting to the Environmental Review Commission. Thirty-two copies of the 2006 annual status report are enclosed.

Should you have any questions, please feel free to call either myself or Jack Butler, Chief, Superfund Section, Division of Waste Management at 508-8450.

WGR/CVJ/slb

Attachment

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Report to the North Carolina General Assembly on the Inactive Hazardous Sites Program

October 2006

Superfund Section
Division of Waste Management
North Carolina Department of Environment and Natural Resources

http://www.wastenotnc.org

EXHIBIT D-3



North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

October 3, 2006

MEMORANDUM

TO: Representative Pryor A. Gibson, III, Co-Chair
Senator Daniel G. Clodfelter, Co-Chair
Senator Charles W. Albertson, Co-Chair
Environmental Review Commission

FROM: Richard E. Rogers, Assistant Secretary for Natural Resources

SUBJECT: 2006 Semiannual Report for the *Pilot Program for Inspections of Animal Waste Management Systems*

In accordance with Session Law 2005-276, Section 12.7.(b), and on behalf of the Division of Soil and Water Conservation, I herewith submit the 2006 semiannual report on the *Pilot Program for Inspections of Animal Waste Management Systems.*

RER:sdp

Attachment

cc: Manly S. Wilder

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Pilot Program for Inspections of Animal Waste Management Systems

2006 Semiannual Report
For Calendar Year 2006



N.C. Division of Soil and Water Conservation

EXECUTIVE SUMMARY

From 1999 to June 2006, the pilot program has collected data from 2,307 documented site visit reports to 166 permitted animal operations in Brunswick, Columbus, Jones and Pender Counties. The Division of Soil and Water Conservation (DSWC) staff has used this data to study and better understand the factors that influence compliance and affect the potential for environmental impact by animal waste management systems. For the 2006 calendar year, DSWC experienced or observed the following:

- DSWC and Division of Water Quality (DWQ) staff continues to use one reporting form and one database. (p.4)
- Below normal precipitation for the first half of 2006 resulted in no "Immediate Threat" operational indicators observed on pilot farms. (p.6)
- Pilot farms made up 39% of the site visits reports noted for high waste levels in storm storage range for the first two quarters of 2006. (p.6)
- Pilot farm performed better than all farms statewide in 7 out of 9 of the listed "Potential Threat" operational indicators. (p.7)
- DSWC to focus additional technical assistance and follow-up efforts to "newer" farms to the program in Pender County for improved compliance with required Plans of Action to address high waste levels. (p.8)
- Following Tropical Storm Ernesto, "veteran" pilot farms noted with high waste levels have a higher frequency of having been categorized as a potential "high impact" farm prior to 2006. (p.8)
- Following Tropical Storm Ernesto, "veteran" pilot farms noted with high waste levels have a higher frequency of having operated on a required Plan of Action prior to Tropical Storm Ernesto. (p.8)
- DSWC *operating cost per hour* was further refined and resulted in an increase over previous years. (p.9)
- DSWC *per-visit* costs continue to be less for pilot farms when compared to non-pilot farms. (p.9)
- DSWC *per-farm* costs are lower for pilot farms at this time but are projected to be higher for pilot farms than non-pilot farms at the end of 2006 due to increased frequency of site visits to pilot farms. (p.9)

BACKGROUND

The objectives of the Animal Waste Management Inspection Pilot (hereinafter the pilot), and in accordance with Section 12.7(b) of S.L. 2005-276, are:

1. To determine how DSWC staff can respond more quickly and effectively, with technical assistance, to complaints and problems to help farms achieve compliance with environmental regulations;
2. To compare costs of conducting operations reviews and inspections under the pilot program with the costs of conducting operations and inspections pursuant to G.S. 143-215.10D and G.S. 143-215.10F
3. To determine the needed resources to expand the pilot program to all counties.

The need to improve effectiveness and efficiency of each site visit is essential as operating costs increase. DSWC believes this need is best satisfied through resource targeting. The pilot program allows Department of Environment and Natural Resources (DENR) staff to test approaches for earlier identification of problems, and to target DENR's resources for expediting corrective actions.

The pilot differs from the state's traditional animal inspections program in that DSWC staff conducts annual *routine* compliance inspections, in addition to performing *routine* operation reviews of all permitted livestock operations in Brunswick, Columbus, Jones and Pender Counties. DWQ staff provides regulatory oversight, performs compliance audits with DSWC staff of "targeted" potential high environmental impact farms, responds to DSWC referrals and conducts additional compliance inspections for further investigation and enforcement actions as warranted.

DSWC and DWQ staff continues to use one reporting form and DWQ's Basinwide Implementation Management System (BIMS) database.

The pilot program was expanded into Pender County in January 2006 in accordance with Section 12.7(b) of S.L. 2005-276. To facilitate the additional workload, DSWC employed one additional Environmental Specialist to work with the current operation review staff. This employee is a technical specialist designated by the Soil and Water Conservation Commission as required by § 143-215.10D.

With the addition of Pender County, the program expanded from 106 to 166 permitted animal farms in the pilot area. Pilot farms are comprised of:

- 94 swine farms operating under a National Pollutant Discharge Elimination System (NPDES) General Permit,
- 71 swine farms operating under a State Non-Discharge (AWS) General Permit,
- 1 horse farm operating under a State Non-Discharge (AWI) Individual Permit.

Activity for the first two quarters of 2006, both in and out of the pilot area, is based on the following data queried from BIMS and DWQ's *Quarterly Report for the Period Ending June 30, 2006*:

- Statewide, 2,500 animal operations were subject to permitting and inspection
- Statewide, DENR staff conducted 2,325 site visits (1,173 by DSWC & SWCD and 1152 by DWQ)
- In the pilot area, DENR staff conducted 237 site visits (178 by DSWC and 7 by DWQ)

The pilot program is currently scheduled to end September 1, 2007.

PRECIPITATION & COMPLIANCE TRENDS

Annual precipitation amounts and events have the biggest impact on compliance performance by farms both in and out of the pilot program area. This has been continually noted in the data contained in earlier pilot reports.

All pilot counties experienced below normal precipitation amounts for the first two quarters of 2006. The deficits ranged from less than 4 inches in Columbus County to 9.5 inches in Brunswick County.

Location	Station	Actual (inches)	Normal (inches)	Deviation
Brunswick - Southport 5 N	318113	16.66	26.20	9.54" below normal
Columbus - Whiteville 7 NW	319357	20.49	24.44	3.95" below normal
Jones - Trenton	318706	17.02	25.24	8.22" below normal
Pender - Willard 4 SW	319423	19.67	24.75	5.08" below normal

Table 1. Actual and normal precipitation amounts for January 2006 through June 2006. Data provided by the State Climate Office of North Carolina's CRONOS (NC Climate Retrieval and Observations Network Of the Southeast) Database. This data set is based on daily observations with 100% of records compiled

DSWC staff has been tracking five "Immediate Threat" operational indicators since 2001 and as listed in **Table 2** on page 6. "Immediate Threat" problems are identified as posing the most severe and immediate threat to the environment. Because of below average rainfall during the first two quarters of 2006, less than 3% of the statewide site visits by DENR staff are noted for any type of "Immediate Threat" problem. Even more notable, site visits to pilot farms reflected no incidents of "Immediate Threat" problems.

"Potential Threat" problems are defined as those problems that left uncorrected, would eventually develop into an immediate threat to the environment. DSWC has been tracking nine "Potential Threat" operational indicators as shown in **Table 2**. Pilot farms received 8% of the site visits conducted from January through June 2006 and had a lower than 8% frequency of occurrence for most of the "Potential Threat" operational parameters. Pilot farms did make up 39% of the site visit reports noted with high *waste levels in storm storage* range. While DSWC cannot offer a definitive answer for this high variance, staff feels that focused resources in the pilot counties allows for a higher number of follow-up site visits to farms with reported high waste levels.

Operational Indicators	Statewide	Pilot	% Pilot/Statewide
Immediate Threat			
Offsite Discharge	10	0	0
Structural integrity compromised	17	0	0
Waste in structural freeboard range	5	0	0
Hydraulic overloading/ponding	10	0	0
Nitrogen over-applied ≥ 10% of plan	15	0	0
Potential Threat			
Waste level in storm storage	18	7	39%
Irrigation system maintenance deficiency	5	0	0
Structural maintenance deficiency	243	13	5%
Receiving crop inconsistent with waste plan	30	2	7%
Irrigation records deficient	73	1	1%
Waste level records deficient	50	5	10%
Receiving crop/application field needs improvement	164	12	7%
Waste analysis deficient	63	2	3%
Soils analysis deficient	69	4	6%
DENR Site Visits	**2318**	**184**	**8%**

Table 2. Operational indicators noted from January 1, 2006 through June 30, 2006, and performed by DSWC and DWQ staff. Operational indicators may contain duplications for site visits conducted jointly by DSWC and DWQ staff.

TROPICAL STORM ERNESTO

Tropical Storm Ernesto made landfall in Brunswick County on the evening of August 31 and moved across the Coastal Plain region on Friday, September 1, 2006 with the storm's center of circulation crossing Brunswick and Pender Counties. Unofficial rainfall totals from the National Weather Service in Raleigh, NC show pilot counties received between 4 and 11 inches of rain with minor to severe flooding.

Official rainfall totals, compliance trends and farm categorization into environmental impact groups will be discussed in more detail in the April 15, 2007 *Interim Report on the Pilot Program for Inspections of Animal Waste Management Systems*. For this report, DSWC examined the farms that were reported as having high, noncompliant waste levels as a direct or indirect impact from TS Ernesto.

For this data set, DSWC queried all incident reports logged into the BIMS database between August 31, 2006 and September 21, 2006 for the counties covered by DENR's Washington and Wilmington Regional Offices (WaRO/WiRO). A total of 117 incident reports for animal operations were logged in under the categories of non-compliance reporting or emergency with 25% of the incident reports originating from pilot farms.

The 29 incident reports were documented for 27 pilot farms - all with high waste levels. Five farms noted for waste levels within the structural freeboard elevation range (an "Immediate Threat" operational indicator).

Pender County farms account for 15 incident reports with only six farms implementing mandatory 30-day and 5-day Plans of Action (PoA) to describe:

(1) How the waste will be properly land applied for compliance within specified compliance schedules, and
(2) Any additional corrective measures to be implemented.

The low percentage of farms implementing PoA's in Pender County has alerted DSWC to focus additional technical assistance for better waste management and to increase follow-up efforts to pilot farms immediately following extreme weather events to ensure improved compliance with PoA requirements for high waste levels as needed.

Twelve Brunswick and Jones County farms account for the 14 remaining incident reports. All of these farms implemented the required 30-day and 5-day PoA's for high waste levels. Since these farms have participated in the pilot program since 1999 and earlier, DSWC staff is more knowledgeable about with their individual compliance histories and waste management systems, and observed the following:

- Since 1999, 11 of the 12 farms operated at least once on a 30-day or 5-day PoA to address high waste levels prior to TS Ernesto.
- 8 of the 12 farms (67%) were determined to be potential "high impact" farms at least once prior to 2006 (see previous pilot reports for farm categorization

information). In comparison, only 36 of the remaining 93 farms (39%) were identified at least once since 1999 as potential "high impact" farms.

COST & LABOR COMPARISONS

Cost and labor comparisons for the DSWC operation review core staff were better refined in 2006 with the incorporation of actual mileage costs. In addition, salaries, office rent, administrative and operating costs, and coded work hours were updated and compiled to determine a DSWC operating cost of $29.26 per hour for the first two quarters of the 2006 Calendar Year. This cost is up from the $26.93 per hour in 2005 and $26.37 in 2004. The significant increase is due to the use of actual mileage costs and employee turnover that resulted in training of two new employees to become designated technical specialists.

DSWC's hourly operating cost is the same for pilot and non-pilot farms alike. As previously reported, differences between pilot versus non-pilot costs arise as a result of the frequency and duration of site visits. Since this report is based on the first two quarters of 2006 only, the second *routine* compliance inspection by DSWC has not been performed and will be conducted in the last two quarters of the calendar year.

Table 3 reflects key cost and labor comparisons. The DSWC's *per-visit costs continue to remain less* for pilot farms than non-pilot farms. Presently DSWC's *per-farm costs are lower for pilot farms* but will increase during the second half of 2006 when the second round of routine compliance inspections are completed. *Per-farm costs for pilot farms* are higher than non-pilot farms as a direct function of the higher frequency of site visits made to pilot farms.

	Pilot Farms	Non-pilot Farms
	$187.93 per DSWC visit	$217.87 per DSWC visit
	1.07 visits per farm	1.01 visits per farm
	6.42 hours per visit	7.44 hours per visit
	$201.51 per farm	$219.68 per farm

Table 3. 2006 Key Cost and Labor Comparisons for DSWC Operation Review Staff

EXHIBIT D-4

NCDENR

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

October 1, 2006

TO: Senator Dan Clodfelter
Senator Charlie Albertson
Representative Pryor Gibson

FROM: William G. Ross Jr., Secretary

RE: Annual Report on Basinwide Water Quality Management Plans

G.S. 143-215.8B requires the Department of Environment and Natural Resources to report to the Environmental Review Commission each year on the progress in developing and implementing basinwide water quality management plans and on increasing public involvement and public education in connection with basinwide water quality management planning. If you have any questions please contact Darlene Kucken at (919) 733-5083, extension 354.

Attachment

cc: Alan W. Klimek, P.E.

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Annual Report from the Basinwide Planning Program on Progress in Developing and Implementing Basinwide Water Quality Plans

For the Period of October 1, 2005 through September 30, 2006

I. Basin Plan Development Activities

The Basinwide Planning Program finalized the first cycle of basin plans in May 1998. The second cycle of plans was completed in March 2003. The third cycle of basinwide water quality plans is well underway, with the finalization and Environmental Management Commission approval of the *Neuse (July 2002), Lumber (December 2003) Tar-Pamlico (March 2004), Catawba (September 2004), French Broad (April 2005), New (October 2005), Cape Fear (October 2005), and Roanoke (September 2006) River Basinwide Water Quality Plans*. Completion of the remaining third cycle plans is well underway and these remaining plans will be presented to the Water Quality Committee in the next few months for public review and input. Activities related to gathering formal public input on the basinwide plans during October 2005 through September 2006 are presented below.

River Basin	Plans Approved by Environmental Management Commission	Public Review
New	October 2005	August 2005
Cape Fear	October 2005	May 2005
Roanoke	September 2006	July 2006

II. Coordination and Collaboration Activities Related to Basinwide Planning Implementation

Many additional activities have occurred over the past year that are not tied to a specific basin, but rather can be applied to the program as a whole. The Basinwide Planning Program has been tracking public contact opportunities since 2004; with approximately 9,000 individuals receiving direct outreach through formal or informal presentations or technical assistance. Many more public contact opportunities, such as emails and phone calls, are made by program staff but are not tracked. Some of the more significant activities are as follows.

- In an effort to assure Basinwide Plan implementation and to increase coordination among Division of Water Quality staff and other agencies, meetings to discuss implementation needs are held regularly for each river basin. At least one meeting

has been held with each regional office staff during this reporting period to discuss the Implementation Packet for each river basin covered by the regional office. Central office staff from various units may attend these meetings with Basinwide staff, or further coordination is conducted with central office staff as follow-up to the meetings.

- Additional coordination is conducted with other agency personnel and local watershed organizations as needed to discuss specific management strategies and to assess progress being made to implement these strategies. These meetings are also used as an opportunity to share more information and jointly develop appropriate management strategies to address specific problems.
- Basinwide staff coordinate with the Ecosystem Enhancement Program staff on prioritization of targeted watersheds.
- Basinwide staff coordinates with state, federal and local agencies to obtain information pertinent to the basinwide plans, increasing the level of coordination and communication with these agencies and their participation in the development of basinwide plans. Discussions frequently occur between the Basinwide Planning Program and the following agency staff: NC Division of Soil and Water Conservation and Soil and Water Conservation Districts, Environmental Health, Coastal Management, Water Resources and Marine Fisheries, as well as the Wildlife Resources Commission and US Fish and Wildlife. These discussions have resulted in improved communication, sharing information and assuring appropriate information is presented in the basin plans.
- Basinwide information was provided to applicants for Clean Water Management Trust Fund and Sections 319 and 205(j) grants. Basin planners also provide technical reviews of these applications.
- Basinwide plans, notices of public input opportunities, and other information relevant to the basinwide planning program are updated on the web site to provide more information access (see http://h2o.enr.state.nc.us/basinwide/).
- Basinwide staff coordinates with the Classifications & Standards Unit and other federal and state agencies to develop management strategies for threatened and endangered species per DWQ rule.
- Basinwide staff continues to work with US Geologic Survey, NC Department of Transportation (NCDOT) and the Center for Geographic Information and Analysis in development of 1:24,000 National Hydrography Data (NHD) for North Carolina. Methods continue to be developed and tested to incorporate water quality and NCDOT data onto the NHD. The NHD will be a necessary data layer for submittal of future 303(d) impaired waters lists to the Environmental Protection Agency.
- Basinwide staff continues to develop information and improve skills related to Geographic Information System procedures. The results of these efforts have increased proficiency in mapping capabilities and analysis of data, as well as higher quality maps for public use.
- Basinwide staff continues to enhance procedures, methods and database implementation pertaining to use support decisions on surface water quality status.
- Solicitation for water quality information from outside sources for the Yadkin-Pee Dee and Lumber River basins was conducted in 2005. All river basins were solicited

in 2006. This activity entails mailing thousands of flyers to all persons on the Planning Section mailing list database for all basins, including NPDES dischargers.

- Basinwide staff is preparing draft plans for public review for the White Oak, Savannah, Watauga, Hiwassee, Little Tennessee, Chowan, Pasquotank, and Neuse River basins. This activity entails conducting data analysis and making use support decisions based on all available information, obtaining public input as noted above, preparing text and maps identifying watershed level water quality problems and potential solutions.
- Basinwide staff conducted public review and comment phase on the Roanoke River basin. This activity entails mailing notices of the availability of the draft plan on-line or by hard copy, meeting with various interested parties as noted above, editing the plan to reflect the comments as needed, and conducting final preparation of the plan for approval by the Environmental Management Commission.
- Basinwide staff continues to coordinate with river basin coalitions and watershed groups to identify high priority waters and issues of relevance to that group, and identify potential means to address the issues. This activity entails providing technical assistance and guidance on water quality initiatives developed and implemented at the local level.
- Basinwide staff continues to participate in FERC hydropower relicensing negotiation efforts for the Catawba and Yadkin-Pee Dee River basins. This activity entails assuring that water quality conditions in the basin are maintained or improved as a result of relicensing activities.
- Basinwide staff continues to review and provide comments to the Division of Coastal Management staff on content and accuracy of land-use plans related to water quality in coastal areas.
- The Basinwide Program has embarked on a collaboration effort with the Soil and Water Conservation Districts across the state as each basin plan is revised. This initiative is intended to meet the expectations of the DENR Strategic Plan Directive 3. The Districts provide watershed level information for the basin plans and contribute to implementation strategy development.

NCDENR

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

October 1, 2006

TO: Senator Dan Clodfelter
Senator Charlie Albertson
Representative Pryor Gibson

FROM: William G. Ross Jr., Secretary

RE: Annual Report on the Dry-Cleaning Solvent Cleanup Act Program

G.S. 143-215.104U requires the Department of Environment and Natural Resources to report to the Environmental Review Commission each year on the progress in developing and implementing the Dry-Cleaning Solvent Cleanup Act Program which was created to address contamination at current and former dry-cleaning facilities and wholesale distribution facilities that store, distribute and sell dry-cleaning solvents. If you have any questions, please contact Jack Butler at (919) 508-8450.

Attachment

cc: Dexter Matthews

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One North Carolina Naturally

Annual Report to the Environmental Review Commission North Carolina General Assembly

The Dry-Cleaning Solvent Cleanup Act Program

October 2006

NCDENR

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES

Superfund Section
Division of Waste Management
www.wastenotnc.org
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Department of Environment and Natural Resources

Michael F. Easley
Governor

William G. Ross Jr.
Secretary
NC Department of Environment and Natural Resources

Dexter R. Matthews
Director
Division of Waste Management

DENR
Division of Waste Management
Superfund Section
1646 Mail Service Center
Raleigh, NC 27699-1646
(919) 508-8400

DRY-CLEANING SOLVENT CLEANUP ACT ANNUAL REPORT

Executive Summary

As required by the Dry-Cleaning Solvent Cleanup Act (DSCA) of 1997 and amendments (G.S. 143-215.104A *et seq.*), this report provides an annual update on activities conducted in the DSCA Program in 2006. The DSCA of 1997 and its amendments created a fund for assessment and cleanup of dry-cleaning solvent environmental contamination at dry-cleaning and wholesale distribution facilities.

Significant progress has been made in all aspects of program implementation. Areas of program development showing the most progress are risk-based rule development, Assessment and Remediation Agreements, work authorizations, prioritization and comprehensive assessments, priority ranking, contracting, imminent hazard abatement and emergency response, assessment guidance and database development, operating facility compliance with minimum management practices and outreach.

The Department of Environment and Natural Resources (DENR) has identified 225 operating or abandoned dry-cleaning facilities with environmental contamination by dry-cleaning solvent. Of these, 161 have voluntarily petitioned for acceptance, and 149 have been certified into the DSCA Program. Assessment and Remediation Agreements have been executed for 130 sites and 92 sites have been prioritized.

The majority of claims against the Fund to date have been for "past costs." The DSCA Program is authorized to reimburse petitioners for reasonable, necessary and documented costs incurred between October 1997 and June 2001 in certain situations. Petitioners have submitted past cost reimbursement claims for 13 sites totaling $2,612,290. Of that total, $1,555,757.21 has been approved for reimbursement. A total of $1,458,908.46 has been paid to petitioners through FY 2005-06. The remaining $96,848.75 will be paid in FY 2006-07. A claim totaling $80,357.12 that had previously been disallowed by the DSCA Program will also be paid in FY 2006-07 because the Environmental Management Commission ruled in July 2006 that the petitioner should be reimbursed for that claim.

With the infusion of the sales tax monies, which began in July 2003, DSCA now appears to have sufficient financial resources to assess and clean up the contaminated dry-cleaning facilities identified to date by DENR. New discoveries will continue to be reported, largely due to property transactions. However, with 29 new sites reported in 2006, if the rate of discovery remains steady, the addition of new sites to the program should not overwhelm the DSCA Fund.

The program is currently developing risk-based rules as required by DSCA for the assessment and cleanup of contaminated dry-cleaning sites. A contractor who specializes in the development of risk-based programs for state regulatory agencies was hired in 2005 to assist in the rulemaking process. It is anticipated that these rules will be completed by November 2007.

Fund expenditures for site work will increase significantly when additional contracts with environmental engineering firms are executed and the risk-based rules are completed. Expenditures are projected to increase by approximately 230 percent beginning in FY 2006-07.

Program Status

DENR has made significant progress in implementing DSCA. DENR has solicited input from members of the DSCA Stakeholders Working Group (DSCA Stakeholders) and other interested parties to develop new policies and procedures. Participants in the DSCA Stakeholders include the following:

- DENR representatives and Department of Justice attorneys assigned to DENR,
- Dry cleaners from leadership of the North Carolina Association of Launderers and Cleaners,
- Environmental consultants,
- Representatives from environmental advocacy organizations,
- Dry cleaners using alternative dry-cleaning technologies,
- North Carolina State University's School of Textiles faculty, and
- Private attorneys representing dry cleaners and shopping centers.

A summary of DSCA Program site status is provided in Table 1.

Table 1. DSCA Program Site Status

Step 1. The dry cleaner or property owner petitions DENR for certification and signs an Assessment and Remediation Agreement.	To date, 161 sites have petitioned for entry into the Program. The main motivating factors for petitioning have been real estate transactions and redevelopment.
Step 2. DENR certifies the site and executes the Assessment and Remediation Agreement. DENR determines whether the contamination is posing an imminent hazard to human health or the environment.	Of the 161 sites that have petitioned, 149 sites have been certified into the Program. Two sites have been denied certification due to failure to meet the requirements for certification as mandated by DSCA. The remaining ten sites that have not yet been certified are currently under review. The Assessment and Remediation Agreement (ARA) is a legally binding agreement between DENR and the petitioner that covers all phases of work at a site including the prioritization assessment. All work done under these agreements is performed by independent environmental contractors hired by DENR. ARAs for 130 sites have been executed between DENR and petitioners. Each petition is reviewed for imminent threats to human health or the environment. Drinking water sources have been identified in proximity to several sites. Evaluation of potential imminent threats has been expedited for these sites.

Step 3. DENR assigns the site to one of its independent contractors for a prioritization assessment.	In August 2004, DENR executed contracts with four environmental contractors to perform site assessment and remediation. These four firms have been granted three-year contracts totaling $2.4 million. In May 2006, DENR executed three additional contracts totaling $9 million over three years. Additional contracts are anticipated to be awarded during the first half of FY 06-07. Following execution of an ARA, DENR assigns the site to one of its contractors, who performs a prioritization assessment and determines if an imminent hazard exists at the site. Petitioners will be billed by DSCA to cover site deductibles after the expenses have been incurred.
Step 4. DENR ranks the site and checks again for imminent threats.	Information collected during the priority assessment is used by DSCA to rank each site in terms of risk to human health and the environment. The DSCA Prioritization Ranking System and supporting database application were developed to efficiently assign priority ranking scores to sites. To date, 92 sites have been prioritized.
Step 5. DENR approves its contractors to proceed with imminent hazard response, comprehensive assessment and remediation (where necessary) with funds obligated to higher priority sites first.	Six sites have been identified where drinking water wells have been impacted by dry-cleaning solvents. DSCA is responding to these threats by connecting residences and businesses to municipal water lines and installing point-of-entry filtration systems to remove contaminants. Comprehensive assessments and groundwater monitoring have been initiated at the prioritized sites.

Program Development

The primary objective of DSCA in 2006 was to continue working toward full implementation of the program. To attain this goal, DSCA staff directed significant energy towards the development of supporting policies, procedures, and guidance. To reduce resource consumption and optimize customer service, DSCA uses its web site (www.ncdsca.org) and e-mail as the primary means to deliver program documents to its customers. As in the previous year, DSCA staff continued reviewing petitions, determining site eligibility, executing assessment and remediation agreements, screening sites for imminent hazards, supply well sampling, providing users of impacted water supply wells with clean water, site prioritization, comprehensive site assessments and groundwater monitoring. New activities performed in 2006 includes investigation of potential vapor intrusion hazards in buildings and the removal of highly contaminated soil beneath buildings that was causing indoor vapor hazards.

Specifically, progress was achieved in the following areas:

- Risk-Based Rule Development
- Past-Cost Reimbursement
- State-Lead Contracts
- Assessment and Remediation Agreement
- Prioritization Assessments
- Prioritization of Sites

- Comprehensive Site Assessments
- Database Application
- Facility Compliance and Outreach

Risk-Based Rule Development

DENR has been delegated the task of developing rules that establish a risk-based approach to assessing, prioritizing, and cleaning up dry-cleaning solvent contamination that resulted from releases at certified facilities or abandoned sites. During the past year, the DSCA Program has worked with an independent contractor, the RAM Group of Houston, Texas, a firm that specializes in helping states develop risk-based rules and implementation guidance. The RAM Group has developed a draft guidance document with risk procedures as well as standardized reporting forms and customized spreadsheets that perform the risk calculations necessary to determine site-specific, risk-based cleanup levels. Review and discussion of this draft guidance and the first draft of the risk-based rules have been performed within DENR and with a review group composed of DSCA Stakeholders. Modifications and improvements to the draft rules are currently underway and following additional DENR and stakeholder review, the draft rules will be advanced through the rulemaking process. It is anticipated that these rules will be completed by November 2007.

Past-Cost Reimbursement

The DSCA Program is authorized to reimburse petitioners for appropriately documented and reasonably necessary costs incurred between October 1997 and June 2001 in certain situations pursuant to Section 2.(a) of House Bill 1062 (Session Law 2001-265). Petitioners have submitted past cost reimbursement claims for 13 sites totaling $2,612,290.79. After reviewing the claims to determine eligible costs and subtracting the required $50,000 deductible for each site, the DSCA Program determined that a total of $1,555,757.21 could be reimbursed to petitioners for 11 of the 13 sites.

Through FY 2005-06 the DSCA Program has reimbursed $1,458,908.46. The remaining total of $96,848.75 will be reimbursed in FY 2006-07. The program also received a past-cost claim totaling $80,357.12 which had been disapproved because it had not been received prior to the statutory deadline of July 1, 2002. However, the petitioner appealed to the Environmental Management Commission who ruled in July 2006 that the petitioner should be reimbursed the contested amount. Therefore, an additional $80,357.12 that had not been previously approved will be paid in FY 2006-07.

DSCA Contracts

In July 2004, DENR executed contracts with four independent environmental engineering firms to perform assessment and remediation at DSCA sites. The contracts total $2.4 million with a term of three years. In May 2006, DENR entered into three additional contracts totaling $9 million with engineering firms. During FY 05-06, the contractors performed prioritization assessments, comprehensive assessments and imminent hazard response activities, including the removal of contaminated soil and provision of clean drinking water to residences with contaminated water supply wells. The DSCA Program anticipates soliciting proposals for

three additional contractors in October 2006 with these contracts totaling $18 million over three years.

Assessment and Remediation Agreement

An Assessment and Remediation Agreement (ARA) that is executed by the DSCA Program and petitioners for certified sites was developed for use beginning in September 2004. An amended version was released in July 2005. This agreement encompasses all phases of site work (prioritization and comprehensive assessments and remedial action) and allows DSCA to direct all work using its independent contractors. Petitioners must sign this agreement in order to obtain the liability protection afforded by DSCA and to allow DSCA's contractors to assess and remediate certified sites. ARAs for 130 sites have been executed to date. Prior to September 2004, Prioritization Assessment Agreements (PAAs) between DSCA and petitioners were used to prioritize sites. However, the PAA has been phased out and all future work will be performed under the ARA.

Prioritization Assessments

Unless site assessment information obtained during an earlier pre-DSCA investigation is available, a prioritization assessment must be performed at DSCA sites following certification into the program. Work performed during this phase consists of limited soil and groundwater sampling to determine the severity of contamination. This sampling is conducted in conjunction with a survey of the area surrounding the site to locate all potential receptors (public and private drinking water wells, surface water bodies, sensitive ecological environments) that may be threatened by the contamination.

DSCA project managers instruct the program's contractors to submit work plans that follow procedures outlined in a prioritization assessment guidance document that details the necessary scope for this work phase. Following authorization by the DSCA Program, the contractor performs the assessment and submits a prioritization assessment report that enables the program to determine the priority ranking of the site. Pursuant to the requirements of the DSCA statute, money from the fund must be obligated to higher priority sites first.

Following completion of the prioritization assessment and receipt of the contractor's invoice, the DSCA project manager prepares and mails an invoice to the site's petitioner(s) for an amount up to the site's applicable deductible. Once the deductible has been met, the DSCA fund covers all costs until total site costs reach $200,000, at which point the petitioner(s) become responsible for one to three percent of incurred costs.

Prioritization of Sites

A total of 92 sites have been prioritized to date. In October 2004 the DSCA Program implemented a new priority scoring system that was based on the threat of contamination to nearby receptors such as supply wells and surface water. The new scoring system assigns a score that corresponds to the specific receptor that is being threatened. For example, a score of "1.2" indicates that "an active domestic drinking water supply well is impacted or immediately threatened by the release and that the user has no access to another public or private water

supply." DSCA staff can immediately know what actual or potential hazard exists at a site based simply on its score. If multiple sites are assigned the same score, then DSCA staff can evaluate other factors such as magnitude of contamination in determining priority order.

Database and Geographic Information System (GIS) Application

The DSCA Program has invested significant time and effort to develop and refine its database and GIS applications. Rapid application development techniques have been used to ensure its ability to manage data is flexible and can grow with the program. Technical and financial information has been entered into the database. The programmatic tracking and reporting applications are frequently revised to respond to changing information management needs.

Major improvements in 2006 focused on refining the database so that it could track project financial details. Reporting capabilities include project status, current site actions, site deductibles, costs applied toward the deductible, past-cost reimbursements, invoices, payments, work authorized on a task order basis and change orders.

In July 2005 DENR purchased GIS software that the DSCA Program will use to view site information utilizing digital mapping. This technology is currently being integrated by the program to enhance project managers' ability to quickly evaluate site conditions regarding contamination, thereby assisting in site assessment and remediation.

Facility Compliance and Outreach

DENR has been authorized under DSCA to develop rules that operating dry-cleaning facilities must follow to prevent environmental contamination by dry-cleaning solvents. These rules, or Minimum Management Practices (MMPs), were implemented in 2001 as temporary rules and were approved as permanent rules in 2002. In 2005 the DSCA Program created and filled a new position that will coordinate compliance assistance visits and formal inspections of facilities and also serve as the lead for enforcement actions where necessary. In May 2006 DSCA hired a new inspector to perform compliance assistance and facility inspections in the eastern part of the state. Two additional inspectors will be hired to cover the central and western part of the state by January 2007.

In November 2005 the DSCA Program entered into a memorandum-of-agreement with the Division of Air Quality that enables the program to perform compliance inspections for air quality regulations that are applicable to dry-cleaning facilities. The program is also planning to inspect facilities for compliance with Resource Conservation and Recovery Act (RCRA) regulations, which currently are administered by the Division of Waste Management's Hazardous Waste Section. Such multimedia inspections will enable one program within DENR to ensure compliance with all environmental regulatory requirements and will give dry cleaners and the public a single DENR point-of-contact for compliance questions or concerns.

To identify the dry-cleaning facilities in North Carolina, the DSCA Program has obtained lists from the state's Department of Labor and a private marketing research firm. The Department of Labor has been inspecting boilers at dry cleaners since about 1970. After combining these lists and determining which facilities are pickup stores only (stores where dry cleaning is not

actually performed), DSCA determined that there are approximately 700 active facilities where dry cleaning is being performed. During 2006 DSCA compliance inspectors performed full inspections and provided compliance assistance at 62 dry cleaning facilities across the state. Although violations of varying severity were identified at many of these facilities, the program has primarily tried to educate business owners and operators regarding the MMPs and hazardous waste and air quality regulations. If subsequent visits to these facilities reveal that corrections have not been made, enforcement with civil penalties may be initiated by the program. It is anticipated that at least 300 facilities will be inspected in 2007 at which time the compliance program will be fully staffed.

The DSCA Program has continued its association with dry-cleaning programs in other states through its participation in the State Coalition for the Remediation of Drycleaners (SCRD). This work group is sponsored by the EPA's Technology Innovation Office. DSCA has benefited greatly from this organization by learning from the experiences of other states.

Annual Report Elements Required by G.S. 143-215.104U

(1) DRY-CLEANING SOLVENT CONTAMINATION REPORTED TO THE DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

DSCA maintains files and a database inventory of 225 sites that are contaminated by dry-cleaning solvent. This number represents all dry-cleaning solvent releases known to DENR, assuming other agencies have forwarded notices of release to DSCA. Table 2 provides a list, by county, of all known sites contaminated with dry cleaning solvent. A total of 29 new dry-cleaning solvent releases were reported to DSCA in 2005. Many of these contaminated sites were identified as a result of real estate transactions and redevelopment projects.

(2) SITES CERTIFIED BY THE COMMISSION

DSCA must review a petition and the site file to determine if the site and the petitioner meet the statutory criteria for certification into the Program. Of the 161 sites that have petitioned for Program entry, 149 have been certified into the Program. Two sites have been denied certification due to failure to meet the requirements for certification as mandated by DSCA. The ten remaining sites that have not yet been certified are newly received petitions that are currently under review. The certified sites are shown in Table 3 along with current site status.

Data from these petitions have been compiled to evaluate general site characteristics. A summary is presented in Table 4. The majority of the petitioners are property owners (135), as opposed to drycleaner business owners/operators (75). Of the sites that applied, 60 percent are abandoned sites.

Table 2. Sites with Dry-cleaning Solvent Contamination

DSCA ID	City	Site Name
Alamance County (4)		
001-0001	GRAHAM	DELUXE CLEANERS AND LAUNDRY - W HARDEN ST
001-0002	BURLINGTON	WORKMAN PROPERTY - N CHURCH ST
001-0003	BURLINGTON	A CLEANER WORLD - NEW MARKET SQUARE SHOPPING CTR
001-0004	BURLINGTON	RE BOONE CLEANERS - N MAIN ST
Brunswick County (2)		
010-0001	SOUTHPORT	TOWN GATE CLEANERS - N HOWE ST
010-0002	CALABASH	LOVE CLEANERS, INC. - TOWN SQUARE SHOPPING CENTER
Buncombe County (2)		
011-0001	ASHEVILLE	SWANNANOA LAUNDRY - CHURCH ST
011-0002	WEAVERVILLE	QUORUM KNITTING - REEMS CREEK RD
Burke County (2)		
012-0001	MORGANTON	FERREE CLEANERS - S STERLING ST
012-0002	MORGANTON	JORDAN'S CLEANERS - COLLEGE ST
Cabarrus County (3)		
013-0001	CONCORD	FULLER SUPPLY COMPANY - NW CROWELL DR
013-0002	CONCORD	CALDWELL CLEANERS - N CHURCH ST
013-0003	KANNAPOLIS	JAYE'S ONE-HOUR CLEANERS - N MAIN ST
Carteret County (1)		
016-0001	MOREHEAD CITY	COASTAL DRY CLEANERS - MOREHEAD PLAZA SHOPPING CTR
Catawba County (1)		
018-0001	CONOVER	CONOVER CLEANERS - CONOVER BLVD
Chatham County (1)		
019-0001	CHAPEL HILL	COLE PARK CLEANERS - COLE PARK PLAZA SHOPPING CENTER
Cleveland County (1)		
023-0001	SHELBY	FOLKS DRY CLEANERS - HICKORY CREEK SHOPPING CENTER
Cumberland County (5)		
026-0001	FAYETTEVILLE	MAYFLOWER LAUNDRY AND DRY CLEANING - W RUSSELL ST
026-0002	FAYETTEVILLE	EASY WASH DRY CLEANERS - BROADFOOT PLAZA SHOPPING
026-0003	FAYETTEVILLE	SMITTYS CLEANERS - OWEN DR
026-0004	FAYETTEVILLE	KORE-O-MAT LAUNDROMAT - BRAGG PLAZA SHOPPING CTR
026-0005	FAYETTEVILLE	DAVIS CLEANERS - OWEN DR
Dare County (1)		
028-0001	MANTEO	ANGE SPEED WASH - BALLAST ROCK SHOPPING CENTER
Davie County (1)		
030-0001	MOCKSVILLE	FALLIES DRY CLEANING - S MAIN ST
Durham County (14)		
032-0001	DURHAM	ONE HOUR KORETIZING - N ROXBORO RD
032-0002	DURHAM	PLANTS UNLIMITED - HILLSBOROUGH RD
032-0003	DURHAM	TRIANGLE SQUARE CLEANERS - TRIANGLE SQUARE SHOPPING
032-0004	DURHAM	EAKES CLEANERS - W MORGAN ST
032-0005	DURHAM	AMERICAN DRY CLEANERS - WOODCROFT SHOPPING CENTER
032-0006	DURHAM	AMERICAN DRYCLEANERS - MALLARD AVE
032-0007	DURHAM	MODEL LAUNDRY - HOLLOWAY ST
032-0008	DURHAM	W.P. BALLARD - JUNCTION RD
032-0009	DURHAM	TNT CLEANERS - N ROXBORO RD

Table 2. Sites with Dry-cleaning Solvent Contamination

DSCA ID	City	Site Name
Durham County (14)		
032-0010	DURHAM	WEAVERS CLEANERS - FAYETTEVILLE ST
032-0011	DURHAM	SCOTT AND ROBERTS DRY CLEANERS – FOSTER ST
032-0012	DURHAM	SHANNON DRY CLEANING - SHANNON PLAZA SHOPPING CTR
032-0013	DURHAM	FORMER BB&T - WEST CLUB BLVD
032-0014	DURHAM	HOLLYWOOD CLEANERS - WILLOWDAILE SHOPPING CENTER
Edgecombe County (1)		
033-0001	ROCKY MOUNT	IMPERIAL CLEANERS INC - N RALEIGH ST
Forsyth County (16)		
034-0002	WINSTON-SALEM	SHORES CLEANERS - PAVILIONS SHOPPING CENTER
034-0003	WINSTON-SALEM	A CLEANER WORLD - W ACADEMY ST
034-0004	KERNERSVILLE	HOOKER FURNITURE - N MAIN ST
034-0005	WINSTON-SALEM	KLEAN RITE CLEANERS - S HAWTHORNE RD
034-0006	WINSTON-SALEM	YOUNG CLEANERS - OBGURN STATION SHOPPING CENTER
034-0007	KERNERSVILLE	CAMELOT CLEANERS - S MAIN ST
034-0008	WINSTON-SALEM	HOUR GLASS CLEANERS - UNIVERSITY PKY
034-0009	WINSTON-SALEM	SMITH DRY CLEANERS - N MARTIN LUTHER KING JR DR
034-0010	WINSTON-SALEM	C AND S CLEANING SERVICES - WAUGHTOWN ST
034-0011	WINSTON-SALEM	CAMELOT CLEANERS - FOOD TOWN PLAZA SHOPPING CENTER
034-0012	WINSTON-SALEM	A CLEANER WORLD - HEALY DR
034-0013	WINSTON-SALEM	A CLEANER WORLD #161 - S PEACEHAVEN RD
034-0014	WINSTON-SALEM	CAMEL CITY CLEANERS - REYNOLDA MANOR SHOPPING CTR
034-0015	WINSTON-SALEM	CAMEL CITY LAUNDRY - E 3RD ST
034-0016	WINSTON SALEM	$2.50 KRYSTAL CLEANERS - CENTRE STAGE AT JONESTOWN SHOPPING CENTER
034-0017	WINSTON-SALEM	TRADE STREET CLEANERS - N TRADE STREET
Gaston County (4)		
036-0001	BELMONT	UNTZ DRYCLEANERS - ROPERS SHOPPING CENTER
036-0002	GASTONIA	CARSONS DRYCLEANERS - HIGHLAND PLAZA SHOPPING CTR
036-0003	GASTONIA	DE-LUX CLEANERS - DIXIE VILLAGE SHOPPING CENTER
036-0004	GASTONIA	UNION ROAD CLEANERS - UNION HUDSON CROSSING SHOPPING CENTER
Granville County (1)		
039-0001	OXFORD	OXFORD DRY CLEANERS - HILLSBORO ST
Guilford County (25)		
041-0001	GREENSBORO	CLEANER IMAGE - LAWNDALE VILLAGE SHOPPING CENTER
041-0002	GREENSBORO	CINDERELLA CLEANERS - BENBOW SHOPPING CENTER
041-0003	GREENSBORO	U.S. $1.75 CLEANERS - BENCHMARK SQUARE SHOPPING CTR
041-0004	GREENSBORO	COLUMBIA LAUNDRY CORP - BATTLEGROUND AVE
041-0005	HIGH POINT	DUTCH CLEANERS - S MAIN ST
041-0006	HIGH POINT	EASTGATE CLEANERS - EASTGATE SHOPPING CENTER
041-0007	GREENSBORO	MASTER KLEEN - FOREST OAKS SHOPPING CENTER
041-0008	JAMESTOWN	A CLEANER WORLD - W MAIN ST
041-0009	GREENSBORO	EVERHART DRY CLEANERS - NORTHEAST PLAZA SHOPPING
041-0010	GREENSBORO	GLAM-O-RAMA - CUMBERLAND SHOPPING CENTER
041-0011	GREENSBORO	O HENRY CLEANERS - SUMMIT AVE
041-0012	STOKESDALE	STOKESDALE FIRE DEPARTMENT - 158 HWY
041-0013	HIGH POINT	BANNER LAUNDRY - N MAIN ST
041-0014	GREENSBORO	MASTER KLEEN CLEANERS - HIGH POINT RD

Table 2. Sites with Dry-cleaning Solvent Contamination

DSCA ID	City	Site Name
Guilford County (25)		
041-0015	GREENSBORO	A CLEANER WORLD - SPRING GARDEN ST
041-0016	HIGH POINT	$2.50 PRO CLEANERS - N MAIN ST
041-0017	GREENSBORO	PREMIER CLEANERS - SUMMIT AVE
041-0018	GREENSBORO	DRY CLEAN AMERICA - SPRING VALLEY PLAZA SHOPPING CTR
041-0019	GREENSBORO	BURNETTS CLEANER AND LAUNDRY - E MARKET ST
041-0020	HIGH POINT	HISTORIC DRY-CLEANER LOCATION - N MAIN ST
041-0021	HIGH POINT	GINGISS FORMAL WEAR - N MAIN ST
041-0022	GREENSBORO	FORDHAMS CLEANERS - SPRING GARDEN ST
041-0023	GREENSBORO	A CLEANER CITY - BATTLEGROUND AVE
041-0024	GREENSBORO	A CLEANER WORLD #162 - HIGH POINT RD
041-0025	GREENSBORO	FORMER CLEANER - S EUGENE ST
Henderson County (3)		
045-0001	HENDERSONVILLE	BLUE RIDGE CLEANERS - E SEVENTH AVE
045-0002	HENDERSONVILLE	VILLAGE ONE HOUR CLEANERS - E BARNWELL ST
045-0003	FLETCHER	FLETCHER CLEANERS - HENDERSONVILLE RD
Hoke County (1)		
047-0001	RAEFORD	SMITTY'S CLEANERS - N MAIN ST
Iredell County (4)		
049-0001	STATESVILLE	SMITHS DRY CLEANERS - GORDON ST
049-0002	STATESVILLE	JOHNSON CLEANERS, INC. - E BROAD ST
049-0003	STATESVILLE	BROOKDALE CLEANERS - BROOKDALE SHOPPING CENTER
049-0004	TROUTMAN	CAMPBELL'S CLEANERS - WAGNER ST
Johnston County (1)		
051-0001	SMITHFIELD	GLAM O RAMA CLEANERS - E MARKET ST
Lenoir County (1)		
054-0001	KINSTON	VICKS CLEANERS - PLAZA SHOPPING CENTER
Lincoln County (1)		
055-0001	LINCOLNTON	LINCOLN CLEANERS - LINCOLN SHOPPING CENTER
Martin County (2)		
059-0001	ROBERSONVILLE	WILLIFORD CLEANERS - E ACADEMY ST
059-0002	WILLIAMSTON	TOWN & COUNTRY CLEANERS - WASHINGTON ST
Mcdowell County (1)		
056-0001	OLD FORT	NICHOLS LAUNDRY AND DRY CLEANING - CATAWBA AVE
Mecklenburg County (41)		
060-0001	CHARLOTTE	A CLEANER - MONROE RD
060-0002	CHARLOTTE	AMERICAN DRY CLEANER - E MOREHEAD ST
060-0003	MATTHEWS	CROSSROADS DRY CLEANERS - HOODS CROSSROADS
060-0004	CHARLOTTE	MINUTE MAN CLEANERS - EASTWAY CROSSING SHOPPING CTR
060-0005	CHARLOTTE	MITCHELLS FORMAL WEAR WAREHOUSE - CROSLAND CENTRE
060-0006	CHARLOTTE	PEOPLES CLEANERS - BEATTIES FORD RD
060-0007	CHARLOTTE	QUAIL DRY CLEANERS - QUAIL CORNERS SHOPPING CENTER
060-0008	CHARLOTTE	SNO-WHITE CLEANERS AND LAUNDERERS - SOUTHPARK MALL
060-0009	CHARLOTTE	SPRINGFRESH CLEANER - SARDIS VILLAGE SHOPPING CENTER
060-0010	CHARLOTTE	BOGGS AND COMPANY - GLENWOOD DR
060-0011	CHARLOTTE	SNO-WHITE CLEANERS - CARMEL COMMONS SHOPPING CTR
060-0012	CHARLOTTE	DOMESTIC LAUNDRY - CAMDUS SITE - S MCDOWELL ST
060-0013	CHARLOTTE	CUNNINGHAM CLEANERS - COTSWALD MALL SHOPPING CTR

Table 2. Sites with Dry-cleaning Solvent Contamination

DSCA ID	City	Site Name
Mecklenburg County (41)		
060-0014	CHARLOTTE	ONE PRICE DRYCLEANING - SOUTH SQUARE MARKETPLACE
060-0015	CHARLOTTE	CARRIAGE FINE DRY CLEANING - ARBORETUM SHOPPING CTR
060-0016	CHARLOTTE	60 MINUTE CLEANERS - STEELE CREEK COMMONS SHOPPING
060-0017	CHARLOTTE	GATEWAY VILLAGE DEVELOPMENT - W TRADE ST
060-0018	CHARLOTTE	SUDS N DUDS - N SHARON AMITY RD
060-0019	CHARLOTTE	CUNNINGHAM CLEANERS - N DAVIDSON ST
060-0020	CHARLOTTE	MIDTOWN SQUARE ONE HOUR VALET DRY CLEANERS - MIDTOWN SQUARE SHOPPING CENTER
060-0021	PINEVILLE	HEARTS DRY CLEANERS - PARK PLACE SHOPPING CENTER
060-0022	PINEVILLE	RAINBOW CLEANERS - COUNTRYSIDE SHOPPING CENTER
060-0023	CHARLOTTE	PRESTOWN LAUNDRY AND CLEANERS - INDEPENDENCE SHOPPING CENTER
060-0024	CHARLOTTE	60 MINUTE CLEANERS - PLAZA SHOPPING CENTER
060-0025	MATTHEWS	HO CLEANERS - PLANTATION MARKET SHOPPING CENTER
060-0026	CHARLOTTE	SNO-WHITE CLEANERS - E 4TH ST
060-0027	CHARLOTTE	CHARLIE BROWNS DRY CLEANERS - MAJOR ST
060-0028	CHARLOTTE	SHARON CLEANERS - SHARON CORNERS SHOPPING CENTER
060-0029	CHARLOTTE	ABRA COSTUMES - CENTRAL AVE
060-0030	CHARLOTTE	VILLAGE CLEANERS - ALBEMARLE RD
060-0031	CHARLOTTE	SNO-WHITE CLEANERS - FOUR SEASONS SHOPPING CENTER
060-0032	CHARLOTTE	EASTWAY QUICK CLEAN SERVICE - EASTWAY CROSSING
060-0033	CHARLOTTE	JONES DRY CLEANING - E 4TH ST
060-0034	MATTHEWS	HO CLEANERS - MATTHEWS FESTIVAL SHOPPING CENTER
060-0035	CHARLOTTE	IVORY CLEANERS - WESTERLY HILLS SHOPPING CENTER
060-0036	CHARLOTTE	FAULK CLEANERS - WESTERLY HILLS SHOPPING CENTER
060-0037	CHARLOTTE	DRYCLEAN CAROLINAS - SOUTH BLVD
060-0038	CHARLOTTE	PRESTOWN DRY CLEANERS - INDEPENDENCE SHOPPING CTR
060-0039	CHARLOTTE	PROVIDENCE CLEANERS - S SHARON AMITY RD
060-0040	CHARLOTTE	PEOPLE'S DRY CLEANERS - UNIVERSITY PARK SHOPPING CTR
060-0041	CHARLOTTE	HOLIDAY CLEANERS - BEATTIES FORD RD
Moore County (5)		
063-0001	PINEHURST	PINEHURST HOTEL CLEANERS - MCCASKILL RD
063-0002	ABERDEEN	CARTERS FABRICARE - TOWN AND COUNTRY SHOPPING CTR
063-0003	SOUTHERN PINES	CARTERS LAUNDRY AND CLEANING - W NEW YORK AVE
063-0004	ABERDEEN	SOAPY BUBBLES - POPLAR ST
063-0005	SOUTHERN PINES	DRY CLEAN EXPRESS - THE COMMONS SHOPPING CENTER
Nash County (2)		
064-0001	ROCKY MOUNT	CLEAN-CLEAN DRY CLEANERS - WESTRIDGE VILLAGE
064-0002	ROCKY MOUNT	CLEAN-CLEAN DRY CLEANERS - TARRYTOWN MALL SHOPPING
New Hanover County (5)		
065-0001	WILMINGTON	MODERN DRY CLEANERS AND LAUNDRY - INDEPENDENCE MALL
065-0002	WILMINGTON	COASTAL DRY CLEANERS - LONG LEAF MALL SHOPPING CTR
065-0003	WILMINGTON	COASTAL DRY CLEANERS AND COIN LAUNDRY - OLEANDER DR
065-0004	WILMINGTON	COASTAL DRY CLEANERS - CAROLINA BEACH RD
065-0005	WILMINGTON	WILLIAMS CLEANERS - MARKET ST

Table 2. Sites with Dry-cleaning Solvent Contamination

DSCA ID	City	Site Name
Onslow County (6)		
067-0001	JACKSONVILLE	ABC ONE HOUR CLEANERS - LEJEUNE
067-0002	JACKSONVILLE	SOUTHERN CLEANERS AND LAUNDRY - COURT ST
067-0003	SWANSBORO	COASTAL DRY CLEANERS - W CORBETT AVE
067-0004	JACKSONVILLE	COASTAL DRY CLEANERS - NEW MARKET SQUARE SHOPPING
067-0005	MIDWAY PARK	VILLAGE CLEANERS - PINEY GREEN SHOPPING CENTER
067-0006	JACKSONVILLE	NORTHWOODS CLEANERS - HENDERSON DR
Orange County (5)		
068-0001	CHAPEL HILL	KSP CLEANERS - EASTGATE SHOPPING CENTER
068-0002	CHAPEL HILL	AMERICAN DRY CLEANERS - UNIVERSITY MALL SHOPPING
068-0003	CHAPEL HILL	DELUXE CLEANERS - VILLAGE PLAZA SHOPPING CENTER
068-0005	CHAPEL HILL	MIDTOWN SHOPS - MIDTOWN SHOPS SHOPPING CENTER
068-0006	CHAPEL HILL	ONE HOUR KORETIZING CLEANERS - W FRANKLIN ST
Pasquotank County (1)		
070-0001	ELIZABETH CITY	SOUTHGATE KORETIZING - SOUTHGATE MALL SHOPPING CTR
Pitt County (5)		
074-0001	GREENVILLE	KORETIZING CLEANERS - PLAZA MALL SHOPPING CENTER
074-0002	AYDEN	AYDEN PLAZA - AYDEN PLAZA SHOPPING CENTER
074-0003	GREENVILLE	BETTER LOOK GARMENT CARE - ARLINGTON PLAZA SHOPPING
074-0004	GREENVILLE	BOWENS CLEANERS - STANTON SQUARE SHOPPING CENTER
074-0005	GREENVILLE	BOWEN CLEANERS - S EVANS ST
Polk County (1)		
075-0001	TRYON	BROCKS CLEANERS - MAPLE ST
Randolph County (1)		
076-0001	ASHEBORO	HILLSIDE LAUNDROMAT - HILLSIDE SHOPPING CENTER
Robeson County (1)		
078-0001	FAIRMONT	STEVENS DRY CLEANERS - CENTER ST
Rockingham County (2)		
079-0001	REIDSVILLE	HICKS POLY CLEAN CENTER SELF SERVICE LAUNDRY - S SCALES ST
079-0002	REIDSVILLE	PENROSE MALL - PENROSE MALL SHOPPING CENTER
Rowan County (3)		
080-0001	SPENCER	SHUPING CLEANERS - PARK PLAZA SHOPPING CENTER
080-0002	SALISBURY	AVALON CLEANERS - SALISBURY TOWNSHIP SHOPPING CTR
080-0003	SALISBURY	WMS CLEANERS - W JAKE ALEXANDER BLVD
Rutherford County (1)		
081-0001	FOREST CITY	CONE MILLS - DEPOT ST
Surry County (1)		
086-0001	MOUNT AIRY	MODERN LAUNDRY AND DRY CLEANERS - W LEBANON ST
Union County (1)		
090-0001	MONROE	PRESTOWN PRESTO CLEAN - SUTTON PARK SHOPPING CENTER
Wake County (37)		
092-0001	RALEIGH	PRO CLEANERS - TOWNE NORTH SHOPPING CENTER
092-0002	RALEIGH	SHERRILLS DRY CLEANERS - PLAZA WEST SHOPPING CENTER
092-0003	RALEIGH	RAINBOW CLEANERS AND LAUNDRY - GLENWOOD VILLAGE

Table 2. Sites with Dry-cleaning Solvent Contamination

DSCA ID	City	Site Name
Wake County (37)		
092-0004	CARY	MEDLIN-DAVIS CLEANERS - KILDAIRE PLAZA SHOPPING CTR
092-0005	RALEIGH	DJ CLEANERS - TOWER MERCHANTS VILLAGE SHOPPING CTR
092-0006	RALEIGH	HILKERS CLEANERS - EASTGATE SHOPPING CENTER
092-0007	RALEIGH	BROTHERS CLEANERS - NORTH RIDGE SHOPPING CENTER
092-0008	RALEIGH	JOHNSONS DRY CLEANERS - RIDGEWOOD SHOPPING CENTER
092-0009	KNIGHTDALE	KNIGHTDALE CLEANERS - KNIGHTDALE CROSSINGS SHOPPING
092-0010	RALEIGH	FULLER SUPPLY COMPANY - EBY DR
092-0011	CARY	MEDLIN-DAVIS CLEANERS - MACGREGOR VILLAGE SHOPPING
092-0012	RALEIGH	NEWTONS CLEANERS - CAMERON VILLAGE SHOPPING CENTER
092-0013	RALEIGH	MEDLIN-DAVIS CLEANERS - CAMERON VILLAGE SHOPPING
092-0014	RALEIGH	GLAM-O-RAMA CLEANERS - CAPITAL SQUARE SHOPPING CTR
092-0015	RALEIGH	EMPORIUM CLEANERS - EMPORIUM PLAZA SHOPPING CENTER
092-0016	RALEIGH	NEW HOPE CLEANERS AND TAILORS - TARRYMORE SQUARE
092-0017	RALEIGH	BROTHERS CLEANERS - THE LASSITER AT NORTH HILLS
092-0018	RALEIGH	ACE DRY CLEANERS - ATLANTIC AVE
092-0019	RALEIGH	SANITARY LAUNDRY - MCDOWELL ST
092-0020	RALEIGH	SHERRILL'S DRY CLEANING AND LAUNDRY - CELEBRATION AT SIX FORKS SHOPPING CENTER
092-0021	RALEIGH	T AND J CLEANERS - GATEWAY PLAZA SHOPPING CENTER
092-0022	RALEIGH	MEDLIN DAVIS CLEANERS - KIDDS HILL PLAZA SHOPPING CTR
092-0023	RALEIGH	POPES DRY CLEANERS - GREYSTONE VILLAGE SHOPPING CTR
092-0024	RALEIGH	PLEASANT VALLEY CLEANERS - TOWNRIDGE SHOPPING CTR
092-0025	RALEIGH	HILKERS CLEANERS - SUTTON SQUARE SHOPPING CENTER
092-0026	RALEIGH	IDEAL CLEANERS - FALLS VILLAGE SHOPPING CENTER
092-0027	RALEIGH	EAGLE CLEANERS - SPRINGFIELD COMMONS RETAIL SHOPPING
092-0028	RALEIGH	JOY CLEANERS - FAYETTEVILLE RD
092-0029	CARY	GALAXY CLEANERS - WAVERLY PLACE SHOPPING CENTER
092-0030	APEX	BEST DRY CLEANERS - PEAK PLAZA SHOPPING CENTER
092-0031	RALEIGH	THE CLEANERS - AVENT FERRY SHOPPING CENTER
092-0032	RALEIGH	GREENBRIER CLEANERS - FAYETTEVILLE RD
092-0033	RALEIGH	COURTESY CLEANERS - BRENNAN STATION SHOPPING CENTER
092-0034	RALEIGH	S & S CLEANING - FORMER PACK-N-SAVE SHOPPING CENTER
092-0035	RALEIGH	SHERRILL'S DRY CLEANERS - PLAZA WEST SHOPPING CENTER
092-0036	RALEIGH	NORTH BOULEVARD CLEANERS - MINI CITY MARKETPLACE TWO SHOPPING CENTER
092-0037	CARY	AVALON CLEANERS - CARY TOWNE BLVD
Wayne County (1)		
096-0001	GOLDSBORO	PENNY DRY CLEANERS - E ASH ST
Wilson County (7)		
098-0001	WILSON	KORETIZING CLEANERS - WARD BLVD
098-0002	WILSON	DISCOUNT CLEANERS - FIKEWOOD PLAZA SHOPPING CENTER
098-0003	WILSON	EXCLUSIVE CLEANERS - S GOLDSBORO ST
098-0004	WILSON	EXCLUSIVE CLEANERS - PARKWOOD MALL & PLAZA SHOPPING
098-0005	WILSON	FRIENDLY CLEANERS - S PENDER ST
098-0006	WILSON	EXCLUSIVE CLEANERS - PARKWOOD MALL AND PLAZA
098-0007	WILSON	EXCLUSIVE CLEANERS - CENTURA VILLAGE SHOPPING CTR

225 Identified Sites

Table 3. DSCA Certified Dry-cleaning Sites

DSCA ID	City	Site Name	Status
Alamance County (2)			
001-0003	BURLINGTON	A CLEANER WORLD- NEW MARKET SQUARE	Certified
001-0004	BURLINGTON	N. MAIN ST	Certified
Brunswick County (2)			
010-0001	SOUTHPORT	TOWN GATE CLEANERS - N HOWE ST	Assessment
010-0002	CALABASH	LOVE CLEANERS, INC. - TOWN SQUARE SHOPPING CENTER	Assessment
Buncombe County (1)			
011-0001	ASHEVILLE	SWANNANOA LAUNDRY - CHURCH ST	Assessment
Burke County (2)			
012-0001	MORGANTON	FERREE CLEANERS - S STERLING ST	Certified
012-0002	MORGANTON	JORDAN'S CLEANERS - COLLEGE ST	Prioritization
Cabarrus County (2)			
013-0001	CONCORD	FULLER SUPPLY COMPANY - NW CROWELL DR	Prioritization
013-0002	CONCORD	CALDWELL CLEANERS - N CHURCH ST	Prioritization
Carteret County (1)			
016-0001	MOREHEAD CITY	COASTAL DRY CLEANERS - MOREHEAD PLAZA SC	Assessment
Catawba County (1)			
018-0001	CONOVER	CONOVER CLEANERS – CONOVER BLVD	Certified
Cleveland County (1)			
023-0001	SHELBY	FOLKS DRY CLEANERS - HICKORY CREEK SHOPPING CENTER	Assessment
Cumberland County (4)			
026-0001	FAYETTEVILLE	MAYFLOWER LAUNDRY AND DRY CLEANING - W RUSSELL ST	Certified
026-0003	FAYETTEVILLE	SMITTYS CLEANERS - OWEN DR	Assessment
026-0004	FAYETTEVILLE	KORE-O-MAT LAUNDROMAT - BRAGG PLAZA SHOPPING CTR	Prioritization
026-0005	FAYETTEVILLE	DAVIS CLEANERS – OWEN DR	Assessment
Dare County (1)			
028-0001	MANTEO	ANGE SPEED WASH - BALLAST ROCK SHOPPING CENTER	Prioritization
Durham County (8)			
032-0003	DURHAM	TRIANGLE SQUARE CLEANERS - TRIANGLE SQUARE SC	Assessment
032-0005	DURHAM	AMERICAN DRY CLEANERS - WOODCROFT SHOPPING CENTER	Prioritization
032-0007	DURHAM	MODEL LAUNDRY - HOLLOWAY ST	Prioritization
032-0008	DURHAM	W.P. BALLARD - JUNCTION RD	Assessment
032-0009	DURHAM	TNT CLEANERS – N ROXBORO RD	Prioritization
032-0010	DURHAM	WEAVERS CLEANERS - FAYETTEVILLE ST	Certified
032-0011	DURHAM	SCOTT AND ROBERTS DRY CLEANERS	Certified
032-0012	DURHAM	SHANNON DRY CLEANING/LAUNDROMAT – SHANNON PLAZA	Prioritization
Forsyth County (10)			
034-0007	KERNERSVILLE	CAMELOT CLEANERS - S MAIN ST	Certified
034-0008	WINSTON-SALEM	HOUR GLASS CLEANERS - UNIVERSITY PKY	Assessment
034-0009	WINSTON-SALEM	SMITH DRY CLEANERS - N MARTIN LUTHER KING JR DR	Prioritization
034-0011	WINSTON-SALEM	CAMELOT CLEANERS - FOOD TOWN PLAZA SHOPPING CENTER	Assessment
034-0012	WINSTON-SALEM	A CLEANER WORLD - HEALY DR	Certified
034-0013	WINSTON-SALEM	A CLEANER WORLD #161, PEACE HAVEN - S PEACEHAVEN RD	Assessment
034-0014	WINSTON-SALEM	CAMEL CITY CLEANERS - REYNOLDA MANOR SHOPPING CTR	Assessment
034-0015	WINSTON-SALEM	CAMEL CITY LAUNDRY – E 3RD ST	Certified
034-0016	WINSTON-SALEM	$2.50 CRYSTAL CLEANERS – JONESTOWN SHOPPING CTR	Prioritization
034-0017	WINSTON-SALEM	TRADE STREET CLEANERS – N TRADE ST	Certified

Table 3. DSCA Certified Dry-cleaning Sites

DSCA ID	City	Site Name	Status
Gaston County (2)			
036-0003	GASTONIA	DE-LUX CLEANERS - DIXIE VILLAGE SHOPPING CENTER	Assessment
036-0004	GASTONIA	UNION ROAD CLEANERS – UNION HUDSON CROSSING	Prioritization
Guilford County (13)			
041-0001	GREENSBORO	CLEANER IMAGE - LAWNDALE VILLAGE SHOPPING CENTER	Certified
041-0003	GREENSBORO	U.S. $1.75 CLEANERS - BENCHMARK SQUARE SHOPPING CTR	Prioritization
041-0006	HIGH POINT	EASTGATE CLEANERS - EASTGATE SHOPPING CENTER	Assessment
041-0007	GREENSBORO	MASTER KLEEN - FOREST OAKS SHOPPING CENTER	Assessment
041-0008	JAMESTOWN	A CLEANER WORLD - W MAIN ST	Prioritization
041-0009	GREENSBORO	EVERHART DRY CLEANERS - NORTHEAST PLAZA SC	Assessment
041-0013	HIGH POINT	BANNER LAUNDRY – N MAIN ST	Assessment
041-0014	GREENSBORO	MASTER KLEEN CLEANERS – HIGH POINT RD	Assessment
041-0017	GREENSBORO	PREMIER CLEANERS - SUMMIT AVE	Assessment
041-0018	GREENSBORO	DRY CLEAN AMERICA – SPRING VALLEY SHOPPING CTR	Assessment
041-0021	HIGH POINT	GINGISS FORMAL WEAR – N MAIN ST	Assessment
041-0023	GREENSBORO	A CLEANER CITY – BATTLEGROUND AVE	Prioritization
041-0024	GREENSBORO	A CLEANER WORLD #162 – HIGH POINT RD	Prioritization
Henderson County (1)			
045-0002	HENDERSONVILLE	VILLAGE ONE HOUR CLEANERS - E BARNWELL ST	Certified
Hoke County (1)			
	RAEFORD	N MAIN ST	Prioritization
Iredell County (3)			
049-0002	STATESVILLE	JOHNSON CLEANERS, INC. - E BROAD ST	Prioritization
049-0003	STATESVILLE	BROOKDALE CLEANERS - BROOKDALE SHOPPING CENTER	Assessment
049-0004	TROUTMAN	CAMPBELL'S CLEANERS - WAGNER ST	Prioritization
Lenoir County (1)			
054-0001	KINSTON	VICKS CLEANERS - PLAZA SHOPPING CENTER SHOPPING CTR	Assessment
Lincoln County (1)			
055-0001	LINCOLNTON	LINCOLN CLEANERS - LINCOLN CENTER SHOPPING CENTER	Prioritization
Mecklenburg County (29)			
060-0001	CHARLOTTE	A CLEANER - MONROE RD	Prioritization
060-0003	MATTHEWS	CROSSROADS DRY CLEANERS - HOODS CROSSROADS SC	Assessment
060-0004	CHARLOTTE	MINUTE MAN CLEANERS - EASTWAY CROSSING SC	Prioritization
060-0005	CHARLOTTE	MITCHELLS FORMAL WEAR WAREHOUSE - CROSLAND CENTRE	Certified
060-0007	CHARLOTTE	QUAIL DRY CLEANERS - QUAIL CORNERS SHOPPING CENTER	Assessment
060-0008	CHARLOTTE	SNO-WHITE CLEANERS AND LAUNDERERS - SOUTHPARK MALL	Assessment
060-0010	CHARLOTTE	BOGGS AND COMPANY - GLENWOOD DR	Assessment
060-0011	CHARLOTTE	SNO-WHITE CLEANERS - CARMEL COMMONS SHOPPING CTR	Certified
060-0012	CHARLOTTE	DOMESTIC LAUNDRY - S MCDOWELL ST	Prioritization
060-0014	CHARLOTTE	ONE PRICE DRY-CLEANING - SOUTH SQUARE MARKETPLACE	Assessment
060-0016	CHARLOTTE	60 MINUTE CLEANERS - STEELE CREEK COMMONS SC	Prioritization
060-0021	PINEVILLE	HEARTS DRY CLEANERS - PARK PLACE SHOPPING CENTER	Assessment
060-0023	CHARLOTTE	PRESTOWN LAUNDRY AND CLEANERS - IDLEWILD RD	Prioritization
060-0024	CHARLOTTE	60 MINUTE CLEANERS - PLAZA SHOPPING CENTER	Assessment
060-0025	MATTHEWS	HO CLEANERS - PLANTATION MARKET SHOPPING CENTER	Assessment
060-0026	CHARLOTTE	SNO-WHITE CLEANERS - E 4TH ST	Assessment
060-0028	CHARLOTTE	SHARON CLEANERS - SHARON CORNERS SHOPPING CENTER	Prioritization
060-0029	CHARLOTTE	ABRA COSTUMES - CENTRAL AVE	Assessment

Table 3. DSCA Certified Dry-cleaning Sites

DSCA ID	City	Site Name	Status
Mecklenburg County (29)			
060-0030	CHARLOTTE	VILLAGE CLEANERS - ALBEMARLE RD	Assessment
060-0031	CHARLOTTE	SNO-WHITE CLEANERS - FOUR SEASONS SHOPPING CENTER	Prioritization
060-0032	CHARLOTTE	EASTWAY QUICK CLEAN SERVICE - EASTWAY CROSSING SC	Prioritization
060-0033	CHARLOTTE	JONES DRY CLEANING – E 4TH ST	Prioritization
060-0034	MATTHEWS	HO CLEANERS - MATTHEWS FESTIVAL SHOPPING CENTER	Assessment
060-0035	CHARLOTTE	IVORY CLEANERS – WESTERLY HILLS SHOPPING CENTER	Certified
060-0036	CHARLOTTE	FAULK CLEANERS – WESTERLY HILLS SHOPPING CENTER	Certified
060-0037	CHARLOTTE	DRYCLEAN CAROLINAS - SOUTH BLVD	Assessment
060-0039	CHARLOTTE	PROVIDENCE CLEANERS – S SHARON AMITY RD	Prioritization
060-0040	CHARLOTTE	PEOPLE'S DRY CLEANERS – UNIVERSITY PARK SHOPPING CTR	Prioritization
060-0041	CHARLOTTE	HOLIDAY CLEANERS – BEATTIES FORD RD	Certified
Moore County (4)			
063-0001	PINEHURST	PINEHURST HOTEL CLEANERS - MCCASKILL RD	Assessment
063-0003	SOUTHERN PINES	CARTERS LAUNDRY AND CLEANING - W NEW YORK AVE	Assessment
063-0004	ABERDEEN	SOAPY BUBBLES - POPLAR ST	Assessment
063-0005	SOUTHERN PINES	DRY CLEAN EXPRESS	Assessment
New Hanover County (4)			
065-0001	WILMINGTON	MODERN DRY CLEANERS & LAUNDRY - INDEPENDENCE MALL	Certified
065-0002	WILMINGTON	COASTAL DRY CLEANERS - LONG LEAF MALL SHOPPING CTR	Prioritization
065-0004	WILMINGTON	COASTAL DRY CLEANERS - CAROLINA BEACH RD	Prioritization
065-0005	WILMINGTON	WILLIAMS CLEANERS - MARKET ST	Assessment
Onslow County (3)			
067-0002	JACKSONVILLE	SOUTHERN CLEANERS AND LAUNDRY - COURT ST	Assessment
067-0005	MIDWAY PARK	VILLAGE CLEANERS - PINEY GREEN SHOPPING CENTER	Prioritization
067-0006	JACKSONVILLE	NORTHWOODS CLEANERS – HENDERSON DR	Certified
Orange County (4)			
068-0001	CHAPEL HILL	KSP CLEANERS - EASTGATE SHOPPING CENTER	Assessment
068-0003	CHAPEL HILL	DELUXE CLEANERS - VILLAGE PLAZA SHOPPING CENTER	Prioritization
068-0005	CHAPEL HILL	MIDTOWN SHOPS LLC - MIDTOWN SHOPS SHOPPING CENTER	Prioritization
068-0006	CHAPEL HILL	ONE HOUR KORETIZING CLEANERS – W FRANKLIN ST	Interim Action
Pasquotank County (1)			
070-0001	ELIZABETH CITY	SOUTHGATE KORETIZING - SOUTHGATE MALL SHOPPING CTR	Assessment
Pitt County (2)			
074-0004	GREENVILLE	BOWENS CLEANERS - STANTON SQUARE SHOPPING CENTER	Prioritization
074-0005	GREENVILLE	BOWEN CLEANERS - S EVANS ST	Certified
Polk County (1)			
075-0001	TRYON	BROCKS CLEANERS - MAPLE ST	Assessment
Rockingham County (2)			
079-0001	REIDSVILLE	HICKS POLY-CLEAN SELF SERVICE LAUNDRY - S SCALES ST	Assessment
079-0002	REIDSVILLE	PENROSE MALL – PENROSE MALL SHOPPING CENTER	Certified
Rowan County (2)			
080-0001	SPENCER	SHUPING CLEANERS - PARK PLAZA SHOPPING CENTER	Prioritization
080-0003	SALISBURY	WMS CLEANERS – W JAKE ALEXANDER BLVD	Prioritization
Surry County (1)			
086-0001	MOUNT AIRY	MODERN LAUNDRY AND DRY CLEANERS - W LEBANON ST	Assessment
Union County (1)			
090-0001	MONROE	PRESTOWN PRESTO CLEAN - SUTTON PARK SHOPPING CTR	Prioritization

Table 3. DSCA Certified Dry-cleaning Sites

DSCA ID	City	Site Name	Status
Wake County (32)			
092-0001	RALEIGH	PRO CLEANERS - TOWNE NORTH SHOPPING CENTER	Interim Action
092-0003	RALEIGH	RAINBOW CLEANERS AND LAUNDRY - GLENWOOD VILLAGE	Assessment
092-0004	CARY	MEDLIN-DAVIS CLEANERS - KILDAIRE PLAZA SHOPPING CTR	Prioritization
092-0005	RALEIGH	DJ CLEANERS - TOWER MERCHANTS VILLAGE SHOPPING CTR	Certified
092-0006	RALEIGH	HILKERS CLEANERS - EASTGATE SHOPPING CENTER	Certified
092-0007	RALEIGH	BROTHERS CLEANERS - NORTH RIDGE SHOPPING CENTER	Assessment
092-0008	RALEIGH	JOHNSONS DRY CLEANERS - RIDGEWOOD SHOPPING CENTER	Assessment
092-0010	RALEIGH	FULLER SUPPLY COMPANY - EBY DR	Assessment
092-0011	CARY	MEDLIN-DAVIS CLEANERS - MACGREGOR VILLAGE SC	Assessment
092-0012	RALEIGH	NEWTONS CLEANERS - CAMERON VILLAGE SHOPPING CTR	Assessment
092-0013	RALEIGH	MEDLIN-DAVIS CLEANERS - CAMERON VILLAGE SC	Assessment
092-0014	RALEIGH	GLAM-O-RAMA CLEANERS - CAPITAL SQUARE SHOPPING CTR	Certified
092-0015	RALEIGH	EMPORIUM CLEANERS - EMPORIUM PLAZA SHOPPING CTR	Prioritization
092-0016	RALEIGH	NEW HOPE CLEANERS AND TAILORS - TARRYMORE SQUARE	Prioritization
092-0017	RALEIGH	BROTHERS CLEANERS - THE LASSITER AT NORTH HILLS SC	Assessment
092-0018	RALEIGH	ACE DRY CLEANERS - ATLANTIC AVE	Prioritization
092-0019	RALEIGH	SANITARY LAUNDRY - MCDOWELL ST	Certified
092-0020	RALEIGH	SHERRILL'S DRY CLEANING - CELEBRATION AT SIX FORKS SC	Prioritization
092-0021	RALEIGH	T AND J CLEANERS - GATEWAY PLAZA SHOPPING CENTER	Assessment
092-0022	RALEIGH	MEDLIN DAVIS CLEANERS - KIDDS HILL PLAZA SHOPPING CTR	Prioritization
092-0023	RALEIGH	POPES DRY CLEANERS - GREYSTONE VILLAGE SHOPPING CTR	Prioritization
092-0024	RALEIGH	PLEASANT VALLEY CLEANERS – TOWNRIDGE SHOPPING CTR	Prioritization
092-0025	RALEIGH	HILKERS CLEANERS – SUTTON SQUARE SHOPPING CTR	Certified
092-0026	RALEIGH	IDEAL CLEANERS – FALLS VILLAGE SHOPPING CTR	Certified
092-0027	RALEIGH	EAGLE CLEANERS – SPRINGFIELD COMMONS SHOPPING CTR	Prioritization
092-0028	RALEIGH	JOY CLEANERS – FAYETTEVILLE RD	Interim Action
092-0029	CARY	GALAXY CLEANERS – WAVERLY PLACE SHOPPING CTR	Prioritization
092-0030	APEX	BEST DRY CLEANERS - PEAK PLAZA SHOPPING CENTER	Prioritization
092-0032	RALEIGH	GREENBRIER CLEANERS – FAYETTEVILLE RD	Prioritization
092-0033	RALEIGH	COURTESY CLEANERS – BRENNAN STATION SHOPPING CTR	Certified
092-0035	RALEIGH	SHERRILL'S DRY CLEANERS – PLAZA WEST SHOPPING CTR	Prioritization
092-0036	RALEIGH	NORTH BOULEVARD CLEANERS – MINI CITY MARKETPLACE	Prioritization
Wilson County (6)			
098-0001	WILSON	KORETIZING CLEANERS - WARD BLVD	Certified
098-0002	WILSON	DISCOUNT CLEANERS - FIKEWOOD PLAZA SHOPPING CENTER	Assessment
098-0003	WILSON	EXCLUSIVE CLEANERS - S GOLDSBORO ST	Certified
098-0004	WILSON	EXCLUSIVE CLEANERS - PARKWOOD MALL & PLAZA SC	Certified
098-0006	WILSON	EXCLUSIVE CLEANERS - PARKWOOD MALL AND PLAZA SC	Certified
098-0007	WILSON	EXCLUSIVE CLEANERS - CENTURA VILLAGE SHOPPING CTR	Certified

149 Certified Sites

Table 4. DSCA Site Statistics

Petition Status	Number	Percent of Total
Sites Petitioned in Program	161	----
Sites Certified	149	93
Sites Pending Certification	10	6
Sites Denied Certification	2	1
Site Status		
Sites with Executed Agreements[1]	130	-
Sites Prioritized	92	-
Site Classification		
Abandoned	90	60
Wholesale Distribution	2	1
Operating	57	39
Size Distribution of Operating Sites		
Small Size (1-4 employees)	23	40
Medium Size (5 - 9 employees)	15	26
Large Size (> 10 employees)	20	34
Distribution and Classification of Petitions [2]		
Property Owners	135	64
Dry-cleaning Business Owners/Operator	75	36

(3) COST ESTIMATE FOR ASSESSMENT AND REMEDIATION OF CERTIFIED SITES

Actual costs to assess and remediate DSCA sites are anticipated to vary widely from site to site. Factors influencing costs include site geology, age of release, the chemical nature of the solvents released and the threats posed to potential receptors. However, an annual spending cap of $200,000 per site is applied by statute unless contamination at a site poses an imminent threat to public health. In these cases, annual expenditures are capped at $400,000 per site.

Based on costs figures provided by other states, DSCA can calculate an approximate total cleanup cost for those sites that have been certified into the program. Using an average total cleanup cost of $250,000 per site, the total projected cost to remediate the 149 presently certified sites is approximately $37 million. Based on figures from the North Carolina Department of Labor, there are at least 2,000 active and abandoned dry-cleaning facilities in the state. Investigations performed across the nation indicate that contamination is present in about 75 percent of all dry-cleaning operations. Applying this percentage to the number of current and former facilities in North Carolina, a total of 1,500 contaminated sites may be present. If only 50 percent of these contaminated sites are accepted into the DSCA Program, the projected total cleanup cost would be approximately $188 million.

[1] Assessment and Remediation Agreements
[2] Reflects multiple petitioners for some sites

The DSCA Program controls site costs by reviewing and pre-approving all work plans submitted by its environmental engineering contractors prior to the start of field activities. All plans are required to provide sufficient detail (e.g., unit costs, subcontractor bids) to allow for an effective pre-approval review. DSCA's contracts include set unit rates that the contractors must follow for all assigned work.

(4) RECEIPTS AND DISBURSEMENTS FOR THE FUND

The primary funding sources for the dry-cleaning solvent cleanup fund are a tax on dry-cleaning solvents and, beginning in July 2003, the state portion of the current sales tax on dry-cleaning. The DSCA Fund's finances through FY 2004-05 (ending June 30, 2005) are summarized below:

Collections FY 97-98	$ 474,717.47
Collections FY 98-99	$ 927,004.50
Collections FY 99-00	$ 968,993.09
Collections FY 00-01	$ 863,772.16
Collections FY 01-02	$1,061,298.70
Collections FY 02-03	$1,076,826.57
Collections FY 03-04	$9,487,233.94 *
Collections FY 04-05	$9,660,612.84
Collections FY 05-06	$9,913,615.29
Solvent Tax Revenue (all years)	$ 7,428,069.68
Sales Tax on Dry-cleaning Revenue	$24,882,587.95
Deductible/Co-Pay Payments from Petitioners	$ 8,488.50
Miscellaneous (file copying charges)	$ 36.00
Interest	$ 2,114,892.43
Total Collections	**$34,434,074.56**
Dept. of Revenue Expenses	$ 57,272.02 **
Cleanup Expenses	
Reimbursements to Petitioners	$ 1,675,584.61
Payments to DSCA Contractors	$ 1,251,613.72
DENR Administrative Expenses	$ 2,261,136.13
Total Expenditures	**$ 5,245,606.48**
Fund Balance	**$29,188,468.08**
Funds Encumbered in Contracts	$10,283,386.28

* The significant increase in collections during FY 03-04 compared to previous years is due to the addition of the sales tax on dry-cleaning revenue.

** This represents the actual amount charged by the Department of Revenue for its expenses. The Department of Revenue is authorized by DSCA to charge no more than $125,000 per year.

Fund expenditures for site work will increase significantly when additional contracts with environmental engineering firms are executed and the risk-based rules are completed. The DSCA Program up to this time has been assessing the extent of contamination at certified sites and performing remediation to address imminent hazard situations such as treatment and replacement of contaminated drinking water and excavation of hazardous soil. Once developed and implemented, the risk-based rules will enable the Program to determine site-specific cleanup levels at all sites. Remediation, the most expensive phase of site work, can then commence at those sites where the risks posed by the contamination are unacceptable as defined by the rules. Expenditures are projected to increase by approximately 230 percent beginning in FY 2006-07.

(5) CLAIMS AGAINST THE FUND

There are two types of claims against the DSCA Fund. The majority of claims come from petitioners that incurred past investigative/remedial costs in response to an order or notice of violation from DENR prior to DSCA implementation. Past-cost claims that meet the requirements of Section 2.(a) of House Bill 1062 (Session Law 2001-265) were described previously in the section on "Past-Cost Reimbursement". Of those eligible past costs totaling $1,555,757.21, a total of $1,458,908.46 has been reimbursed and the remaining $96,848.75 will be paid in FY 2006-07. The DSCA Program will also be reimbursing $80,357.12 for the disputed claim that the Environmental Management Commission determined in July 2006 should be paid.

The second type of claim against the DSCA Fund is for approved costs for site work which exceed the site's deductible that was performed by an environmental contractor hired by the petitioner. Beginning in September 2004, the DSCA Program began assigning all site work to its state-lead contractors. However, some claims will be submitted for prioritization assessments conducted by contractors hired by petitioners prior to that time. After subtracting the deductible amount for each of these sites, approximately $110,000.00 will be reimbursed to these petitioners.

(6) RECOMMENDATIONS TO ASSURE THE SOLVENCY OF THE FUND

DENR has no recommendations regarding fund solvency at this time. Prior to passage of statutory amendments to DSCA in 2000 (S.L. 2000-19), it was clear that the fund balance was inadequate to address all of the dry-cleaning sites in the state. However, with the passage of the DSCA Amendments that established a second funding mechanism, the General Assembly took the most important step necessary to assure future fund solvency. With the infusion of the sales tax monies, which began in July 2003, DSCA now appears to have sufficient financial resources to assess and remediate the contaminated dry-cleaning facilities on a priority basis.

The Fiscal Note on the DSCA Amendments (S.L. 2000-19) anticipated that the funding mechanisms would provide the fund with $8 million to $10 million annually. As noted above,

total collections for FY 2005-06 were approximately $9.9 million. Therefore, the DSCA Fund is solvent.

EXHIBIT D-6

ENVIRONMENTAL MANAGEMENT COMMISSION

David H. Moreau
Chairman
Charles Peterson
Vice Chairman

NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

Michael F. Easley, Governor
William G. Ross Jr., Secretary

Delilah Blanks
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Tom Ellis
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E. Leo Green, Jr.
Freddie Harrill
Kevin Martin
Dickson Phillips III
Frank Shaw
Stephen Smith
Kenny Waldroup
Steven D. Weber
Forrest R. Westall, Sr.

October 1, 2006

TO: Senator Dan Clodfelter
Senator Charlie Albertson
Representative Pryor Gibson

FROM: David H. Moreau

RE: Annual Report on Implementation of Stormwater Rules and Programs

G.S. 143-2154.7(e) requires the Environmental Management Commission to report to the Environmental Review Commission each year on the implementation and status of stormwater control programs in the State. If you have any questions please contact Bradley Bennett at (919) 733-5083, extension 525.

Attachment

cc: Alan W. Klimek, P.E.

Stormwater Management Program Annual Report
In Accordance With G.S. 143-214.7(e)
October 2006

The Environmental Management Commission (EMC), through the N.C. Department of Environment and Natural Resources and the N.C. Division of Water Quality (DWQ), implements numerous programs to control the water quality impacts of stormwater runoff from development activities and urban and developing areas. These programs include a federal National Pollutant Discharge Elimination System (NPDES) program that requires permits for point source discharges of stormwater from industrial activities and from certain urban and developing areas and a state stormwater permitting program that is designed to control stormwater runoff from new development and redevelopment activities occurring near sensitive waters.

The Division continues to implement regular permit activities within both the NPDES and state stormwater program areas. Both of these programs have experienced changes and growth that have increased permitting and implementation responsibilities. NPDES programs are administered entirely through Division review and oversight. State stormwater permit programs include a combination of state and local government administration with state oversight. Under these programs the Division continues to work closely with the regulated community, especially local governments. The major program focus over the last few years has been implementation efforts for the federal NPDES municipal stormwater program, or the "Phase II Stormwater Rules."

Previous reports and meeting presentations have outlined ongoing activities associated with implementation of the phase II stormwater rules. The phase II rules were adopted by the U.S. Environmental Protection Agency to, in large part, address the stormwater runoff impacts from urbanized and developing areas across the nation. For more information on the impacts of stormwater runoff see: http://h2o.enr.state.nc.us/su/what_is_stormwater.htm. The EMC previously (2002 and 2003) adopted temporary and permanent rules addressing implementation of the Phase II stormwater program in North Carolina. In January of 2004 the Rules Review Commission (RRC) objected to and returned the permanent rules to the EMC. The EMC challenged the RRC's decision in court. While this process was pending the General Assembly enacted S.L. 2004-163 which provided temporary implementation of the federal phase II requirements. Iin 2005 a Wake Superior Court ruled in the EMC's and remanded the EMC's permanent rules to the RRC for further review. The RRC subsequently approved the EMC's permanent phase II rules in late 2005. These permanent rules came before the General Assembly in the 2006 short session. Addressing differences between the EMC's rules and the previous session law resulted in the 2006 enactment of S.L. 2006-246 which provides for a compromise set of requirements for phase II implementation.

The Division has issued phase II permit coverage to around ninety local governments so far and we are in the review and drafting process for a number of additional communities including renewals of larger phase I communities' permits. We anticipate public notice of draft permits for a number of these entities by the end of 2006. The Division has also been working with public notices and other procedures to address waiver requests and exemptions for other communities. In addition, the Division has been working to implement other provisions of S.L. 2006-246. One major component is that new development and redevelopment activities in certain areas around

municipalities covered by the NPDES phase II requirements will be required to provide post-construction stormwater management control on their project site. The area of coverage includes:

- federally designated urbanized areas,
- unincorporated areas in one to three mile boundaries around designated municipalities,
- whole county areas where the county has been "tipped in" due to the extent of existing stormwater coverage or the growth rate of the county and
- incorporated areas not covered by an NPDES municipal permit but located in a tipped in county

These requirements become effective July 1, 2007 and will be implemented by the Division unless a local government requests delegation. The Division is already working on setting up this process. The Division is working on implementation procedures, educational and technical materials and web based mapping tools to assist in the process. The Division has worked with the UNC Institute of Government to develop a model ordinance for local government use in the phase II implementation. This model will be revised based on new requirements in the 2006 S.L. We are also continuing with additional revisions to our Stormwater Best Management Practices Guidance Document. We received a large number of comments on the draft document and continue to work through these issues and changes associated with the recent phase II requirements. As pieces of the manual are finalized they are being made available on our website (http://h2o.enr.state.nc.us/su/bmp_updates.htm).

The Division and Department continue to look at other important stormwater management areas as well. The EMC and Division have worked to review the effectiveness of stormwater programs in sensitive areas like coastal communities and will continue over the coming year to assess needed changes/updates. The EMC and Division are near finalization of a voluntary stormwater management effort (the Universal Stormwater Program) that will allow local governments to consolidate some of their current stormwater programs under one set of requirements. Stormwater education efforts through a statewide education coordinator have continued to produce effective results that benefit the state, local governments and other interested parties. These efforts have resulted in key partnerships with local government groups that have lead to outreach through various media outlets and production of a strong information source – see information at: http://www.ncstormwater.org/.

The Division of Water Quality and the EMC presently anticipate initiating rulemaking action under the Administrative Procedures Act (APA) to incorporate the Phase 2 requirements of Session Law 2006-246 into DWQ Rules. This rulemaking action is expected to commence sometime in early 2007.

Exhibit E

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 733-2578
FAX: (919) 715-5460

SUSAN S. IDDINGS
ASSISTANT COMMISSION COUNSEL
401 LEGISLATIVE OFFICE BUILDING
(919) 733-6660

JENNIFER L. McGINNIS
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

DOROTHY M. WAUGAMAN
COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 715-2525
FAX: (919) 754-3232

JEFF W. HUDSON
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

JENNIFER R.F. MUNDT
COMMISSION ANALYST
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

15 November 2006

MEMORANDUM

To: Members of the Environmental Review Commission
From: Jennifer Mundt, Commission Analyst
Re: Reports to the Commission

The following reports have been submitted by the Department of Environment and Natural Resources (DENR) to the Environmental Review Commission since the last reports distribution on 9 October 2006 are designated as read only reports. Copies of the reports are attached to this memorandum:

1. Annual Report on the Progress in Developing and Implementing the Coastal Habitat Protection Plans. 1 September 2006. Statutory Authority: G.S. 143B-279.8(e) and G.S. 143B-279.8(f).

2. Annual Report on the Inactive Hazardous Sites Program. 1 October 2006. Statutory Authority: G.S. 130A-310.10.

3. Semi-Annual Report on the Pilot Program for Inspection of Animal Waste Management Systems. 15 October 2006. Authority: S.L. 2003-340, Sec. 6.2.

4. Annual Basinwide Water Quality Management Plans. 1 October 2006. Statutory Authority: G.S. 143-215.8B.

5. Annual Report on the Dry-Cleaning Solvent Clean-Up Program. 1 October 2006. Statutory Authority: G.S. 143-215.104U.

6. Annual Report on the Implementation of Stormwater Rules and Programs. 1 October 2006. Statutory Authority: G.S. 143-214.7(e).

The following reports have been submitted by the indicated agency to the Environmental Review Commission and are distributed in connection with Agenda Items as noted below:

1. Annual report by the Department of Transportation on the development and implementation of a plan to reduce vehicle miles traveled by State employees and vehicle emissions resulting from job-related travel, including commuting to and from work. The annual report on

development and implementation of a plan to reduce vehicle miles traveled by private sector employees and vehicle emissions resulting from job-related travel, including commuting to and from work. 1 October 2006. Statutory Authority: G.S. 143.215.107C(d) and G.S. 143.215.107C(e). ***Agenda Item #7***

2. Annual Report by DENR on the North Carolina Hazardous Waste Management Plan. 1 October 2006. Statutory Authority: G.S. 130A-294(i). ***Agenda Item #8***

3. Annual Report by DENR on the Resident Inspectors Program at Commercial Hazardous Waste Facilities. 1 October 2006. Statutory Authority: G.S. 130A-295.02(m). ***Agenda Item #8***

4. Annual Report by DENR on Permitting and Inspecting Animal Waste Management Systems (Animal Waste Compliance Report). 1 October 2006. Statutory Authority: G.S. 143.215.10M. ***Agenda Item #9***

5. Annual Report by DENR on compliance with enforcement of water quality laws for facilities that discharge into surface waters. 1 October 2006. Statutory Authority: G.S. 143-215.9A. ***Agenda Item #10***

6. Annual Report by the State Water Infrastructure Commission on its Activities and Findings. 1 November 2006. Statutory Authority: G.S. 159G-67. ***Agenda Item #11***

7. Report by DENR on the evaluation of the training and qualification requirements for approval as an animal waste management systems technician. 15 November 2006. Authority: S.L. 2006-38, Sec. 2. ***Agenda item #12***

Please contact George Givens, Jeff Hudson, Jennifer McGinnis, or Jennifer Mundt at (919) 733-2578 if you have any questions or comments.

Status of Reports to the ERC Required by Law

Organized by topics: air quality, coastal issues, env. health, fishing, general, hazardous substances, land resources, parks and conservation, solid waste, water quality, water quantity, wetlands

air quality

DAQ	Report To/ Authority	Report Due	Status*
Study issues related to monitoring emissions of mercury and the development and implementation of standards and plans to implement programs to evaluate available control technologies; shall estimate the benefits and costs of alternative strategies to	EMC, ERC S.L. 2002-4, Section 12	Annually (Interim 1 Sep 2003) (Findings 1 Sep 2005)	Sep 03 distrib 2/24/04 Sep 04 oral 11/19/04 Oct 05 oral 11/22/05
Study issues related to the development and implementation of standards and plans to implement programs to control emissions of carbon dioxide (CO2) from coal-fired generating units and other stationary sources; evaluate available control technologies and	EMC, ERC S.L. 2002-4, Section 13	Annually (Interim 1 Sep 2003) (Findings 1 Sep 2005)	Sep 03 distrib 2/24/04 Sep 04 oral 11/19/04 Oct 05 oral 11/22/05

DAQ (DENR)	Report To/ Authority	Report Due	Status*
Shall study the costs and benefits of reducing emissions of oxides of nitrogen, particulate matter, and greenhouse gases from motor vehicles in this State. Shall also consider standards adopted in other states.	ERC, LCGCC S.L. 2006-248, Sec. 43	Interim : 15 Jan 2007 Final; 1 April 2007	

DENR	Report To/ Authority	Report Due	Status*
Cost of the Title V program	ERC, Fiscal Research GS 143-215.3A(c)	Annually (1 Nov)	Mar 00 mail 3/29/00 May 02 oral 5/21/02 Jan 04 distrib 2/24/04 Nov 04 oral 11/19/04 Nov 05 distrib 3/8/06

DENR, Utilities Commission	Report To/ Authority	Report Due	Status*
Implementation of SL 2002-4 (Clean Smokestacks)	ERC, Joint Legislative Utility Review Committee S.L. 2002-4, Section 14	Annually (1 Jun 2003)	28 Jan 03 30 May 03 distrib 2/24/04 June 04 oral 11/19/04 June 05 distrib 11/05 June 06 distrib 10/09/06

Department of Transportation (DOT)	Report To/ Authority	Report Due	Status*
Evaluation/ adjustment of region served by each Metropolitan Planning Organization	ERC, Joint Legislative Transportation Oversight Committee GS 136-202(d)	Nov 1 of each year regions evaluated and adjusted (every 5 years, including year following federal census)	Oct 04 oral 11/19/04
Plan developed with DOA, Commerce, DENR to reduce VMT & vehicle emissions from private sector employee travel.	ERC, Joint Legislative Transportation Oversight Committee GS 143-215.107C(e)	Annually (Oct 1)	02/02/04 distrib 3/25/04 Included in TDM Program Oral 1/13/05 Jan 06 distrib 2/14/06 Nov 06 oral 11/15/06

* "oral" indicates oral report was given to ERC or S+A; "mail" indicates the report was mailed to members; "in" indicates that the report has been received but not yet distributed.

EXHIBIT E

DOT	Report To/ Authority	Report Due	Status*
Plan developed with DOA, DOT, DENR to reduce VMT & vehicle emissions from State employee travel.	ERC, Joint Legislative Transportation Oversight Committee SL 1999-328(4.6) G.S 143-215.107C(d)	Annually (Oct 1)	Mar 02 Distrib 5/21/02 Letter distrib 02/24/04 Oral 1/13/05 Jan 06 distrib 2/14/06 Nov 06 oral 11/15/06

EMC	Report To/ Authority	Report Due	Status*
Desirability of requiring and the feasibility of obtaining reductions in emissions of oxides of nitrogen (Nox) and sulfur dioxide (SO2) beyond those required by G.S. 143-215.107D.	ERC, General Assembly SL 2002-4, Section 11; S.L. 2006-79	Annually, starting 2007 (Sep 1)	Mar 06 distrib 4/11/06

climate change

Joint Legislative Commission on Climate Change	Report To/ Authority	Report Due	Status*
Report of findings and recommendations by the Commission	General Assembly and ERC S.L. 2005-442, Sec. 11; S.L. 2006-73, Sec. 1	Interim: 15 Jan 2007 Final: 15 April 2008	

coastal issues

CRC	Report To/ Authority	Report Due	Status*
Evaluate the impacts on water quality and other environmental impacts from the new urban waterfront area development authorized by this act and evaluate the costs and benefits from the development to the area in which the development is located.	ERC S.L. 2004-117, Sec. 4	Annually (beginning 1 Oct 05). Final report due 1 Oct 2010.	

fishing

CRC, EMC, and MFC	Report To/ Authority	Report Due	Status*
Progress in developing and implementing Coastal Habitat Protection Plans	ERC, S&A GS 143B-279.8(e)	Annually (Sep 1)	Sep 01 distrib 01/30/02 Sep 03 distrib 2/06/04 Sep 04 distrib 11/18/04 Feb 06 distrib 3/8/06 Oct 06 distrib 11/15/06

DENR	Report To/ Authority	Report Due	Status*
Fish kills within the preceding year	ERC GS 143B-279.7(c)	Annually (Dec 1)	Feb 02 oral 2/21/02 Jan 04 distrib 2/24/04 Jan 05 distrib 1/13/05 Jan 06 distrib 2/14/06

* "oral" indicates oral report was given to ERC or S+A; "mail" indicates the report was mailed to members; "in" indicates that the report has been received but not yet distributed.

DENR (Secretary)	Report To/ Authority	Report Due	Status*
Individual Coastal Habitat Protection Plans	ERC, S&A GS 143B-279.8(f)	30 days after complete or substantially revise draft plan	Aug 04 distrib 11/05

General

Community Conservation Assistance Program Advisory Committ	Report To/ Authority	Report Due	Status*
Findings of its program review	Speaker, President Pro Tem, Appropriations chairs, ERC, FRD S.L. 2006-78, Sec. 5	31 March 2007	

DENR	Report To/ Authority	Report Due	Status*
Findings on the success of the Express Review Program	Fiscal Research and ERC 143B-279.13(c)	Annually (1 March)	April 06 oral 4/11/06
Cost of State's environmental permitting program	ERC, Fiscal Research GS 143-215.3A(c)	Annually (Nov 1)	April 00 distrib
Cost of implementing the Mining Act of 1971	ERC GS 74-54.1(c)	Annually (Sep 1)	Jan 02 distrib 01/30/02 Aug 03 distrib 02/06/04 Oct 04 distrib 10/21/04 Sep 05 distrib 11/22/05
One-Stop Permit Assistance Program - # of environmental permits subject to this section that took more than 90 days to issue or deny, the types of permits those were, the reasons for the extended processing time of those permits, ...	ERC, NER subcommittees, Fiscal Research S.L. 2000-67(13.7) S.L. 2001-424 (19.6) S.L. 2004-124, Sec. 12.12	Annually (beginning 1 March 07)	29 July 2003 oral 5/05/04 Oct 04 oral 10/21/04 Dec 05 oral 12/20/05

DENR (Secretary)	Report To/ Authority	Report Due	Status*
State of the Environment Report	General Assembly,ERC GS 143B-279.5(a)	Feb 15 of each odd-numbered year	Feb 1, 2000

* "oral" indicates oral report was given to ERC or S+A; "mail" indicates the report was mailed to members; "in" indicates that the report has been received but not yet distributed.

EMC	Report To/ Authority	Report Due	Status*
EMC operation, activities, programs, and progress (see also other reports with "EMC Quarterly Report" noted at the end of the topic line)	ERC GS 143B-282(b)	Quarterly (Jan 15, Apr 15, Jul 15, Oct 15); upon request	Apr 03 distrib 2/6/04 Jan 04 oral 2/6/04 July 04 distrib 10/21/04 Oct 04 oral 10/21/04 Jan 05 distrib 1/13/05 Apr 05 oral 11/22/05 Jul 05 oral 11/22/05 Oct 05 oral 11/22/05 Jan, April 06 oral 4/11/06 June, Oct 06 oral 10/9/06

Soil and Water Conservation Commission (DENR)	Report To/ Authority	Report Due	Status*
Report on the Community Conservation Assistance Program, including asummary of projects that received State funding pursuant to the Program, the results of the evaluation conducted pursuant to, and a summary of the effectiveness of the Program.	ERC, FRD G.S. 143-215.74M(e)	Annually (beginning 31 January 2007)	

State Water Infrastructure Commission	Report To/ Authority	Report Due	Status*
Recommendations by the Commission	General Assembly and ERC G.S. 159G-67	Annually (1 November)	Nov 06 oral 11/15/06

Study Commission on Beneficial Uses of Industrial Hemp	Report To/ Authority	Report Due	Status*
Shall study the many beneficial industrial uses of industrial hemp, including the use of industrial hemp oil as an alternative fuel and the use of industrial hemp fiber in construction and paper products.	2007 General Assembly and ERC S.L. 2006-248, Sec. 55	1 December 2006	

hazardous substances

DENR	Report To/ Authority	Report Due	Status*
Implementation of the Resident Inspectors Program at commercial hazardous waste facilities	ERC GS 130A-295.02(m); SL 2006-79	Annually (Oct 1)	Oct 2002 (distrib 1/16/03) Sep 03 distrib 02/24/04 Sep 04 distrib 10/21/04 Jan 06 distrib 1/24/06 Nov 06 distrib 11/15/06
Evaluation of effectiveness of Brownfields Property Reuse Act	ERC GS 130A-310.40	Annually (Oct 1)	Feb 02 oral 2/21/02 Jan 03 oral 1/28/03 Jan 04 oral 2/24/04 Oct 04 distrib 10/21/04 Jan 06 oral 1/24/06

* "oral" indicates oral report was given to ERC or S+A; "mail" indicates the report was mailed to members; "in" indicates that the report has been received but not yet distributed.

DENR (Division of Waste Management)	Report To/ Authority	Report Due	Status*
Implementation of comprehensive hazardous waste management plan; implementation of the comprehensive hazardous waste plan, including an evaluation of how well the State and private parties are managing and cleaning up hazardous waste.	ERC GS 130A-294(i) SL 2002-148, Sec. 4	Annually (1 Oct)	5 Oct 03 distrib 02/24/04 July 04 distrib 10/21/04 Jan 06 distrib 1/24/06 Nov 06 oral 11/15/06

DENR (Secretary)	Report To/ Authority	Report Due	Status*
Inactive Hazardous Waste Sites Program	ERC GS 130A-310.10	Annually (Oct 1)	Jan 03 oral 1/28/03 Sep 03 oral 2/24/04 Oct 04 distrib 10/21/04 Jan 06 oral 1/24/06 Nov 06 distrib 11/15/06

DENR, Office of State Budget and Management	Report To/ Authority	Report Due	Status*
Amount and source of available funds used for 10% cost share required for Superfund cleanup of NPL sites, the o&m costs associated w/ these cleanups, and the cleanup of priority inactive hazardous substance or waste sites	ERC, Gov Ops SL 1999-237(15.6)(b)	30 days after spend Superfund/ Inactive Haz Sites funds	Sep 03 distrib 2/24/04 June 04 distrib 10/21/04 May 05 distrib 11/22/05 Aug 05 distrib 11/22/05 Jan 06 oral 1/24/06

land resources

DENR	Report To/ Authority	Report Due	Status*
Annual report and analysis of how the implementation of SPCA is affecting activities that contribute to the sedimentation of streams, rivers, lakes, and other waters of the State; shall also review effectiveness of local programs	ERC G.S. 113A-67; S.L. 2004-195, Sec. 2.1	Annually (beginning 1 Oct 05)	Dec 05 oral 12/20/05

Onsite wastewater

DENR	Report To/ Authority	Report Due	Status*
Shall evaluate whether: (i) the program resulted in a reduction in the length of time improvement permits or authorizations to construct are pending in the participating counties	ERC S.L. 2006-136, Sec. 3	Annually (beginning 1 October 2007)	

parks and conservation

DENR	Report To/ Authority	Report Due	Status*
Report on the conservation easement program + inventory of all conservation easements held by DENR	ERC GS 113A-235(c) SL 2004-195, Sec. 2.2	Annually (Oct 1)	Jan 03 oral 1/16/03 Dec 03 oral 4/22/04 Oct 04 oral 1/13/05 Mar 06 oral 3/14/06
Shall study vehicle use at Fort Fisher State Recreation Area, including consideration of: the demand for vehicle access to the beach during different times of the year; the impact of vehicles on sea turtles and nesting birds;...	ERC S.L. 2004-124, Secs. 12.3.(b) and 12.3.(c)	1 Feb 2005	Mar 05 distrib 3/8/06

* "oral" indicates oral report was given to ERC or S+A; "mail" indicates the report was mailed to members; "in" indicates that the report has been received but not yet distributed.

DENR (North Carolina Parks and Recreation Authority)	Report To/ Authority	Report Due	Status*
Activities and allocations from the Parks and Recreation Trust Fund from the prior fiscal year	ERC, Gov Ops, NER, Fiscal Research GS 113-44.15(c)	Annually (Oct 1) + progress (March 15)	Mar 03 distrib 03/20/03 Oct 03 oral 4/22/04 Oct 04 oral 1/13/05 Mar 05 distrib 4/22/05 Mar 06 oral 3/14/06 Oct 06

DENR (Secretary)	Report To/ Authority	Report Due	Status*
Acquisitions made with funds from the Natural Heritage Trust Fund	ERC, NHTF Trustees, Gov Ops, NER, Fiscal Research GS 113-77.9(e)	Semiannually, within 30 days of each revision	Nov 03 oral 4/22/04 Sep 04 oral 1/13/05 Sep 05 distrib 3/14/06
Progress towards attaining the State's goal of protecting one million acres of farmland, open space, and conservation lands	ERC, Governor GS 113A-241(c) S.L. 2004-195, Sec. 2.3	Annually (Oct 1)	Jan 03 oral 1/16/03 Dec 03 oral 4/22/04 Sep 04 oral 1/13/05 Mar 06 oral 3/14/06

Division of Parks and Recreation of DENR	Report To/ Authority	Report Due	Status*
Study the feasibility and the desirability of acquiring land and establishing a State Recreation Area at Blewett Falls Lake. The study shall include estimates of the cost of developing the proposed recreation area.	ERC S.L. 2004-24, Sec. 2	1 December 2005	Dec 05 distrib 3/8/06

Parks and open space

Land and Water Conservation Study Committee	Report To/ Authority	Report Due	Status*
Shall report its findings and recommendations	ERC S.L. 2006-223, Sec. 11	1 Feb 2007	

Parks and Recreation

DPR (DENR)	Report To/ Authority	Report Due	Status*
shall study the feasibility and the desirability of acquiring land and establishing a State Park at Cabin Lake.	ERC S.L. 2006-138, Sec. 3	On or before 15 January 2007	

* "oral" indicates oral report was given to ERC or S+A; "mail" indicates the report was mailed to members; "in" indicates that the report has been received but not yet distributed.

Renewable Energy

Biofuels Energy Strategic Plan Work Group	Report To/ Authority	Report Due	Status*
Shall report on the development of the strategic plan, including any preliminary findings, recommendations, and legislative proposals	ERC S.L. 2006-206, Sec. 3.2	Interim: 15 Jan 2007 Final: 1 April 2007	

solid waste

DENR	Report To/ Authority	Report Due	Status*
Solid Waste Management Annual Report (see also other reports with "SWM Annual Report" noted at the end of the topic line)	Governor, ERC GS 130A-309.06(c)	Annually (Jan 15)	Jan 02 oral 1/30/02 Jan 03 oral 1/28/03 Jan 04 oral 3/25/04 Jan 05 oral 1/13/05 Jan 06 oral 1/24/06
Assessment of the recycling industry and recyclable materials market (SWM Annual Report)	ERC GS 130A-309.06(c)(6)	Annually (Jan 15)	Jan 02 oral 1/30/02 Jan 03 oral 1/28/03 Jan 04 oral 3/25/04 Jan 05 oral 1/13/05 Jan 06 oral 1/24/06
Condition and use of funds in the Solid Waste Management Trust Fund (SWM Annual Report)	ERC GS 130A-309.12(c) GS 130A-309.06(c)(8)	Annually (Jan 15)	Jan 04 oral 3/25/04 Jan 05 oral 1/13/05 Jan 06 oral 1/24/06
Scrap Tire Disposal Account (SWM Annual Report)	ERC GS 130A-309.63(e) GS 130A-309.06(c)(10)	Annually (Jan 15)	Jan 02 oral 1/30/02 Jan 03 oral 1/28/03 Jan 04 oral 3/25/04 Jan 05 oral 1/13/05 Jan 06 oral 1/24/06
Management of white goods (SWM Annual Report)	ERC, Revenue Laws Study Committee GS 130A-309.85 GS 130-309.06(c)(11)	Annually (Jan 15)	Jan 03 oral 1/28/03 Jan 04 oral 3/25/04 Jan 05 oral 1/13/05 Jan 06 oral 1/24/06
Recycled materials specified or used in DOT contracts (SWM Annual Report) (DPPEA portion)	ERC, Gov Ops, Trans Oversight GS 136-28.8(g) GS 130A-309.06(c)(12)	Annually (Jan 15)	Jan 03 oral 1/28/03 Jan 04 oral 3/25/04 Jan 05 oral 1/13/05 Jan 06 oral 1/24/06
Purchase of materials and supplies with recycled content by State institutions (SWM Annual Report) (DPPEA portion)	ERC, Gov Ops GS 143-58.2(f) GS 130A-309.06(c)(13)	Annually (Jan 15)	Jan 02 oral 1/30/02 Jan 03 oral 1/28/03 Jan 04 oral 3/25/04 Jan 05 oral 1/13/05

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DOT and DOA	Report To/ Authority	Report Due	Status*
Bid procedures and the purchase and use of reusable, refillable, repairable, more durable, and less toxic supplies and products (SWM Annual Report)	ERC GS 130A-309.14(a1)(3) GS 130A-309.06(c)(9) S.L. 2003-340, Sec. 1.6	Annually (Jan 15)	Jan 02 oral 1/30/02 Jan 03 oral 1/28/03 Jan 05 oral 1/13/05

Governor	Report To/ Authority	Report Due	Status*
Litter enforcement, prevention, and removal efforts.	ERC, JLTOC, NER Subcommittees SL 2001-512, Sec. 9 and 10 GS 147-12(b); SL 2006-79, Sec. 15	Annually (March 1)	Mar 02 oral 3/21/02 Dec 03 oral 4/20/04 Oct 04 distrib 10/21/04 Mar 06 oral 5/3/06

State Board of Education	Report To/ Authority	Report Due	Status*
Recycling efforts of public schools in the State	ERC, Joint Legislative Education Oversight Committee SL 2001-512, Sec. 11	Annually by Dec 15 (2003-2007)	Dec 03 distrib 04/20/04 Dec 04 distrib 1/13/05 Dec 05 distrib 3/8/06

Water Quality

DENR	Report To/ Authority	Report Due	Status*
Shall evaluate the training and qualification requirements for approval as an animal waste management systems technical specialist pursuant to G.S. 139 4(d)(11)	ERC S.L. 2006-38, Sec. 2	15 November 2006	Rec'd Nov 7 06 Distributed + Oral 11/15/06

water quality - general

Catawba/Wateree River Basin Advisory Commission	Report To/ Authority	Report Due	Status*
Annual report, including any recommendations.	Governor of NC, ERC, Governor of SC, SC General Assembly G.S. 77-117	Annually (1 Oct)	

Clean Water Management Trust Fund (Chair, Board of Trustees)	Report To/ Authority	Report Due	Status*
Implementation of the Clean Water Management Trust Fund; Projects awarded grants	ERC, Gov Ops, NER Subcommittees, Fiscal Research GS 113-145.6A(a) SL 2002-148 (Sec. 3)	Annually (Dec 1)	Jan 03 oral 1/16/03 Dec 03 oral 4/22/04 Jan 05 oral 1/13/05 Mar 06 oral 3/14/06

Commission for Health Services	Report To/ Authority	Report Due	Status*
Shall evaluate the desirability and feasibility of developing and implementing a pilot program whereby any individual seeking to use an innovative wastewater system that employs peat based technology, at the individual's residence must meet certain reqs.	NER Committees, Fiscal Research, ERC S.L. 2004-161, sec. 8.1	15 Jan 05	

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DENR	Report To/ Authority	Report Due	Status*
Status of permitting and inspecting animal waste management systems/ Animal Waste Compliance Report	ERC, Fiscal Research GS 143-215.10M SL 2002-148 (Sec. 6)	Annually (Oct 1)	Oct 03 oral 3/25/04 Oct 04 oral 10/21/04 Dec 05 oral 3/8/06 Nov 05 oral 11/15/06
Shall evaluate the need for and availability of information that identifies poultry facilities that may be subject to regulation under G.S. 143-215.10C, or options for obtaining this information.	ERC S.L. 2004-176, sec. 7	1 Jan 05	1/20/05
Wastewater Discharge Elimination System program	ERC, Fiscal SL 2001-452(2.9)	Annuaiiy (15 Oct)	Dec 03 distrib 02/06/04 19 Nov 04 oral Dec 05 oral 12/20/05
Whether to continue pilot program for inspection of animal waste management systems.	ERC, General Assembly SL 2005-276, Sec. 12.7(c)	Oct 15, 2005	Dec 05 distrib 3/8/06

DENR (Division of Water Quality)	Report To/ Authority	Report Due	Status*
Compliance/ enforcement of water quality laws for facilities that discharge into surface waters	ERC, Fiscal Research GS 143-215.9A SL 2002-148(Sec. 5)	Annually (Oct 1)	Dec 03 oral 3/25/04 Oct 04 distrib 11/19/04 Sep 05 distrib 3/8/06 Nov 06 distrib 11/15/06

DENR (Divisions of Water Quality, Soil & Water Conservation)	Report To/ Authority	Report Due	Status*
Pilot program for inspection of animal waste management systems, including a comparison of the costs of conducting operations reviews and inspections under the pilot program with the costs of conductng ors and insps pursuant to 143-215.10D and 143-215.10F	ERC, Fiscal Research,NER SL 1999-329(3.3) SL 2001-254(6) SL 2002-176 (1.2)	Semiannual: 15 April and 15 Oct	Oct 03 oral 3/25/04 Oct 04 distrib 11/18/04 Dec 05 distrib 3/8/06 Oct 06 distrib 11/15/06

DENR (Soil and Water Conservation Commission)	Report To/ Authority	Report Due	Status*
Effectiveness of projects funded under the Agriculture Cost-Share Program for Nonpoint Source Pollution Control	ERC, Fiscal Research GS 143-215.74(e)	Annually (Jan 31)	21 March 2002 Dec 03 distrib 2/24/04 Mar 06 distrib 3/8/06

DENR, EMC	Report To/ Authority	Report Due	Status*
Basinwide Water Quality Management Plans	ERC GS 143-215.8B(d)	Annually (Oct 1)	Oct 03 oral 2/6/04 Oct 04 oral 10/21/04 Feb 06 distrib 2/14/04 Nov 06 distrib 11/15/06

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EMC	Report To/ Authority	Report Due	Status*
Progress in developing and implementing wastewater collection system permit program (EMC Quarterly Report)	ERC 143-215.9B	Quarterly (Jan 15, Apr 15, Jul 15, Oct 15)	Apr 03 distrib 2/6/04 Apr 03 oral 2/24/04 April 04 oral 3/25/04 July 04 distrib 10/21/04 Oct 04 oral 10/21/04 Apr 05 oral 11/22/05 Jul 05 oral 11/22/05 Oct 05 oral 11/22/05 Jan, April 06 oral 4/11/06 June, Oct 06 oral 10/9/06
Implementation of stormwater runoff rules and programs	ERC GS 143-214.7(e)	Annually (Oct 1)	Dec 03 oral 2/6/04 Update 3/25/04 Oct 04 oral 10/21/04 Oct 05 oral 11/22/05 Nov 06 distrib 11/15/06
Extent to which facilities seeking new or modified discharge permits are funded with public funds; their impact on water quality; whether there are cost-effective alt. technologies that would achieve greater water quality benefit (EMC Quarterly Report)	ERC GS 143-215.1(h)	Quarterly (Jan 15, Apr 15, Jul 15, Oct 15)	Apr 03 distrib 2/6/04 Apr 03 oral 2/24/04 April 04 oral 3/25/04 July 04 distrib 10/21/04 Oct 04 oral 10/21/04 Apr 05 oral 11/22/05 Jul 05 oral 11/22/05 Oct 05 oral 11/22/05 June, Oct 06 oral 10/9/06
Study water quality in drinking water supply reservoirs in the State to determine whether the reservoirs meet current water quality standards	ERC S.L. 2005-190, Sec. 2.(a)	1 May 06	Mar 06 oral 4/11/06
Findings on identification and adoption of control criteria necessary to prevent excess nutrient loading in drinking water supply reservoirs; adoption of nutrient management strategy and permanent rules; (EMC Quarterly Rpt)	ERC S.L. 2005-190, Sec. 2.(b), Sec. 3.(e) and (f)		Jan, April 06 oral 4/11/06 June, Oct 06 oral 10/9/06
Progress in developing and implementing nutrient management strategies for water supply reservoirs identified in Sec. 3 of act.	ERC S.L. 2005-190, Sec. 4	Annually beginning 1 April 2006	April 06 oral 4/11/06
Progress in developing engineering standards to allow regional interconnection of municipal and domestic wastewater collection systems (EMC Quarterly Report)	ERC SL 1999-329(11.1)	Quarterly (Jan 15, Apr 15, Jul 15, Oct 15)	Apr 03 oral 2/24/04 April 04 oral 3/25/04 July 04 distrib 10/21/04 Oct 04 oral 10/21/04 Apr 05 oral 11/22/05 Jul 05 oral 11/22/05 Oct 05 oral 11/22/05 Jan, April 06 oral 4/11/06 June, Oct 06 oral 10/9/06

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Roanoke River Basin Bi-State Commission	Report To/ Authority	Report Due	Status*
Annual report, including any recommendations.	Governor of NC, ERC, Governor of VA, General Assembly of VA G.S. 77-98	Annually	

Upper Neuse River Basin Association	Report To/ Authority	Report Due	Status*
Activities and programs to develop cooperative, comprehensive, integrated State-local watershed management plan for the Upper Neuse Rier Basin to serve as a model watershed management approach	ERC, Gov Ops, Fiscal Research SL 1998-212(14.15)	Mar 1 each year until plan is complete (begin 1999)	Oct 03 distrib 02/06/04

Water Quality Workgroup (DENR & NCSU)	Report To/ Authority	Report Due	Status*
Status of tasks: Synth current science on water quality;Identify knowledge gaps, fill with projects;Maintain water quality data website; Org & eval existing water quality databases; Prioritize knowledge gaps for $; Develop Rivernet mon syst.	ERC, NER Chairs, Chancellor of NCSU G.S. 143-215.8D	Annually (Jan 30)	Jan 02 oral 2/21/02 Present to SAENR 6/04

Water Resources Research Institute	Report To/ Authority	Report Due	Status*
Modeling and Monitoring of the Neuse River - Final report	ERC S.L. 2005-386, Sec. 2.3	1 November 2005	

Yadkin/Pee-Dee River Basin Advisory Commission	Report To/ Authority	Report Due	Status*
Annual report, including any recommendations.	Governor of NC, ERC, Governor of SC, SC General Assembly G.S. 77-117	Annually (1 Oct)	

water quality - ground

DENR	Report To/ Authority	Report Due	Status*
Implementation of Pay for Performance Program (in UST report)	ERC SL 2001-442, SL 2003-340, Sec. 2	Annually 1 Sept (ending Oct 1, 2006)	21 Mar 2002 16 Jan 2003 Mar 04 oral 5/05/04 Jan 05 1/13/05

DENR (Secretary)	Report To/ Authority	Report Due	Status*
Contamination, site, and fiscal information related to the Dry-Cleaning Solvent Cleanup Act of 1997	ERC GS 143-215.104U	Annually (Oct 1)	Jan 02 oral 2/21/02 Dec 03 distrib 3/25/04 Sep 04 distrib 10/25/04 Jan 06 oral 4/11/06 Nov 06 distrib 11/15/06

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Leaking Petroleum Underground Storage Tank Cleanup Program	ERC GS 143-215.94M SL 2002-148(Sec. 7)	Annually (1 Sept)	Jan 03 oral 1/16/03 Jan 04 oral 4/22/04 Oct 04 oral 10/21/04 (no written) Oct 06 oral 10/9/06 (no written)

DENR (Secretary) and Commissioner of Agriculture	Report To/ Authority	Report Due	Status*
Results of study and progress in developing a coordinated regional approach to the phaseout of MTBE as an additive to motor fuel	ERC S.L. 2005-93, Sec. 4	Interim 1 March 06 Final 1 March 07	Mar 06 distrib 3/8/06

water quantity

DENR	Report To/ Authority	Report Due	Status*
Evaluate water conservation measures being implemented in the State and identify incentive programs and other voluntary programs that can help foster water conservation and reuse.	ERC, EMC SL 2002-167, Sec. 5; SL 2004-195, Sec. 4	Interim 15 Mar 03 Final 15 Feb 04	25 Aug 03 oral 3/25/04

DENR (Division of Water Resources)	Report To/ Authority	Report Due	Status*
Implementation of State Water Supply Plan	ERC, Gov Ops GS 143-355(n)	Annually (Sep 1)	Sep 03 oral 2/24/04 Nov 04 oral 11/19/04 Nov 05 oral 11/22/05

Drought Management Advisory Council	Report To/ Authority	Report Due	Status*
Shall report on implementation of act; include review of drought advisories issued by the Council and any recommendations to improve coordination among local, State, and federal agencies; public water systems; and water users	Secretary of ENR, Governor, and ERC G.S. 143 355.1(g); S.L. 2004-195, Sec. 2.5	Annually (beginning 1 Oct 05)	Oct 05 oral 11/22/05 Oct 2006 oral 10/9/06

wetlands

DENR	Report To/ Authority	Report Due	Status*
Implementation of Ecosystem Enhancement Program and use of Ecosystem Enhancement Fund, including inventory of property and easements	ERC GS 143-214.13	Annually (Nov 1)	Dec 01 oral 01/30/02 Jan 03 oral 1/28/03 Dec 03 oral 5/5/04 Jan 04 oral 01/20/05 Dec 05 oral 12/20/05

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EXHIBIT F

D R A F T

NORTH CAROLINA GENERAL ASSEMBLY

Report on the study of the merger of the Ecological Enhancement Program and the Clean Water Management Trust Fund

REQUEST FOR PROPOSALS

November 18, 2006

Proposals subject to the conditions made a part hereof will be received until **5:00 p.m. EST December 08, 2006** for furnishing services described herein. Send all proposals to the following:

Lisa Hollowell
Fiscal Research Division
General Assembly of North Carolina
Room 619 Legislative Office Building
300 N. Salisbury St.
Raleigh, NC, 27603
Phone: 919-733-4910

Email: lisah@ncleg.net

Questions about the RFP should be sent by email to Ms. Hollowell.

NOTE: Indicate firm name on the front of each sealed proposal envelope or package.

Introduction

The Joint Legislative Transportation Oversight Committee (JLTOC) of the North Carolina General Assembly and the Environmental Review Commission (ERC) of the North Carolina General Assembly are seeking a consultant to study the merger of the organization and functions of the Ecological Enhancement Program (EEP) and the Clean Water Management Trust Fund (CWMTF).

Section 16 of Part XVI of Session Law 2006-248, House Bill 1723, directs the ERC and JLTOC to jointly study the merger of the organization and functions of the two programs.

> **PART XVI. MERGER OF ECOLOGICAL ENHANCEMENT PROGRAM AND THE CLEAN WATER MANAGEMENT TRUST FUND (Jenkins)**
>
> **SECTION 16.** The Environmental Review Commission and the Joint Legislative Transportation Oversight Committee shall jointly study the merger of the organization and functions of the Ecological Enhancement Program with the Clean Water Management Trust Fund. The Commission and the Committee may hire consultants to assist with the study. The final report shall be made to the 2007 General Assembly.

Ecosystem Enhancement Program

In 2003, the United States Army Corps of Engineers (USACE), North Carolina Department of Transportation (NCDOT) and North Carolina Department of Environment and Natural Resources (NCDENR) signed a memorandum of agreement (MOA) that created the Ecosystem Enhancement Program (EEP). The agreement created procedures and guidelines for providing the compensatory mitigation to offset impacts to waters and wetlands due to transportation activities and construction. The MOA provided for the incorporation of the Wetlands Restoration Program (WRP), which had been established by State law in 1996 to provide the compensatory mitigation required by the section 404 permit issued by the USACE for land development impacting wetlands, into the EEP. The MOA also provided that the WRP would be renamed as the EEP, which was confirmed by the enactment of conforming legislation in 2005.

Clean Water Management Trust Fund

The Clean Water Management Trust Fund (CWMTF) is a non-regulatory agency that administers a water quality grants program. The grant funds are awarded to local governments, State agencies, nonprofit conservation organizations, and other subdivisions of the State and may be used to acquire conservation easements or fee simple ownership of land in order to "preserve riparian buffers, wetlands, floodplains, and greenways; to restore riparian buffers, streams and wetlands; to repair failing wastewater collection and

treatment systems; to eliminate failing septic tanks and straight pipes, to prevent, reduce, collect and treat stormwater pollution and to plan water quality projects". (*Annual Report 2005, The North Carolina Clean Water Management Trust Fund*)

A brief history of the CWMFT follows:
In 1996 the General Assembly created the Clean Water Management Trust Fund with a prescribed mission to "clean up pollution in the State's surface waters and to protect and conserve those waters that are not yet polluted" (GS 113A-251). The General Assembly provided a dedicated and recurring funding source and required a Board of Trustees, Executive Director and staff. The Board of Trustees was empowered to establish a grant funding program to advance the mission. Since 1996, the CWMTF Board has approved over $595.8 million in grants for projects which have leveraged significant additional funds in private and other public funding.

During the 2005-2006 biennium the General Assembly appropriated recurring funding of $100 million for each year of the biennium for the grant program. During 2005, the CWMFT Board of Trustees approved funding for 159 projects for a total amount of $112.7 million and approved an administrative budget of $1.663 million for fiscal year 2006.

Scope of Study

1. The study will fully analyze, describe, and compare the organizational structures, missions, and budgets (both administrative and programmatic) of the EEP and the CWMTF. The comparison will identify whether there have been land purchases that may be utilized in both mitigation for North Carolina Department of Transportation projects and aid in cleaning up pollution in waters or preventing waters from becoming polluted. The consultant will analyze and may recommend whether to combine some or all of the activities of the two programs into one organization.

The Consultant shall provide the following detailed information on the EEP:

- Full description of the mitigation process including: selection of target areas, acquisition of land, crediting of land, use of the land, banking of surplus or unused credits. Describe how the EEP approach differs from the past approach when NCDOT handled mitigation within the agency. Describe the guidelines and requirements of the USACE and relate how these guidelines impact the policies established within EEP.
- Inventory the acquisitions and credits and restored or preserved lands accrued to date and describe how these acquisitions and credits have been assigned to projects and the process by which they may be reassigned or re-categorized for future projects. Include in a separate inventory the NCDOT transferred land credits and assigned projects.
- Detail the process for valuing the credits and restored acres assigned to projects in the near future and the surplus credits. Calculate the value of the credits currently in inventory with EEP. Identify options for the State

regarding the surplus land acquisitions that is not needed in the near future for mitigation purposes.

- The consultant shall identify best practices for mitigation processes and provide examples from other states.

II. The consultant will conduct a mitigation banking analysis that compares the relative effectiveness, efficiency, and total cost of the State's mitigation program to that of private mitigation banks. The consultant shall identify the State's processes and private sector processes of mitigation including Design, Bid, Build (EDP) and Full Delivery Procurement (EDP). The consultant will review current State policies with respect to the activities that private mitigation banks may undertake with respect to the services that private mitigation banks provide. The consultant will make recommendations for future mitigation banking policies as a result of the analysis.

III. The consultant will provide (1) alternative options to the merger of the programs into one entity, and (2) detail other collaborative arrangements that could exist in lieu of a complete merger and (3) identify other ways in which to provide mitigation in a more cost-effective way.

IV. The consultant will review and analyze pending and likely changes at the Federal level that may impact the State's programs.

V. The consultant will create an implementation schedule with timeline on any consultant-recommended options including projected budgets.

Qualifications

Potential vendors submitting proposals must demonstrate their knowledge of states' environmental preservation and mitigation processes, federal government environmental regulations related to highway/road building and construction, and demonstrated capability to produce clear, well-written reports by providing examples of completed projects.

Project Timeframe

The schedule is listed below:

Activity	Date
RFP Distributed	November 18, 2006
Proposals from Vendors Due	December 8, 2006
Award Contract	December 22, 2006
Sign Contract/Begin Work	January 2, 2007
Final Report	The consultant will propose a delivery date not to exceed 20 weeks.

Reports

The consultant will deliver up to four legislative presentations. The consultant will provide interim written reports and the final report will include an electronic version and 100 hardcopy reports.

Required Contents for Proposal

The response to this request for proposals shall consist of the following sections:

a) Executive Summary
   The executive summary shall consist of a brief summary of the contents of the proposal.
b) Corporate Background and Experience
   This section shall include:
   1) Background information on the organization and details of experiences with similar projects.
   2) A list of at least three references, including contacts and telephone numbers, for whom similar work has been performed.
   3) Samples of work products.
c) Financial Statement
   The vendor's most recent financial statement or similar evidence of financial stability.
d) Project Staffing and Organization
   This section shall include:
   1) Proposed staffing, deployment and organization of personnel to be assigned to this project.
   2) The vendor shall include resumes of key personnel who will actually be assigned to the project, describing experience with similar projects and the responsibilities to be assigned to each person.
   3) How the study will be planned, organized and conducted.
e) Technical Proposal
   This section shall include, in narrative, outline or graph form, the vendor's approach to accomplishing the tasks outlined in the project description section of this RFP. A description of each task and the schedule for accomplishing each shall be included.
f) Cost Proposal
   The cost proposal must contain the following information:
   1) Personnel costs (including hourly rates and total hours)
   2) Travel and subsistence expenses
   3) Office space, telephone, and other support needs, if any, anticipated from the General Assembly
   4) Subvendor costs (if any)
   5) Other costs
   6) Total cost for completing the project
   7) Rates for additional analyses requested during the project period

Proposal Submittal Process

a) Two original and 10 copies of the proposal plus electronic copy, PDF preferred.
b) Each original shall be signed and dated by an official authorized to bind the firm.

Vendor Selection Process

The selection of the vendor will be determined by a "Best Value" methodology, with key factors to be considered to include experience of the vendor and its consultants with related projects and price.

General Conditions Related to Submittal of Proposals

Right to Reject

The Joint Legislative Transportation Oversight Committee (hereinafter "Committee") reserves the unqualified right to reject any and all proposals when such rejection is deemed to be in the best interest of the State of North Carolina.

Right to Accept Part of Proposal, Negotiate Content and Cost

The Committee reserves the right to accept part of any proposal, and to divide any proposal into parts deliverable in stages over an extended time period. The Committee reserves the right to negotiate and alter the content, form, schedule, and deliverables of any proposal or portion of a proposal accepted. The Committee reserves the right to negotiate the cost of any proposal or portion of a proposal accepted.

Time for Acceptance

Each proposal shall state that it is a firm offer that may be accepted within a period of 30 days from the date of submission.

Unsolicited Proposal Changes

Any unsolicited change to a proposal that is received after the closing date of this RFP will be rejected.

Responsibility to Make Timely Submission

The vendor is responsible for assuring the timely delivery of a proposal. Late proposals will be rejected without review.

Cost for Proposal Preparation

Any costs incurred by vendors in preparing or submitting offers are the vendor's sole responsibility; the Committee will not reimburse any vendor for any costs incurred prior to award.

Elaborate Proposals

Elaborate proposals in the form of brochures or other presentations beyond that necessary to present a complete and effective proposal are not desired. Vendors are encouraged to limit proposals to approximately 10 pages or less (not including examples of work products).

Oral Explanations

The Committee shall not be bound by oral explanations or instructions given at any time during the competitive process or after award.

Confidentiality of Proposals

In submitting its proposal the vendor agrees not to discuss or otherwise reveal the contents of the proposal to any source outside of the Committee or its Legislative Services Office staff until after the award of the contract.

Form of Proposal

Proposals shall be submitted in a form that, in the opinion of the Committee, may be incorporated verbatim into a contract.

Exception to Terms

Any exception, interpretation, or suggestion for clarification by the vendor to any of the terms and conditions of this RFP must be clearly stated by the vendor.

Competitive Offer

Pursuant to the provision of G.S. 143-54, and under penalty of perjury, the signer of any proposal submitted in response to this RFP thereby certifies that this proposal has not been arrived at collusively or otherwise in violation of either Federal or North Carolina antitrust laws.

Right to Submitted Materials

All responses, inquiries, and correspondence relating to or in reference to this RFP shall become the property of the State of North Carolina when received.

Vendor's Representative

Each vendor shall submit with its proposal the name, address, telephone number, and email address of the person(s) with authority to bind the firm and answer questions or provide clarification concerning the vendor's proposal.

Proprietary Information

All vendors' information submitted in the proposal has the potential to become public information. Vendors are cautioned that any proprietary information contained in the proposal may not be protected as confidential and should not be submitted in response to this RFP.

Terms and Conditions of Resulting Contract

The following are terms and conditions that will be included in the contract for conducting the project. Other terms and conditions may be added prior to the signing of the contract.

Vendor

The contract is between the Joint Legislative Transportation Oversight Committee (subject to the approval of the Legislative Services Commission) and the selected vendor (hereinafter referred to as "Vendor").

Governing Law

This contract is made under and shall be governed and construed in accordance with the laws of the State of North Carolina.

Situs

The place of this contract, its situs and forum, shall be Raleigh, North Carolina, where all matters, whether sounding in contract or tort, relating to its validity, construction, interpretation and enforcement shall be determined.

Contract Period

The terms of the contract shall begin at its signing and shall end twelve weeks after contract signing, unless extended or terminated as provided in this document.

Termination

Upon mutual written agreement of the Committee and the Vendor, the contract may be terminated at any time. Failure to perform by the Vendor may result in termination by the Committee. In addition, the Committee has the right to terminate the contract at its discretion with 10 days written notice. In the event of termination, the Vendor will be paid an amount commensurate with work completed.

Independent Vendor

The Vendor shall be considered to be an independent vendor and as such shall be wholly responsible for the work to be performed and for the supervision of its employees. The Vendor represents that it has, or will secure at its own expense, all personnel required in performing the services under this agreement. Such employees shall not be employees of, or have any individual contractual relationship with the Committee or the Legislative Services Office.

Key Personnel

The Vendor shall not substitute key personnel assigned to the performance of this contract without prior written approval by the Committee. The individuals designated as key personnel for purposes of this contract are those specified in the Vendor's proposal.

Subcontracting

Work proposed to be performed under this contract by the Vendor or its employees shall not be subcontracted without prior written approval of the Committee.

Performance and Default

If, through any cause, the Vendor shall fail to fulfill in timely and proper manner the obligations under this agreement, the Committee shall thereupon have the right to terminate this contract by giving written notice to the Vendor and specifying the effective date thereof. In that event, all finished or unfinished deliverable items under this contract prepared by the Vendor shall, at the option

of the Committee, become its property, and the Vendor shall be entitled to receive just and equitable compensation for any satisfactory work completed on such materials. Notwithstanding, the Vendor shall not be relieved of liability to the Committee for damages sustained by the Committee by virtue of any breach of this agreement, and the Committee may withhold any payment due the Vendor for the purpose of setoff until such time as the exact amount of damages due the Committee from such breach can be determined. In case of default by the Vendor, the Committee may procure the services from other sources and hold the Vendor responsible for any excess cost occasioned thereby. Neither party shall be deemed to be in default of its obligations hereunder if and so long as it is prevented from performing such obligations by any act of war, hostile foreign action, nuclear explosion, riot, strikes, civil insurrection, earthquake, hurricane, tornado or other catastrophic natural event or act of God.

Bankruptcy

Upon the filing for bankruptcy or insolvency by or against the vendor, the Committee may terminate the contract, and the provisions of paragraph entitled "Performance and Default" shall apply.

Performance Bond

The Committee may require either a performance bond up to the full amount of the contract or another performance guarantee.

Availability of Funds

Any and all payments to the Vendor are dependent upon and subject to the availability of funds to the Committee for the purpose set forth in this agreement.

Confidentiality

The vendor agrees to protect the confidentiality of any files, data, or other materials provided by the Committee and to restrict their use to the purpose of performing the contract. The vendor shall comply with the provisions of Article 17 of Chapter 120 of the North Carolina General Statutes regarding confidentiality between the vendor and members of the General Assembly.

Care of Property

The Vendor agrees that it shall be responsible for the proper custody and care of any files or other property furnished by the Committee.

Copyright

No deliverable items produced in whole or in part under this agreement shall be the subject of an application for copyright by or on behalf of the Vendor.

Access to Persons and Records

The State Auditor shall have access to persons and records as a result of all contracts or grants entered into by State agencies or political subdivisions in

accordance with General Statute 147-64.7. The Vendor shall retain all records for a period of three years following completion of the contract.

Transfer or Assignment

The contract shall not be transferred or assigned to a third party.

Compliance with Laws

The Vendor shall comply with all laws, ordinances, codes, rules, regulations and licensing requirements that are applicable to the conduct of its business, including those of federal, state, and local agencies having jurisdiction or authority.

Equal Opportunity Statement

The nondiscrimination clause contained in Section 202 Executive Order 11246, as amended by Executive Order 11375, relative to equal employment opportunity for all persons without regard to race, color, religion, sex, age or national origin, and the rules and regulations prescribed by the Secretary of Labor, are incorporated herein. The program for Employment of the Handicapped (Affirmative Action) Regulations issued by the Secretary of Labor of the United States in Title 20, Part 741, Chapter VI, Subchapter "C" of the Code of Federal Regulations, pursuant to the provisions of Executive Order 11758 and Section 503 of the Federal Rehabilitation Act of 1973, are incorporated herein.

Insurance

The Vendor shall obtain, pay for, and keep in force, for the duration of the contract, worker's compensation insurance, as required by the laws of North Carolina, covering all of the Vendor's employees engaged in any work on the project in the State.

Additional Contract Expenses

The contract for the project is not a time and materials agreement. Any expenses of the vendor in addition to those contracted for, or above the contract amount, are the sole responsibility of the Vendor.

Advertising

Vendor agrees not to use the results or existence of the contract, or the products produced pursuant to the contract as a part of any news release or commercial advertising without the prior written approval of the Committee.

ATTACHMENT A

SESSION LAW 2006-178
House Bill 2208

AN ACT TO REPEAL THE REQUIREMENT THAT CERTAIN STATUTORY CRITERIA RELATED TO GRANTS FROM THE CLEAN WATER MANAGEMENT TRUST FUND FOR WASTEWATER AND STORMWATER COLLECTION AND TREATMENT PROJECTS HAVE PRIORITY OVER CRITERIA ESTABLISHED BY THE BOARD OF TRUSTEES OF THE CLEAN WATER MANAGEMENT TRUST FUND, TO CLARIFY THE AUTHORITY OF THE BOARD OF TRUSTEES WITH RESPECT TO MATCH REQUIREMENTS IN CONNECTION WITH GRANT AWARDS, AND TO ESTABLISH TERM LIMITS FOR THE BOARD OF TRUSTEES.

The General Assembly of North Carolina enacts:

SECTION 1. G.S. 113A-254 reads as rewritten:

"**§ 113A-254. Grant requirements.**

(a) Eligible Applicants. – Any of the following are eligible to apply for a grant from the Fund for the purpose of protecting and enhancing water quality:

(1) A State agency.
(2) A local government unit.
(3) A nonprofit corporation whose primary purpose is the conservation, preservation, and restoration of our State's environmental and natural resources.

(a1) Criteria. – The criteria developed by the Trustees under G.S. 113A-256 apply to grants made under this Article. The common criteria for water projects set in G.S. 159G-23 and the criteria set out in this section also apply to wastewater collection system projects, wastewater treatment works projects, and stormwater quality projects. ~~The common criteria set in G.S. 159G-23 have priority over the criteria set under this Article for wastewater collection system projects, wastewater treatment works projects, and stormwater quality projects.~~ An application for a wastewater collection system project or a wastewater treatment works project that serves an economically distressed local government unit has priority.

(b) Matching Requirement. – The Board of Trustees shall establish matching requirements for grants awarded under this Article. ~~The Board of Trustees may require a match of up to twenty percent (20%) of the amount of the grant awarded.~~ This requirement may be satisfied by the donation of land to a public or private nonprofit conservation organization as approved by the Board of Trustees. The Board of Trustees may also waive the requirement to match a grant pursuant to guidelines adopted by the Board of Trustees.

(c) Restriction. – No grant shall be awarded under this article to satisfy compensatory mitigation requirements under 33 USC § 1344 or G.S. 143-214.11.

(d) Wastewater Limits. – A wastewater collection system project or a wastewater treatment works project is eligible for a grant under this Article only if it is a high-unit-cost project, as defined in G.S. 159G-20. A grant made under this Article for a wastewater collection system project or a wastewater treatment works project is subject to the cost limits and recipient limits set in G.S. 159G-36 for a grant awarded from the Wastewater Reserve.

(e) Stormwater Limits. – The amount of a grant awarded under this Article for a stormwater quality project may not exceed the construction costs of the project. The total amount of grants awarded under this Article to the same recipient for stormwater quality projects for a fiscal year may not exceed the limit set in G.S. 159G-36(c)(1) for grants to the same recipient from the Wastewater Reserve.

(f) Withdrawal. – An award of a grant under this Article is withdrawn if the grant recipient fails to enter into a construction contract for the project within one year after the date of the award, unless the Trustees find that the applicant has good cause for the failure. If the Trustees find good cause for a recipient's failure, the Trustees must set a date by which the recipient must take action or forfeit the grant."

SECTION 2. G.S. 113A-255 is amended by adding a new subsection to read:

"(b2) Limitation on Length of Service. – No member of the Board of Trustees shall serve more than two consecutive four-year terms or a total of 10 years."

SECTION 3. Sections 1 and 3 of this act are effective retroactively to 1 January 2006. Section 2 of this act is effective retroactively to 1 July 2006. This act shall not apply to any person who is a member of the Board of Trustees of the Clean Water Management Trust Fund on 30 June 2006.

In the General Assembly read three times and ratified this the 17th day of July, 2006.

CHAPTER II

15A NCAC 02D .2501 is proposed for adoption as follows:

SECTION .2500 –MERCURY RULES FOR ELECTRIC GENERATORS

15A NCAC 02D .2501 PURPOSE AND APPLICABILITY

(a) Purpose. The purpose of this Section is to control mercury emissions from coal-fired electric steam generating Hg units and to comply with the mercury emission caps of 1.133 tons (36,256 ounces) per year between 2010 and 2017 inclusive and 0.447 tons (14,304 ounces) per year for 2018 and thereafter as set out in 40 CFR 60.24.

(b) Applicability. This Section applies to:

(1) any stationary coal-fired boiler or ~~coal-gasification unit servicing~~ any stationary coal-fired combustion turbine serving at any time, since the start-up of a unit's combustion chamber, a generator with nameplate capacity of more than 25 MWe producing electricity for sale; or

(2) for a unit that qualifies as a cogeneration unit during the 12-month period starting on the date that the unit first produces electricity and continues to qualify as a cogeneration unit, a cogeneration unit serving at any time a generator with nameplate capacity of more than 25 MWe and supplying in any calendar year more than one-third of the unit's potential electric output capacity or 219,000 MWh, whichever is greater, to any utility power distribution system for sale. If a unit that qualifies as a cogeneration unit during the 12-month period starting on the date the unit first produces electricity but subsequently no longer qualifies as a cogeneration unit, the unit shall be subject to Subparagraph (1) of this Paragraph starting on the day on which the unit first no longer qualifies as a cogeneration unit; or

(3) the ~~sources~~Hg budget unit identified in the table in Rule .2503, of this Section.

(c) Retired Hg unit exemption. Any Hg unit that is permanently retired shall be exempted from the annual trading program if it complies with the provisions of 40 CFR 60.4105.

(d) Effect on other authorities. No provision of this Section, any application submitted or any permit issued pursuant to Rule .2504 of this Section, or any exemption under 40 CFR 60.4105, shall be construed as exempting any ~~source~~Hg unit or ~~facility~~source covered under this Section or the owner or operator or designated representative of any ~~source~~Hg unit or ~~facility~~source covered under this Section from complying with any other requirements of this Subchapter or Subchapter 15A NCAC 02Q.

(e) Additional controls. The Commission shall require additional reductions in mercury emissions when needed to reduce mercury concentrations to levels that do not cause or contribute to mercury-related health problems.

Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10).

15A NCAC 02D .2502 has been adopted as published in 20:21 NCR-1794:

15A NCAC 02D .2502 DEFINITIONS

(a) For the purpose of this Section, the definitions in 40 CFR 60.4102, shall apply.

(b) For the purpose of this Section, the abbreviations and acronyms listed in 40 CFR 60.4103 shall apply.

Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10).

15A NCAC 02D .2503 has been adopted as published in 20:21 NCR 1794-1797 with changes as follows:

15A NCAC 02D .2503 MERCURY EMISSION

(a) Allocations. The table in this Paragraph contains allocations in ounces of total mercury.

~~FACILITY~~	~~SOURCE~~	~~ALLOCATION FOR 2010 – 2017 (ounces)~~	~~ALLOCATION FOR 2018 AND LATER (ounces)~~
~~Duke Energy, Belews Creek~~	~~1~~	~~3595~~	~~1419~~
	~~2~~	~~3356~~	~~1325~~
~~Duke Energy, Buck~~	~~5~~	~~55~~	~~22~~
	~~6~~	~~57~~	~~22~~
	~~7~~	~~62~~	~~24~~
	~~8~~	~~310~~	~~122~~
	~~9~~	~~345~~	~~136~~
~~Duke Energy, Cliffside~~	~~1~~	~~64~~	~~25~~
	~~2~~	~~65~~	~~26~~
	~~3~~	~~104~~	~~41~~

FACILITY	SOURCE	ALLOCATION FOR 2010 – 2017 (ounces)	ALLOCATION FOR 2018 AND LATER (ounces)
	4	90	36
	5	1567	619
Duke Energy, Dan River	1	107	42
	2	118	47
	3	264	104
Duke Energy, G G Allen	1	365	144
	2	339	134
	3	628	248
	4	684	270
	5	642	254
Duke Energy, Marshall	1	1084	428
	2	1134	448
	3	1880	742
	4	1917	757
Duke Energy, Riverbend	7	195	77
	8	188	74
	9	340	134
	10	337	133
Progress Energy, Asheville	1	649	256

FACILITY	SOURCE	ALLOCATION FOR 2010 – 2017 (ounces)	ALLOCATION FOR 2018 AND LATER (ounces)
	2	601	237
Progress Energy, Cape Fear	5	362	143
	6	426	168
Progress Energy, L V Sutton	1	204	80
	2	207	82
	3	946	373
Progress Energy, Lee	1	200	79
	2	197	78
	3	634	250
Progress Energy, Mayo	1A	1241	490
	1B	1205	476
Progress Energy, Roxboro	1	1087	429
	2	2017	796
	3A	1035	409
	3B	1053	416
	4A	1031	407
	4B	958	378
Progress Energy, W H Weatherspoon	1	117	46
	2	116	46

~~FACILITY~~	~~SOURCE~~	~~ALLOCATION FOR 2010 – 2017 (ounces)~~	~~ALLOCATION FOR 2018 AND LATER (ounces)~~
	~~3~~	~~185~~	~~73~~
~~Dwayne Collier Battle Cogeneration Facility~~	~~1A~~	~~119~~	~~47~~
	~~1B~~	~~110~~	~~43~~
	~~2A~~	~~111~~	~~44~~
	~~2B~~	~~113~~	~~45~~
~~Elizabethtown Power~~	~~1~~	~~29~~	~~11~~
	~~2~~	~~27~~	~~11~~
~~Lumberton Power~~	~~1~~	~~32~~	~~13~~
	~~2~~	~~54~~	~~21~~
~~Primary Energy, Roxboro~~	~~1~~	~~100~~	~~40~~
~~Primary Energy, Southport~~	~~1~~	~~123~~	~~48~~
	~~2~~	~~124~~	~~48~~
~~Westmoreland-LG&E Partners Roanoke Valley~~	~~1~~	~~512~~	~~202~~
	~~2~~	~~179~~	~~71~~

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Hg BUDGET SOURCE	Hg BUDGET UNIT	ALLOCATION FOR 2010 – 2017 (ounces)	ALLOCATION FOR 2018 AND LATER (ounces)

Hg BUDGET SOURCE	Hg BUDGET UNIT	ALLOCATION FOR 2010 – 2017 (ounces)	ALLOCATION FOR 2018 AND LATER (ounces)
Duke Energy, Belews Creek	1	3440	1386
	2	3212	1294
Duke Energy, Buck	5	53	21
	6	54	22
	7	59	24
	8	297	120
	9	330	133
Duke Energy, Cliffside	1	61	25
	2	62	25
	3	100	40
	4	86	35
	5	1499	604
Duke Energy, Dan River	1	102	41
	2	113	45
	3	252	102
Duke Energy, G G Allen	1	349	141
	2	324	131
	3	601	242

Hg BUDGET SOURCE	Hg BUDGET UNIT	ALLOCATION FOR 2010 – 2017 (ounces)	ALLOCATION FOR 2018 AND LATER (ounces)
	4	655	264
	5	615	248
Duke Energy, Marshall	1	1037	418
	2	1085	437
	3	1799	725
	4	1835	739
Duke Energy, Riverbend	7	186	75
	8	180	72
	9	325	131
	10	323	130
Progress Energy, Asheville	1	621	250
	2	575	232
Progress Energy, Cape Fear	5	347	140
	6	407	164
Progress Energy, L V Sutton	1	195	78
	2	198	80
	3	905	365
Progress Energy, Lee	1	191	77

Hg BUDGET SOURCE	Hg BUDGET UNIT	ALLOCATION FOR 2010 – 2017 (ounces)	ALLOCATION FOR 2018 AND LATER (ounces)
	2	189	76
	3	607	245
Progress Energy, Mayo	1A	1188	479
	1B	1153	465
Progress Energy, Roxboro	1	1041	419
	2	1930	777
	3A	990	399
	3B	1008	406
	4A	987	397
	4B	917	369
Progress Energy, W H Weatherspoon	1	112	45
	2	111	45
	3	177	71
Dwayne Collier Battle Cogeneration Facility	1A	114	46
	1B	105	42
	2A	106	43
	2B	108	44
Elizabethtown Power	1	28	11

Hg BUDGET SOURCE	Hg BUDGET UNIT	ALLOCATION FOR 2010 – 2017 (ounces)	ALLOCATION FOR 2018 AND LATER (ounces)
	2	26	10
Lumberton Power	1	31	12
	2	52	21
Primary Energy, Roxboro	1	95	38
Primary Energy, Southport	1	117	47
	2	118	47
Westmoreland-LG&E Partners Roanoke Valley	1	490	197
	2	171	69

~~(b) The allocations in the table in Paragraph (a) of this Rule shall be reduced under Rule .2508 of this Section by:~~

~~(1) five percent in 2010 through 2017 and~~

~~(2) three percent in 2018 and thereafter.~~

~~(c)~~(b) Compliance. The emissions of mercury of a ~~unit listed in the table~~Hg budget source ~~in Paragraph (a) of this Rule~~ shall not exceed the number of allowances that it has in its compliance account ~~established under~~according to Rule .2510 of this Section.

~~(d)~~(c) Emission measurement requirements. The emissions measurements recorded and reported according to 40 CFR 60.4170 through 60.4176 shall be used to determine compliance by each source identified in this rule with its emissions limitation according to 40 CFR 60.4106(c).

~~(e)~~(d) Excess emission requirements. The provisions of 40 CFR 60.4106(d) shall be used for excess emissions.

~~(f)~~(e) Liability. The owner or operator of any source covered under this Section shall be subject to the provisions of 40 CFR 60.4106(f).

~~(g)~~(f) Modification and reconstruction, replacement, retirement, or change of ownership. The modification or reconstruction of a source covered under this Rule shall not make that source a "new" source for the purposes of this Section; it could be considered a new source under Rule 15A NCAC 02D .0524, New Source Performance Standards, or 40 CFR Part 60. A source that is modified or reconstructed shall retain

its emission allocation under Paragraph (a) of this Rule. If one or more sources covered under this Rule is replaced, the new source shall receive the allocation of the source, or sources, that it replaces instead of an allocation under Rule .2508 of this Section. If the owner of a source changes, the emission allocations under this Rule and revised emission allocations made under Rule .2509 of this Section shall remain with the source. If a source is retired, the owner or operator of the source shall follow the procedures in 40 CFR 60.4105. The allocations of a retired source shall remain with the owner or operator of the retired source until a reallocation occurs under Rule .2509 of this Section when the allocation shall be removed and given to other sources if the retired source is still retired.

(g) The Director shall comply with the timing requirements for mercury allocations under 40 CFR 60.4141.

Authority G.S. 143-215.3(a); 143-215.65; 143-215.66; 143-215.107(a)(5), (10).

15A NCAC 02D .2504 has been adopted as published in 20:21 NCR 1797 with changes as follows:

15A NCAC 02D .2504 PERMITTING

(a) The owner or operator of any Hg budget source covered under this Section shall submit permits applications to comply with the requirements of this Section following the procedures and requirements in 40 CFR 60.4106(a), 60.4121, and 60.4122 and in Subchapter 15A NCAC 02Q.

(b) The Director shall review applications submitted under Paragraph (a) of this Rule and issue permits for compliance with this Section following the procedures and requirements in 40 CFR 60.4106(a), 60.4120, 60.4123, and 60.4124 and in Subchapter 15A NCAC 02Q.

Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10); 143-215.108.

15A NCAC 02D .2505 has been adopted as published in 20:21 NCR 1797 with changes as follows:

15A NCAC 02D .2505 MONITORING, REPORTING, AND RECORDKEEPING

(a) The owner or operator of a ~~source~~Hg budget unit covered under this Section shall comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR 60.4106(b) and (e) and in 40 CFR 60.4170 through 60.4176.

(b) To approve or disapprove monitors used to show compliance with Rule .2503 of this Section, the Division shall follow the procedures in 40 CFR 60.4171.

Authority G.S. 143-215.3(a); 143-215.65; 143-215.66; 143-215.107(a)(5), (10).

15A NCAC 02D .2506 has been adopted as published in 20:21 NCR 1797 with changes as follows:

15A NCAC 02D .2506 DESIGNATED REPRESENTATIVE

(a) Designated representative. The owner or operator of any Hg budget source covered under this Section shall select a designated representative according to 40 CFR ~~6.411060~~60.4110. The designated representative shall have the responsibilities and duties set out in 40 CFR 60.4110.

(b) Alternate designated representative. The owner or operator of any Hg budget source covered under this Section shall select an alternate designated representative according to 40 CFR 60.4111. The alternate designated representative shall have the responsibilities and duties set out in 40 CFR 60.4111.

(c) Changing designated representative and alternate designated representative. The owner or operator of any Hg budget source covered under this Section may change the designated representative or the alternate designated representative using 40 CFR 60.4112.

(d) Changes in owners and operators. Whenever the owner or operator of a Hg budget source covered under this Section changes, the provisions in 40 CFR 60.4112(c) shall be followed.

(e) Certificate of representation. A complete certificate of representation for a CAMR designated representative or an alternate CAMR designated representative shall meet the requirements of 40 CFR 60.4113.

(f) Objections concerning CAMR designated representative. Objections concerning CAMR designated representative shall be handled according to the procedures in 40 CFR 60.4114.

Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10).

15A NCAC 02D .2507 has been adopted as published in 20:21 NCR 1793-1794 as follows:

15A NCAC 02D .2507 COMPUTATION OF TIME

Time periods shall be determined as described in 40 CFR 60.4107.

Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10).

15A NCAC 02D .2508 has been adopted as published in 20:21 NCR 1797 with changes as follows:

15A NCAC 02D .2508 NEW SOURCE GROWTH

~~(a) The procedures in 40 CFR 60.4142(c) shall be used to create allocations for sources that commenced construction on or after January 1, 2001 and are not listed in the table in Rule .2503 of this Section.~~

(a) The total mercury allowances available for allocation in the new Hg unit set-aside for each control period in 2010 through 2017 shall be 1,813 ounces; the total mercury allowance available for allocations in each control period in 2018 and thereafter shall be 429 ounces. Except for the reference to 40 CFR 60.4142(b), the procedures in 40 CFR 4142(c)(2) through (4) shall be used to create allocations for Hg units covered under this Section that commence operations on or after January 1, 2001 and that are not covered in the table in Rule 2503 of this Section.

(b) The number of allowances allocated to a ~~source~~Hg unit under this Rule shall not exceed the ~~source's~~Hg unit's actual emissions of mercury.

(c) New Hg unit allowances in Paragraph (a) of this Rule that are not allocated in a given year shall be distributed to Hg units covered in the table in Rule 2503 of this Section according to the provisions of 40 CFR 4142(d), except that the divisor used in calculating individual Hg unit allocations shall be:

(1) 1,813 ounces for each control period in 2010 through 2017, and

(2) 429 ounces for each control period in 2018 and thereafter.

Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10).

15A NCAC 02D .2509 has been adopted as published in 20:21 NCR 1797-1798 with changes as follows:

15A NCAC 02D .2509 PERIODIC REVIEW AND REALLOCATIONS

(a) In 2010 and every five years thereafter, the Environmental Management Commission shall review the emission allocations of ~~sources~~ Hg units covered under Rules .2503 of this Section and new ~~sources~~ Hg units covered under this Section that have been permitted but are not named in Rule .2503 of this Section and decide if any revisions are needed. In making this decision the Environmental Management Commission shall consider the following:

(1) the size of the allocation pool for new ~~sources~~ Hg unit growth under Rule .2508 of this Section;

(2) the amount of emissions from ~~sources~~ Hg units receiving allocations under Rule .2508 of this Section;

(3) the amount of emissions allocations available through the trading program under Rule .2510 of this Section;

(4) the impact of reallocation on existing ~~sources~~ Hg units;

(5) the impact of reallocations on ~~sources~~ Hg units receiving allocations under Rule .2508 of this Section;

(6) impact of future growth; and

(7) other relevant information on the impacts of reallocation.

(b) The Division of Air Quality shall report to the Commission in July 2008 ~~2008, July 2011,~~ and July 2012. ~~2013.~~ Each report shall provide the Commission and public updated information on the regulation

of mercury emissions. The 2008 report ~~and 2011 reports~~ shall include the information under Subparagraphs (1) through (12) of this Paragraph, where available. The ~~2013~~ 2012 report shall include all the following information:

(1) actual emissions from ~~sources~~ units covered under this Section since 2010 and all other principal sources of mercury;

(2) estimates of the amounts of the different species of mercury being emitted;

(3) a mercury balance for North Carolina, including imported, exported, and in-state mercury emissions and the fate and transport of mercury in the air and waters of the State;

(4) projected mercury emissions for 2015, 2018, 2023, and 2025;

(5) the amount of new source growth and projected new ~~sources~~ units growth through 2025;

(6) the state of mercury control technology, including technological and economic feasibility;

(7) an assessment of cost and performance of mercury control technology as it may be applied to uncontrolled sources of mercury in North Carolina, including both coal-fired electric steam generating units and other sources that emit mercury and including ~~as~~ an assessment of technology used to satisfy requirements of the Clean Smokestacks Act (G.S. 143-215.107D) and other requirements for controlling nitrogen oxide and sulfur dioxide emissions.

(8) a recommendation of mercury control technology, including the cost and expected reductions in mercury;

(9) results of studies and monitoring on mercury in fish in North Carolina, including an evaluation of the impact of reduced mercury emissions from coal-fired power plants on the levels of mercury observed in fish tissue;

(10) a summary of mercury-related health problems in North Carolina, including accumulation of mercury in humans and mercury exposures from non-air emitting sources; and

(11) results of studies on mercury deposition, applying monitoring techniques, back trajectory analysis, source attribution methodology, and any other relevant methodologies to assess the role of coal-fired units in North Carolina deposition.

(12) recommendations, if any, on rule revisions.

(c) Based on the ~~2013~~ 2012 report, the Commission shall ~~determine~~ review mercury control requirements ~~for the units identified in Paragraphs (a) and (c) of Rule .2511~~ and decide if any ~~other~~ rule changes are needed.

~~(c)~~ (d) Any changes made as a result of the review under Paragraph (a) or report under Paragraph (b) of this Section shall be made through rulemaking.

(e) The Director shall report to the Commission in 2018 and 2023 on the state of mercury control technology, including the mercury removal efficiency of available technology and the cost of installation and operation.

Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10).

15A NCAC 02D .2510 has been adopted as published in 20:21 NCR 1798 with changes as follows:

15A NCAC 02D .2510 TRADING PROGRAM AND BANKING

(a) EPA to administer. The United States Environmental Protection Agency (EPA) shall administer the allowance tracking system according to the procedures in 40 CFR 60.4151 through 60.4162.

(b) Compliance account. The ~~owner~~owners or ~~operator~~operators of each Hg budget source covered under this Section shall have a compliance account in the EPA administered tracking system that satisfies the requirements of 40 CFR 60.4151(a).

(c) General account. Any person may apply to open a general account to hold and transfer allowances by using the procedures and meeting the requirements in 40 CFR 60.4151(b) and may close that account using the procedures in 40 CFR 60.4157.

(d) Allowance transfers. Any person who has a compliance or general account established under 40 CFR 60.4151 may transfer allowances using the procedures in 40 CFR 60.4160.

(e) Submittal of information. Persons with accounts shall submit information to EPA following the requirement of 40 CFR 60.4152.

(f) Banking. Any person who has a compliance account or a general account may bank allowances for future use or transfer under 40 CFR 60.4155.

(g) Appeal Procedures. The appeal procedures for decisions of the Administrator are set forth in 40 CFR 60.4108

Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10).

15A NCAC 02D .2511 has been adopted as published in 20:21 NCR 1798-1799 with changes as follows:

15A NCAC 02D .2511 MERCURY EMISSION LIMITS

~~(a) Duke Energy. With the exception allowed under Paragraph (b) of this Rule, the owner or operator of the facilities listed in this Paragraph shall shut down or install and operate mercury control technology in compliance with mercury control requirements determined by the Commission under Rule .2509 of this Section on eight of the units listed in this Paragraph by December 31, 2017. Duke Energy shall not operate any unit listed in this Paragraph after December 31, 2022 unless mercury control technology has been installed on each unit and is operating as permitted. The owner or operator shall determine the eight units on which to install and operate mercury control technology by December 31, 2017.~~

~~(1) Duke Energy, Buck units 5, 6, 7, 8, and 9;~~

~~(2) Duke Energy, Cliffside units 1, 2, 3, and 4;~~

~~(3) Duke Energy, Dan River units 1, 2, and 3;~~

~~(4) Duke Energy, Riverbend units 7, 8, 9, and 10.~~

~~(b) Duke Energy alternative. Duke Energy may propose mercury reductions from one or more of the Belews Creek, GG Allen and Marshall units in lieu of the installation of mercury control technology on a unit regulated under Paragraph (a) of this Rule (a "regulated unit"). The Director shall approve the alternative mercury reductions upon finding that they will result in at least 110 percent of the reductions in mercury emissions that would be achieved through control of the regulated unit in compliance with the mercury control requirements adopted by the Commission.~~

~~(c) Progress Energy. With the exception allowed under Paragraph (d) of this Rule, the owner or operator of the facilities listed in this Paragraph shall shut down or install and operate mercury control technology in compliance with mercury control requirements determined by the Commission under Rule .2509 of this Section on four of the units listed in this Paragraph by December 31, 2017. Progress Energy shall not operate any unit listed in this Paragraph after December 31, 2022 unless mercury control technology has been installed on each unit and is operating as permitted. The owner or operator shall determine the four units on which to install and operate mercury control technology by December 31, 2017.~~

~~(1) Progress Energy, L. V. Sutton units 1 and 2;~~

~~(2) Progress Energy, Lee units 1, 2, and 3;~~

~~(3) Progress Energy, W. H. Weatherspoon units 1, 2, and 3.~~

~~(d) Progress Energy alternative. Progress Energy may propose mercury reductions from one or more of the Asheville, Cape Fear, Mayo, and Roxboro units in lieu of the installation of mercury control technology on a unit regulated under Paragraph (c) of this Rule (a "regulated unit"). The Director shall approve the alternative mercury reductions upon finding that it will result in at least 110 percent of the reductions in mercury emissions that would be achieved through control of the regulated unit in compliance with the mercury control requirements adopted by the Commission.~~

(a) Initial reductions. Initial reductions in mercury emissions shall be achieved as a co-benefit of installing controls for nitrogen oxide (NOx) and sulfur dioxide (SO2) emissions pursuant to G.S. 143-215.107D. No later than January 1, 2013, Duke Energy and Progress Energy shall install controls for nitrogen oxide (NOx) and sulfur dioxide (SO2) emissions under their respective plans for compliance with G.S. 143-215.107D. Duke Energy and Progress Energy shall each monitor mercury emissions at no fewer than four boilers identified for control pursuant to G.S. 143-215.107D consistent with the requirements of Paragraphs (e) and (f) of this Rule to document the reductions in mercury emissions realized as a result of installing controls for nitrogen oxide and sulfur dioxide emissions.

(b) Mercury control plans. Duke Energy and Progress Energy shall each submit a mercury control plan to the Director by January 1, 2013. The plan shall identify the technology proposed for use at each unit owned or operated by the utility; the schedule for installation and operation of mercury controls at each unit; and shall identify any units that will be shut down. For purposes of this Rule, controls for nitrogen oxide and sulfur dioxide installed in compliance with G.S. 143-215.107D are considered to be mercury

controls. The plan shall provide for installation of mercury controls on the units to be controlled at the earliest date that is technically and economically feasible. Any unit that does not have mercury controls shall be shut down by December 31, 2017 unless the Commission has approved additional mercury reductions at a facility regulated under G.S. 143-215.107D in lieu of installing controls at the unit under the criteria set out in paragraph (c) of this Rule.

(c) Review and approval of plans. The Director shall review the mercury control plans submitted pursuant to Paragraph (b) of this Rule and shall recommend that the Commission approve the plans, disapprove the plans or conditionally approve the plans. The Commission shall approve a mercury control plan if it finds that the plan achieves the maximum level of reductions in mercury emissions that is technically and economically feasible without reliance on mercury allowances obtained through the allowance trading system under Rule .2510. Reductions in mercury are technically feasible if control technology exists that can reduce mercury emissions beyond the level achieved by an electrostatic precipitator for that particular unit. Economic feasibility is determined by considering environmental and health impacts; capital cost of compliance; risk of closure; annual incremental compliance cost; and impacts on local, regional and state economy. The Commission may approve additional reductions at a facility regulated under G.S. 143-215.107D in lieu of installing mercury controls at a unit that has no mercury controls if the Commission finds that:

(1) installation of controls at the unit is not economically and technically feasible; and

(2) continued operation of the unit without mercury controls will not cause or contribute to mercury-related health problems.

(e) Source testing. Duke Energy and Progress Energy shall each test several of its boilers in North Carolina, but no less than four boilers in North Carolina each, for mercury emissions that represent boiler types and control device configurations in North Carolina. The tests shall be conducted before installation of sulfur dioxide control devices and after the installation of sulfur dioxide control devices. All testing shall occur between the effective date of this Rule and January 1, 2009. Either continuous emission monitors that comply with Rule .2505 of this Section or Method 101 or 102 pf 40 CFR Part 61 Appendix B shall be used to measure mercury emissions. Each company shall submit a testing plan within nine months from the effective date of this Rule to the Director for his approval. The plan shall include:

(1) the identity of the boilers to be tested and an explanation of why they were selected.

(2) a schedule for testing the boilers, and

(3) a testing protocol including testing procedures.

(f) Approval of testing. The Director shall approve the testing plan submitted under Paragraph (e) of this Rule if he finds that:

(1) the elements required under Paragraph (e) of this Rule have been submitted,

(2) the boilers selected represent the boiler types and control device configurations that the company has in North Carolina, and

(3) the testing protocol and procedures are appropriate for the testing to be done.

(g) New sources.

~~**Option 1:**~~

~~Any coal-fired electric steam generating unit to which this Section applies and which begins operation after January 30, 2004 shall reduce its emissions of total mercury to no more than 0.021 pounds per gigawatt hour on an output basis.~~

~~**Option 2:**~~

~~Any coal-fired electric steam generating unit to which this Section applies and which begins construction after the effective date of this Rule shall:~~

~~(1) reduce its emissions of total mercury by 90 percent by weight across the control device as calculated under Paragraph (b) of this Rule or to no more than 0.0060 pounds per gigawatt hour averaged over a 12 month rolling average, and~~

~~(2) have enough allowances in its compliance account established under Rule .2510 of this Section to offset its actual emissions of mercury.~~

~~**Option 3:**~~

Any coal-fired electric steam generating unit to which this Rule applies and which begins construction after the effective date of this Rule shall install and operate best available control technology for mercury. For purposes of this Rule, "best available control technology" means an emissions limitation based on the maximum degree of reduction of mercury from coal-fired electric steam generating units that is achievable for such units taking into account energy, environmental, and economic impacts and other costs. The Director shall identify best available mercury control technology on a case by case basis. In no event shall application of best available control technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under 40 CFR parts 60, 61, or 63.

Authority G.S. 143-215.3(a); 143-215.107(a)(5); 143-215.107D

Solid Waste Section Moratorium Study

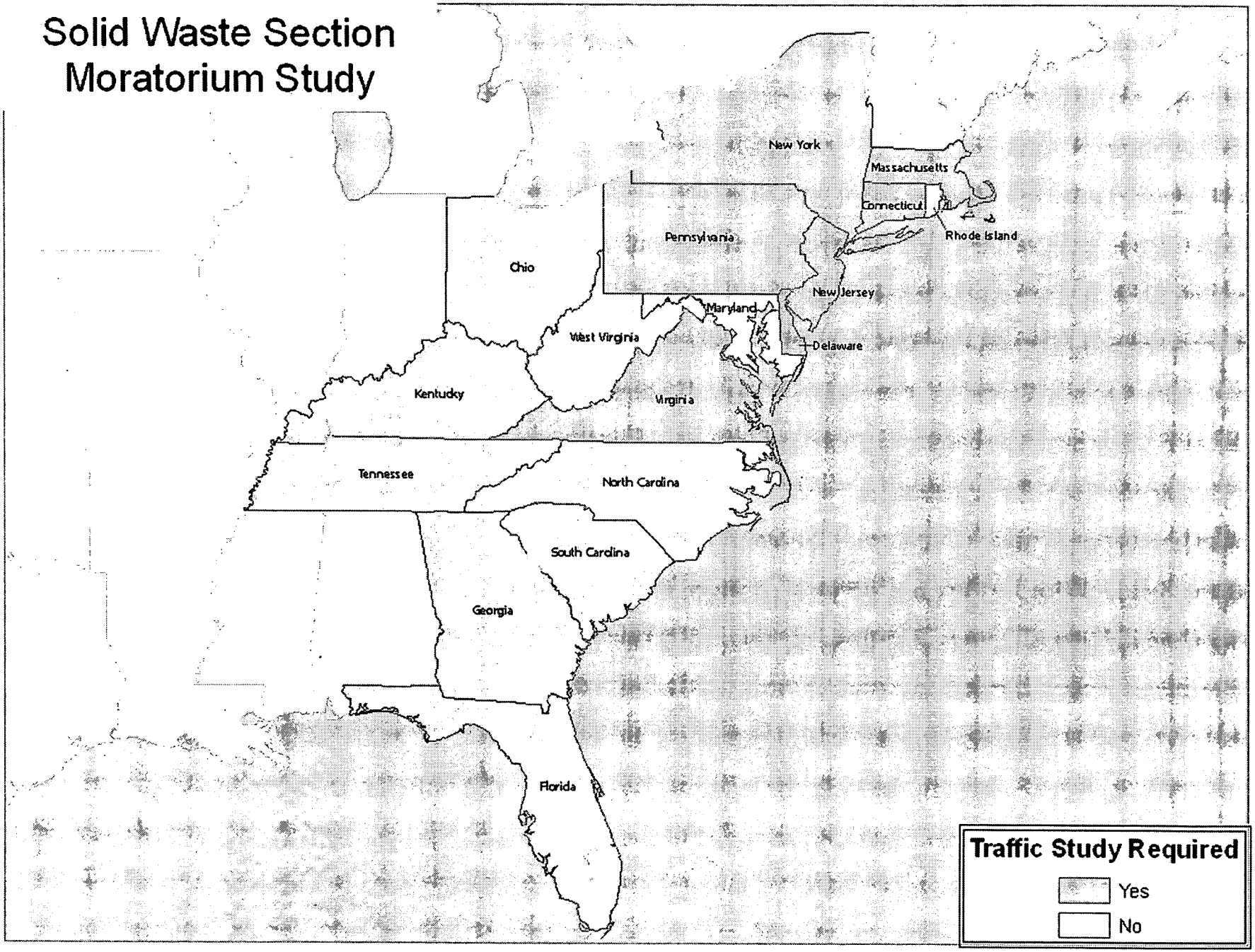


EXHIBIT H

Solid Waste Section Moratorium Study

Application & Permit Fees

What types of fees or charges are assessed permit holders?

What are the fees based on?

What programs do the fees support?

Who assesses the fees?

How are the fees assessed?

What are the penalties for nonpayment?

Buffer: Horizontal

What is the minimum distance from the edge of waste to:

-Property boundaries?

-Residences?

-Wells?

-Streams?

Buffer: Vertical

What is the vertical separation requirements from the average seasonal high water table to the post settlement bottom elevation of the base liner system or bottom of waste?

How do your rules address the separation distance between groundwater and the bottom of waste?

May a landfill facility be built below the high-groundwater table in your state?

Cover Requirements

How do your rules handle Alternative Daily Cover (ADC)?

Do you have a list of pre-approved ADC materials?

How do your rules handle storm-water runoff from Daily Cover? Intermediate Cover?

What is your agency's approach to requests for ADC, particularly Auto Shredder Residue?

Solid Waste Section Moratorium Study

Critical & Sensitive Areas

Do your rules define 'Critical' or 'Sensitive' areas?

What may be considered 'Critical' or 'Sensitive' under your rules?

Do your requirements vary based on their proximity to 'Critical' or 'Sensitive' areas?

Do you have special rules addressing 'Critical' or 'Sensitive' areas?

Facility Size

Do you classify facilities by size?

Does your state have specific requirements for large facilities?

Do your rules define what is a 'large' facility?

Does size affect siting, design, compliance, enforcement, closure, post-closure, groundwater monitoring, financial assurance or some other related aspect?

Do you have documented problems from 'large' landfills that are not present at smaller landfills? How are such problems addressed?

Are facilities regulated or limited by:

-Tons per day?

-Years?

-Volume?

-Geometry?

-Other parameters?

Groundwater Sampling

What is the minimum number of groundwater monitoring wells?

What is the groundwater sampling frequency?

What parameters are required for sampling?

Solid Waste Section Moratorium Study

Leachate Controls

Do your rules allow leachate recirculation?

Do your rules allow 'Bioreactor' or 'Biostabilization' type activities?

Do your rules allow recirculation over Alternative Liner Systems?

If your rules require periodic maintenance of the Leachate Collection System, then:

-How often does maintenance occur?

-Does maintenance include TV inspection of the lines?

LFG Controls

Does your state regulate differently from or in addition to federal rules for the emission of landfill gas?

Does your state have special requirements for the management, financial assurance or use of LFG?

Liner Design & Construction

What type of liner system is required?

Does facility size affect liner design requirements?

Does proximity to 'Critical' or 'Sensitive' areas affect liner design requirements?

What interior and exterior slopes are allowed?

Do your rules require leak testing after installation of the protective/leachate collection layers?

Do your rules require construction certification by a third-party?

What are the primary differences in liner requirements for MSW, C&D, and Industrial landfills?

Do your rules restrict facility height or size?

What are your state design slope requirements?

Solid Waste Section Moratorium Study

LLC	Do you have special rules for handling LLCs?
	Do you require landfill applicants to demonstrate financial qualifications for operating and maintaining a facility?
	How do LLCs demonstrate financial qualifications for operating and maintaining a facility?
	Do your financial assurance rules address LLCs?
Local Government Approval	What types of local government approvals are needed during the permitting process?
	What role do state agencies take during the local government approval process?
	Do state-issued landfill permits typically include operating or maintenance restraints that may be imposed by local governments?
Other Requirements	Are On-site inspectors required at landfill facilities in your state rules?
Traffic Study	Is a traffic study required?
	Who is responsible for submittal?
	Who reviews and approves the study?
	Who is responsible for funding any necessary improvements?
	What are the study parameters?

Solid Waste Section Moratorium Study

Waste Acceptance

Do your rules prohibit the disposal of certain items or materials?

Does your state have mandatory recycling for any items or materials?

Are CESQG materials allowed for disposal? How are such materials handled at transfer stations?

How does your state regulate the disposal of prohibited wastes transported by truck, barge or rail from out-of-state?

How does your state assure that out-of-state waste complies with your state rules?

EXHIBIT I

United States
Environmental Protection
Agency

Region 5
Illinois, Indiana, Michigan,
Minnesota, Ohio,
Wisconsin

EPA905-B-97-001
March 1998

EPA Illegal Dumping Prevention Guidebook



Recycling and Waste Disposal

PA CleanWays, a grassroots organization dedicated to the cleanup and prevention of illegal dumping throughout the Commonwealth, recently completed a project through the Pennsylvania Department of Conservation and Natural Resources to cleanup and explore ways to prevent illegal dumping in State Forests and State Parks. The project was funded through a grant authorized by the Forest Lands Beautification Act.

The Professional Recyclers of Pennsylvania (PROP) partnered with CleanWays and the Pennsylvania Environmental Council (PEC) to explore ways that illegal dumping might be prevented. PROP's primary role was to research what demographic factors played a role in illegal dumping and how programs and collection systems impacted the incidence of dumping. This excerpt from the project report focuses on the research undertaken by PROP and attempts to draw some conclusions from the large amount of data collected during the survey process.

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EXHIBIT J

Illegal Dumping Prevention Guidebook

EPA 905-B-97-001

March 1998



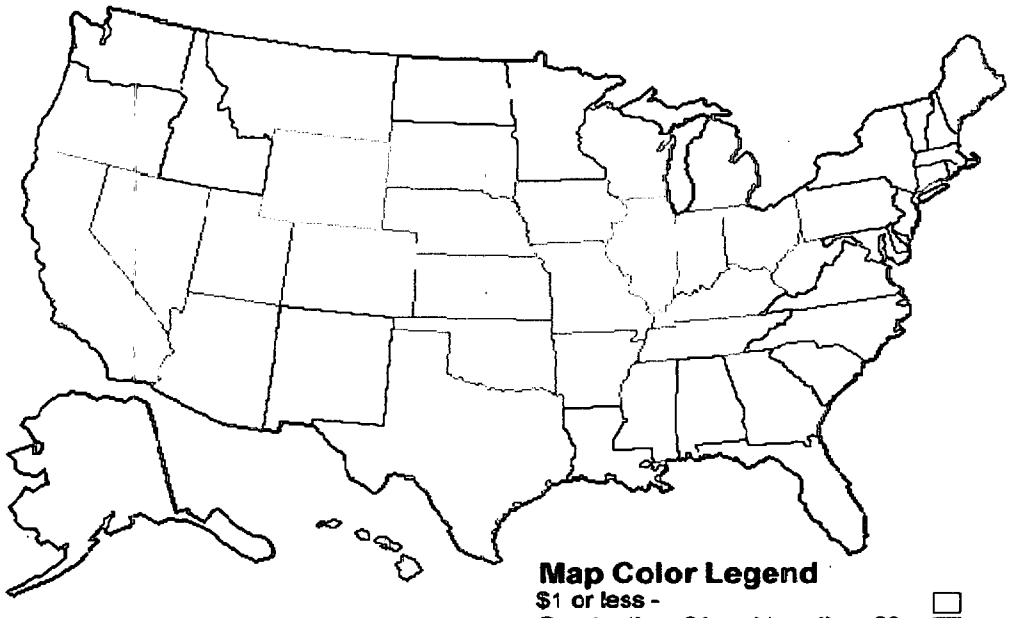
U.S. EPA Region 5
Waste, Pesticides and Toxics Division
77 West Jackson Boulevard (DW-8J)
Chicago, Illinois 60604-3590

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States with Tip Fee Surcharges



Environmental and Economic Benefits of Kentucky's 2002 and 2006 Solid Waste Legislation

Presentation to North Carolina Environmental Review Commission

November 15, 2006

Kentucky Environmental & Public Protection Cabinet

Division of Waste Management

Recycling and Local Assistance Branch

Sara D. Evans, Manager

To Protect and Enhance Kentucky's Environment

Kentucky UNBRIDLED SPIRIT

Overview

- Solid waste challenges prior to 2002 legislation
  - Illegal Dumps
  - Litter
  - Waste Disposal
  - Abandoned/Orphan Landfills
  - Declining Recycling Rates
- HB 174
- Improvements realized since passage of legislation
- Summary

Kentucky UNBRIDLED SPIRIT

Illegal Dumps

- Kentucky had a legacy of thousands of illegal dumps across the state (over 4,000 reported annually during 1990's)
- In the late 90's, in the interest of improving the environment, tourism and economic development, Governor Patton, EPPC Secretary Bickford and Congressman Hal Rogers made Cleaning up Kentucky the state's top priority.
- Cabinet stepped up enforcement, including hidden cameras at dumpsites.
- Counties were responsible for cleanups, and joined forces in the cleanup campaign, but complained of unfunded mandate.

Kentucky UNBRIDLED SPIRIT

Litter

- With few requirements for cleanup and prevention, roadways were not routinely cleaned and state government received many citizen complaints.
- Law enforcement officials had limited time and staff to enforce litter laws.
- Most cleanups on rural roads and many state roads were conducted by volunteer groups.
- Transportation Cabinet conducted some cleanup of state roads, in some cases only once per year.



Division of Waste Management
4

Kentucky

Waste Disposal



- Kentucky hosts 26 contained landfills, 16 privately owned and 10 municipally owned.
- Prior to state review, Kentucky law requires local government approval for any landfill expansion or new construction.
- Kentucky has 20+ years of landfill capacity.
- Waste disposal increased 20% overall through the 1990's, with out of state waste imports almost quadrupling from 1991-2001.
- At an average of $26.00/ton in 2001, Kentucky's tipping fees were about $6.00 per ton cheaper than the average of the six surrounding states. All states but Virginia imposed an environmental remediation fee as part of the tipping fee.



Division of Waste Management
5

Kentucky

Orphan/Abandoned Landfills

- "Orphan landfills" distinguished from "illegal dumps" as a disposal site once considered the "de-facto" community waste site or a previously permitted but currently unused site.
- Approximately 670 orphan landfills statewide, with costs of characterization, remediation and closure varying from $500,000 to $9 million+ per landfill.
- Prior to 2002 legislation, county governments were responsible for closure and remediation, but most lacked funding and technical expertise.
- Closures occurred sporadically, approximately 1 every 5 years, with only a handful certified closed by 2001.



Division of Waste Management
6

Kentucky

Recycling

- In 2004, Kentuckians threw away $63 million in recycling value for paper, plastic and aluminum.
- We recycled 22% of our paper, plastic, aluminum, steel and glass in 2004, an improvement over 13% in 2001.
- Only 27% of Kentucky households have access to curbside recycling.
- Kentucky is home to twelve (12) major manufacturers of products made from recycled materials. Manufacturers buy recyclables worldwide, and expressed need for more Kentucky recyclables.
- These manufacturers contribute to Kentucky's economy an annual payroll of over $202 million, added a value of $612 million and contributed to gross sales of $1.34 billion in 2005. For every $1.00 of raw recycled materials processed in Kentucky, an additional value of $0.44 is added.

HB 174

- Proposed by Governor Patton and co-sponsored by majority leaders in House (D) and Senate (R), the 2002 General Assembly passed HB 174 with virtually unanimous support.
- HB 174 was supported by counties, cities, private landfill companies, Kentucky Farm Bureau, Associated Industries of Kentucky numerous associations and environmental organizations, including the Kentucky Environmental Quality Commission.

HB 174

- Assesses a $1.75/ton environmental remediation fee on waste disposed, generating about $11 million annually.
- About $6 million is provided to counties for illegal dump cleanups and $5 million for abandoned landfills.
- Authorized a one-time $25 million bond sale for orphan landfill program.
- Provides for state government assumption of orphan landfill program.
- Annual $5 million transfer from Transportation Road Fund to counties and cities for litter abatement programs.
- Cabinet retains $750,000 annually for implementation.

Improvements Since Passage of HB 174

Illegal Dumps:

- Illegal dumping declined 70% between 2001-2004.
- 2001- 1,807 dumps cleaned at a cost of $6.6 million, with 1,898 illegal dumps remaining to be cleaned.
- 2004 - 934 dumps cleaned at a cost of $3.3 million, with 621 illegal dumps remaining to be cleaned.

Improvements Since Passage of HB 174

Litter:

- Almost 10 times more litter was picked up in 2004 than in 2001, and the costs for cleanup dropped significantly:
- 2001 - 77,501 bags cleaned at a cost of $4.2 million **($54.19 per bag).**
- 2004 - 700,438 bags of litter cleaned from 114,837 miles of roadways at a cost of $8.9 million **($12.70 per bag).**

Improvements Since Passage of HB 174

Disposal:

- Average tipping fee was $28.67 in 2004, still $4 below the average of the surrounding states.
- Disposal continues to rise, but at a slower rate of 8% between 2001-2004. Out-of-state state waste imports have remained steady, and have not increased since 2001.
- 2004 garbage collection costs average of $12.12 per household per month, as compared with 2001 average of $11.67.

Improvements Since Passage of HB 174

Orphan Landfills:

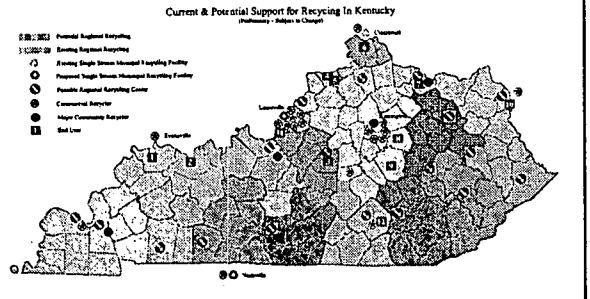
- Cabinet developed prioritization scheme based on risks to human health, safety, and the environment including: exposed waste, leachate outbreaks, surface and groundwater contamination and potential for human use.
- Identified 55 high priority landfills, with 8 selected for immediate action and currently under contract for remediation and closure.

Improvements Since Passage of HB 174

Recycling:

- With success of illegal dump cleanup program, the 2006 General Assembly unanimously passed legislation to allow remaining illegal dump funds to be used for recycling grants to local governments (SB 50).
- Approximately $3 million will be available annually for recycling grants, beginning in 2007.
- Manufacturers, private recyclers, counties, cities, state and environmental groups convene quarterly meetings as Kentucky Recycling Interest Group (KRIG) and agree that funding for **recycling infrastructure** should be first priority for grants.

Recycling Infrastructure Projections



Recycling Infrastructure Projections

MAJOR COMMUNITY RECYCLING OPERATIONS

1. Regional Recycling Corp. (Corrections Industries) – Eddyville
2. Fort Knox Recycle Center – Fort Knox
3. Lexington Urban County Government/Bluegrass Regional Recycling – Lexington
4. Mason County Recycling Center - Maysville

END USERS

1. Weyerhaeuser – Henderson
2. Kimberly Clark – Owensboro
3. All Weather Insulation – Springfield
4. North American Stainless – Ghent
5. Gallatin Steel – Ghent
6. Signode – Florence
7. Temple – Inland – Maysville
8. Infiltrator Systems (Champion Polymers) – Winchester
9. Novells – Berea
10. AK Steel – Ashland
11. Arco Aluminum - Louisville
12. Play Mart - Somerset

Kentucky

Summary

- Kentucky has made significant headway in cleanups since passage of HB 174, with minimal cost to households($0.45 per month per household increase in garbage collection rates from 2001-2004).
- Waste disposal continues to rise, although more slowly, and importation of out-of-state waste has not increased.
- Making progress with orphan landfill closure, but will be ongoing program for many years at current funding level.
- Community recycling rates improving, and new infrastructure grants expected to significantly improve state's reaching goal of 35%+ by 2010.
- KRIG proving to be excellent forum for advancing and advising cabinet on recycling, reuse and beneficial reuse.
- Investing in recycling returns environmental and economic benefits in energy savings and hundreds of millions to state's economy.

Kentucky

Kentucky Government Recycles!



www.recycle.ky.gov

Kentucky

Memorandum

To: N.C. Environmental Review Commission
From: Richard Whisnant, School of Government-UNC-CH
Re: Legal limits and policy possibilities for NC solid waste disposal facilities
Date: November 15, 2006

The big legal limit: Do not discriminate between in-state and out-of-state waste

A court may find your bill illegally discriminates:

- facially (e.g., "An act to increase regulation of imported waste")
- by its intent (e.g., sponsor says "this bill keeps out that stinking ___waste"). Cf. Virginia.
- by its impact. Less certain analysis. But see *United Haulers* case, to be argued in the U.S. Supreme Court early in 2007 (case from NY upholds county flow control on theory that local benefits outweigh any possible effect on interstate commerce).

Corollary: focus on state and local benefits of any proposed new regulation.

- The costs of tighter disposal regulations will affect persons (citizens, owners/operators including local governments) both inside and outside NC. Do you want disposal prices as cheap as possible ($30/ton avg in Southeast), or do you believe these prices do not fully cover state and local interests in disposal and want them pushed more in line with Mid-Atlantic ($46/ton) or Northeast ($70/ton) prices?

Local interests in this problem	State and regional interests around a facility
• Revenue for the jurisdiction. = waste maximization?	• Revenue for oversight. Waste minimization. Use of state funds. Land bans.
• Public health and environment	• Same, but broader geographic concerns
• Transportation problems	• Same, broader geography
• Reasonable disposal costs	• Same
• Long-term status of site	• Same, requires accountability
• Short-term siting, land use issues	•

Policy possibilities

1. Secondary, state review of franchises with broad geographic effects (e.g. service area outside surrounding counties?). State review to focus on how state and regional interests are met by preliminary franchise. Criteria would be important, hard, but do-able.
2. Statewide tip fee, perhaps as high as Pennsylvania's ($7.25) or higher; split and/or adjust revenue to address above interests. E.g. set baseline $6 fee that ramps up to $8 or higher for waste disposed above county's waste minimization goals. Return revenue to county for recycling and general government use.
3. Long-term accountability. Make all controlling parties for landfill owner/operators (whether LLCs, corporations or whatever) responsible for problems that occur. Consider requiring franchisors to be on the permit.
4. Full environmental and public health review of permits. Transport safety studies, alternatives to landfilling, alternative landfill design—could expand current state permit review beyond narrow engineering parameters. Or repeal SEPA exemption.

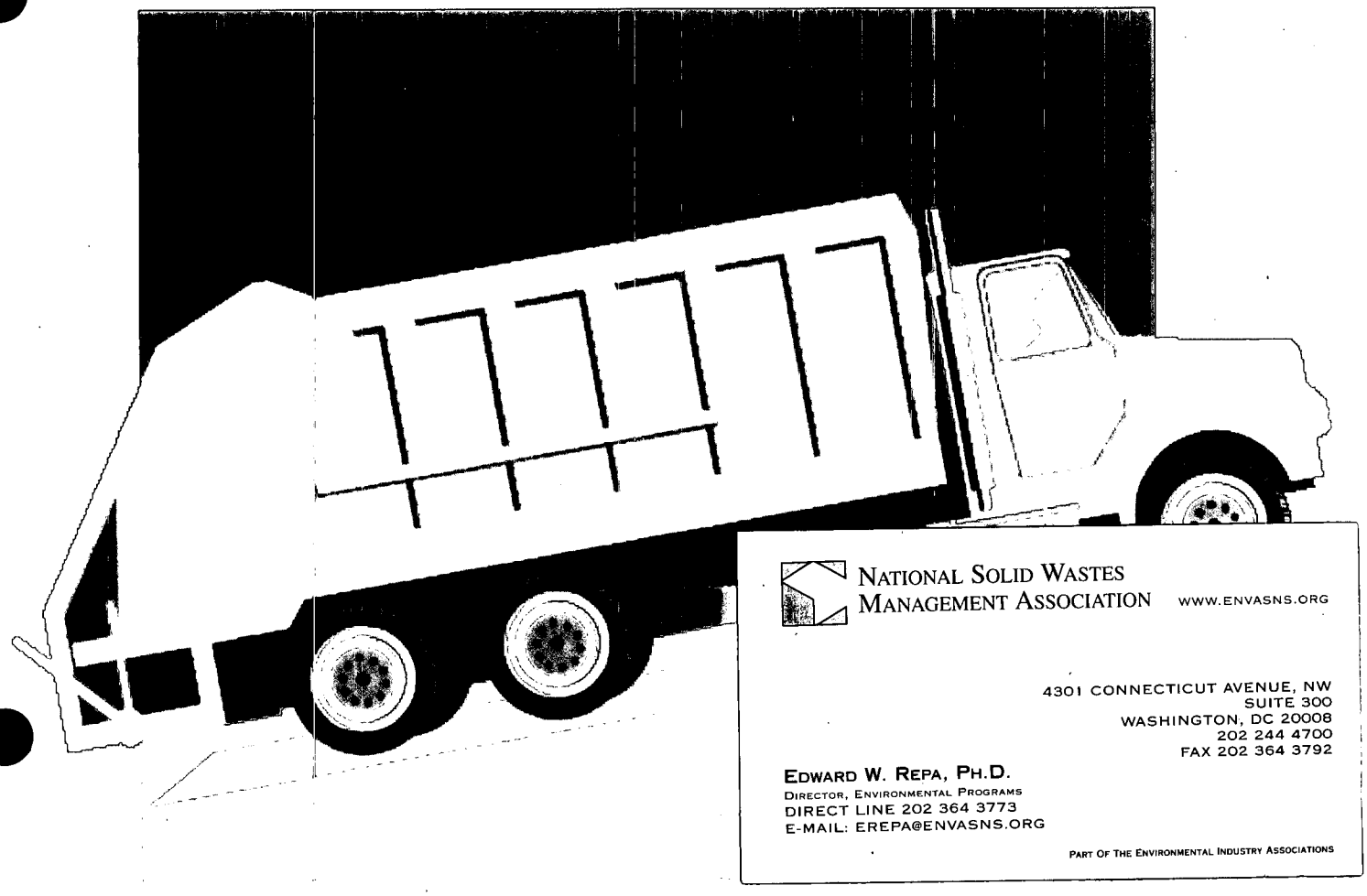
EXHIBIT N

Interstate Movement of Municipal Solid Waste

By Edward W. Repa. Ph.D.

Since the late 1980s, states have been concerned about the amount of solid waste they received from out-of-state sources for disposal. Some states attempted to pass legislation that would regulate these interstate waste receipts. However, federal courts have declared that any restrictions were unconstitutional. At the same time, Congress has considered, but not passed, numerous bills that would have provided states with the authority to control interstate waste shipments.

Because of the continuing congressional interest in interstate waste shipments, Congress in 1990 requested that the Congressional Research Service (CRS) determine the amount of municipal solid waste (MSW) moving interstate. CRS has updated its interstate report 8 times, most recently on September 9, 2004. This report summarizes the information collected by CRS on the movement of MSW interstate and provides data from select states that reported more data on interstate MSW flows than reported in the CRS report.



NATIONAL SOLID WASTES MANAGEMENT ASSOCIATION WWW.ENVASNS.ORG

4301 CONNECTICUT AVENUE, NW
SUITE 300
WASHINGTON, DC 20008
202 244 4700
FAX 202 364 3792

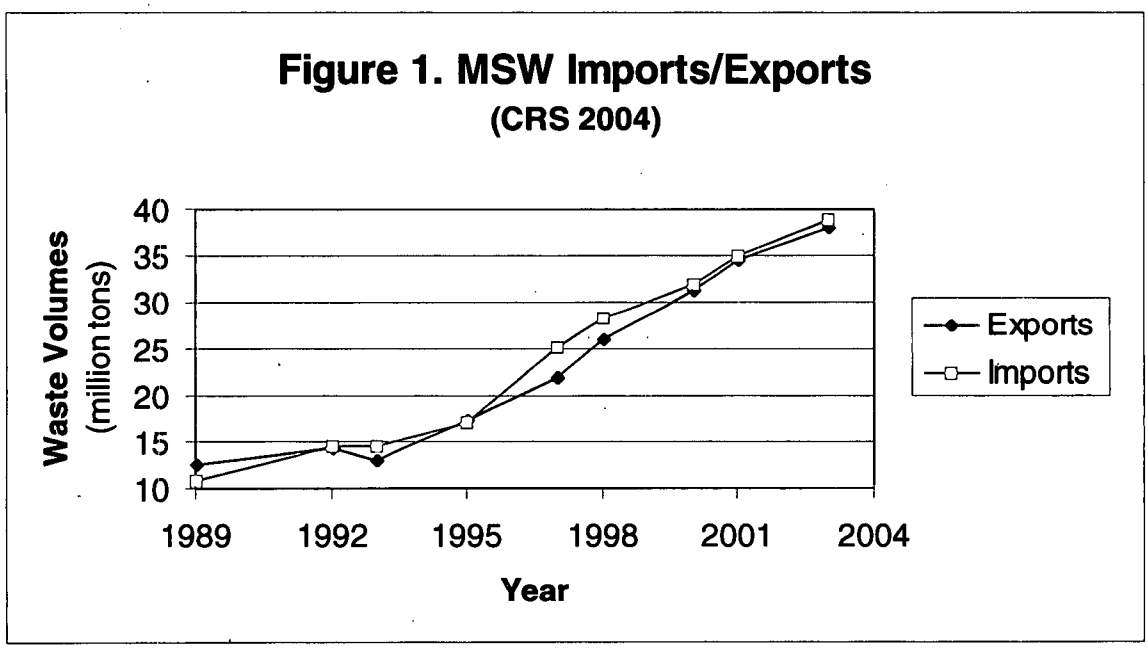
EDWARD W. REPA, PH.D.
DIRECTOR, ENVIRONMENTAL PROGRAMS
DIRECT LINE 202 364 3773
E-MAIL: EREPA@ENVASNS.ORG

PART OF THE ENVIRONMENTAL INDUSTRY ASSOCIATIONS

NATIONAL TRENDS

Figure 1 (below) shows the growth in MSW exports and imports based on the CRS data. The import and export data follow similar trends; however, the data are not equal because of the way states collect data. According to the first CRS report, about 12.6 million tons of MSW were exported in 1989 and 10.8 million tons were imported. The amount of MSW exported and imported by states has more than tripled over the last 14 years. Exports between 1989 and 2003 rose by 25.5 million tons, a 200 percent increase, and imports rose by 28.2 million tons, a 260 percent increase.

Table 1 (page 3) provides MSW exports and imports by state and the percent of a state's MSW exports or imports based on the state's generation rate (i.e., imports or exports divided by generation). On average, less than 10 percent of the MSW generated in the United States was either exported or imported to another state for disposal in 2003.



STATE TRENDS

Figure 2 (page 4) and Table 2 (page 5) show the extensive and intricate web of interstate MSW movements in 2003 between states and internationally. The CRS data identified 207 waste interactions, where an interaction is the movement of MSW between two states or countries as an import or export. This represents 2 more interactions than in 2001 and 72 more interactions than in 2000.

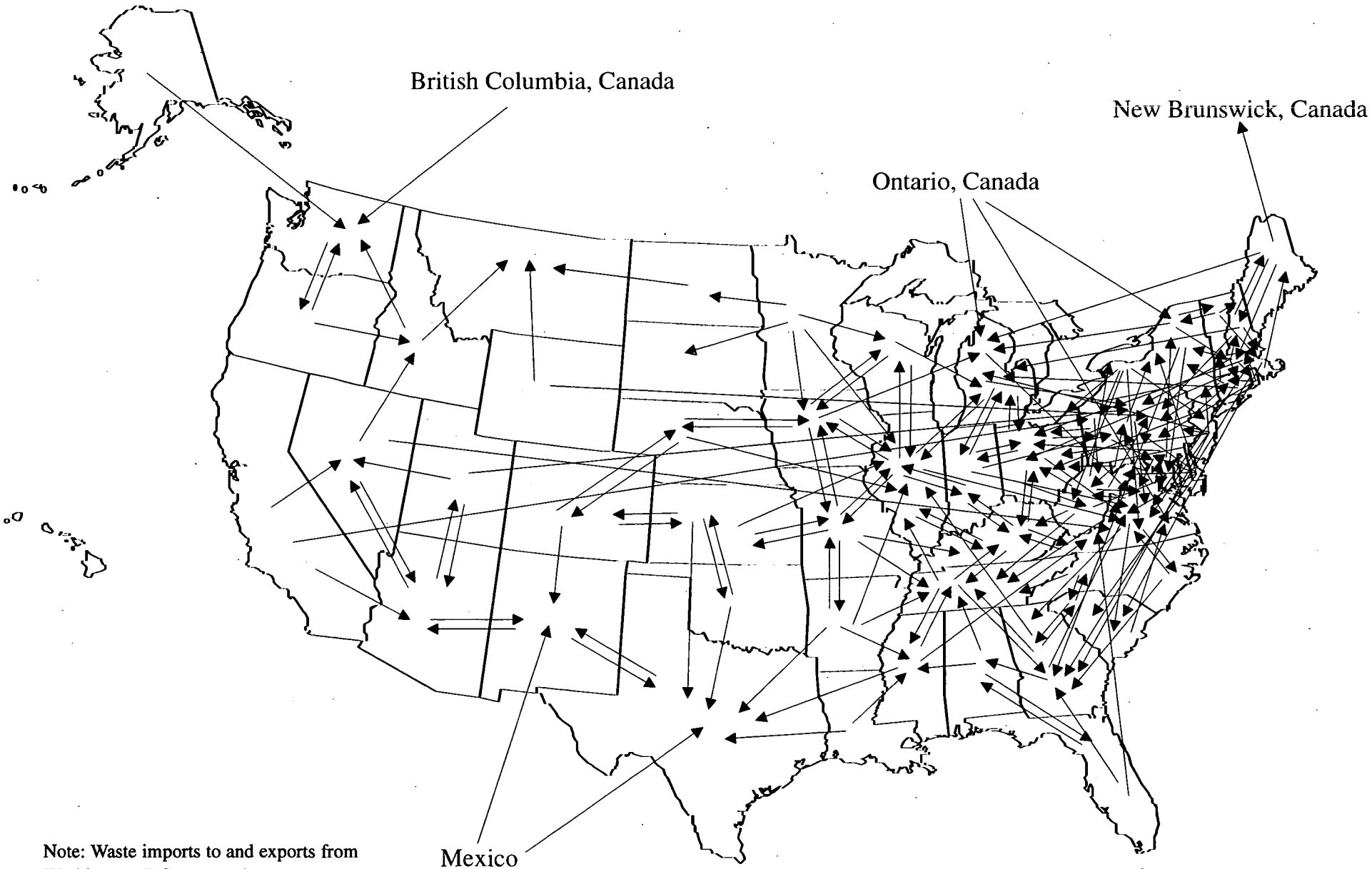
Of the 207 waste interactions, 139 (67%) were between neighboring states. Furthermore, 112 (54%) of the 207 interactions were paired interactions, where MSW moved as both an import and export between the same two states. Similar trends were reported in previous CRS studies on interstate waste movements.

Table 1. Municipal Solid Waste Imports and Exports by State

State	MSW Generated[1] (10^6 tons/yr)	MSW Imports[2] (10^6 tons)	Percent Imports of Generation	MSW Exports[2] (10^6 tons)	Percent Exports of Generation	Net[4] (Imports-Exports)
AL	4.81	0.415	8.6	0.095	2.0	0.321
AK	0.75	0.000	0.0	0.025	3.3	-0.025
AZ	5.7	0.380	6.7	>0.001	>0.1	0.372
AR	3.6	0.015	0.4	0.114	3.2	0.099
CA	72	0.044	>0.1	0.798	1.1	-0.754
CO	7.7	>0.001	>0.1	>0.001	>0.1	0.000
CT	3.2	0.052	1.6	0.634	19.8	-0.583
DE	0.851	0.000	0.0	0.122	14.3	-0.122
DC	0.63	>0.001	0.2	1.176	186.7	-1.176
FL	25.8	>0.001	>0.1	0.677	2.6	-0.677
GA	10.7	1.445	13.5	0.600	5.6	0.845
HI	1.5	0.000	0.0	0.000	0.0	0.000
ID	1.1*	0.019	1.7	0.044	4.0	-0.025
IL	16	1.881	11.8	2.097	13.1	-0.217
IN	6.8	0.918	13.5	0.945	13.9	-0.028
IA	2.6	0.276	10.6	0.272	10.5	0.004
KS	2.8	0.698	24.9	0.371	13.3	0.327
KY	4	0.599	15.0	0.329	8.2	0.270
LA	3.9	0.000	0.0	0.249	6.4	-0.249
ME	1.8	0.220	12.2	0.050	2.8	0.170
MD	4.5	0.203	4.5	1.941	43.1	-1.739
MA	8	0.180	2.3	1.239	15.5	-1.060
MI	15.3	4.503	29.4	0.223	1.5	4.280
MN	5.8	0.000	0.0	0.611	10.5	-0.611
MS	2.9	0.580	20.0	0.113	3.9	0.467
MO	6.3	0.207	3.3	2.335	37.1	-2.128
MT	1.8	0.031	1.7	0.000	0.0	0.031
NE	2	0.094	4.7	0.011	0.6	0.083
NV	2.8	0.422	15.1	0.003	0.1	0.419
NH	1.3	0.402	30.9	0.065	5.0	0.337
NJ	9.3	1.671	18.0	5.803	62.4	-4.132
NM	3.3	0.537	16.3	>0.001	>0.1	0.537
NY	36.3	0.311	0.9	8.248	22.7	-7.936
NC	12	0.133	1.1	0.971	8.1	-0.838
ND	0.54	0.101	18.7	0.010	1.9	0.091
OH	13.8	2.541	18.4	1.102	8.0	1.439
OK	2.8	0.334	11.9	0.099	3.5	0.235
OR	4.6	1.425	31.0	0.019	0.4	1.406
PA	10.9	9.156	84.0	0.559	5.1	8.597
RI	0.481	0.006	1.2	0.117	24.3	-0.112
SC	4.4	1.227	27.9	0.185	4.2	1.042
SD	0.51	>0.001	>0.1	0.000	0.0	>0.001
TN	8.9	0.578	6.5	0.432	4.9	0.146
TX	43.7	0.251	0.6	0.511	1.2	-0.260
UT	2.4	>0.001	>0.1	0.002	>0.1	-0.001
VT	0.598	0.061	10.2	0.126	21.1	-0.065
VA	10.3	5.489	53.3	0.241	2.3	5.249
WA	7.3	0.112	1.5	1.002	13.7	-0.890
WV	1.8	0.276	15.3	0.365	20.3	-0.088
WI	4.6	1.210	26.3	0.214	4.7	0.996
WY	0.568	0.000	0.0	0.001	0.2	-0.001
Total/ Average	406.038	39.004	9.6	38.068[3]	9.4	

1. Waste News (8/18/03) * includes C&D waste.
2. Congressional Research Service (9/9/04).
3. Includes 2.922 million tons from Ontario, Canada.
4. Values may not add up because of rounding.

Figure 2. Interstate Waste Movements 2003

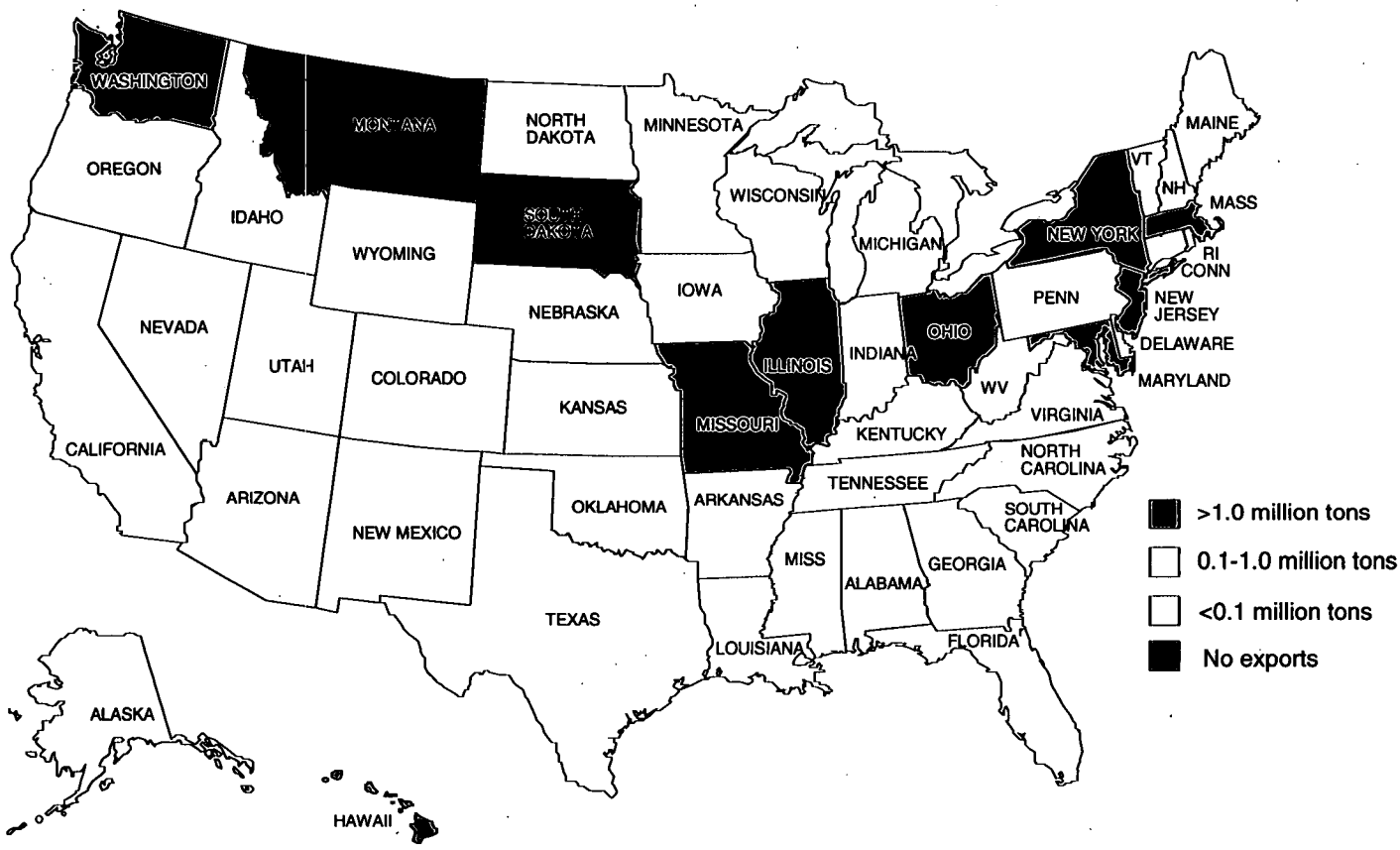


Note: Waste imports to and exports from Washington, DC are not shown.

Table 2. 2003 Interstate Municipal Solid Waste Interactions

Exports To:	*State/Country*	*Imports From:*
FL, MS, TN	AL	FL, GA
WA	AK	
NV, NM, UT	AZ	CA, NV, NM, UT
IL, MS, MO, TN, TX	AR	MO
WA	BC	
AZ, NV, PA	CA	
KS, NE, NM	CO	KS, NE
MA, MI, NY, OH, PA	CT	MA, NJ, NY, RI
MD, NY, PA, SC, VA	DE	
MD, PA, VA	DC	MD
AL, GA, VA	FL	AL
AL, IL, SC, TN, VA	GA	FL, NJ, NY, NC, RI, SC, TN, VA
	HI	
MT, WA	ID	NV, OR
IN, IA, KY, MI, MO, VA, WI	IL	AR, GA, IN, IA, KS, KY, MO, MI, MN, NE, TN, WI
IL, KY, MI, OH, PA, VA	IN	IL, KY, MI, OH
IL, MI, MO, NE, WI	IA	IL, MN, MO, NE, WI
CO, IL, MO, OK, TX	KS	CO, MO, OK
IL, IN, OH, TN, VA	KY	IL, IN, MO, OH, TN, VA, WV
MS, TX	LA	
MA, MI, NH, NB	ME	MA, NH
DC, NY, OH, PA, VA, WV	MD	DE, DC, NJ, NY, PA, VA, WV
CT, ME, NH, NY, OH, PA, RI, SC, VA	MA	CT, ME, NH, NY, RI, VT
NM, TX	Mexico	
IL, IN, OH, PA, VA	MI	CT, IL, IN, IA, ME, NH, NJ, NY, OH, ON, WI
IL, IA, ND, SD, WI	MN	
TN, TX, VA	MS	AL, AR, LA, TN
AR, IL, IA, KS, KY, TN	MO	AR, IL, IA, KS
	MT	ID, ND, WY
CO, IL, IA	NE	CO, IA
AZ, ID, VA	NV	AZ, CA, UT
	NB	ME
ME, MA, MI, PA	NH	ME, MA, VT
CT, GA, MD, MI, NY, OH, PA, VA, WV	NJ	NY
AZ, TX	NM	AZ, CO, Mexico, TX
CT, GA, MD, MA, MI, NJ, OH, PA, VT, VA, WV	NY	CT, DE, MD, MA, NJ, ON, PA, VT, WV
GA, SC, TN, VA	NC	SC, VA
MT	ND	MN
IN, KY, MI, PA, VA, WV	OH	CT, IN, KY, MD, MA, MI, NJ, NY, PA, WV
KS, TX	OK	KS
MI, NY, VA	ON	
ID, WA	OR	WA
MD, NY, OH, VA, WV	PA	CA, CT, DE, DC, IN, MD, MA, MI, NH, NJ, NY, OH, RI, VA, UT, WV, WY
CT, GA, MA, PA	RI	MA
GA, NC, VA	SC	DE, GA, MA, NC, VA
	SD	MN
GA, IL, KY, MS, VA	TN	AL, AR, GA, KY, MS, MO, NC, VA, WV
NM	TX	AR, KS, LA, Mexico, MS, NM, OK
AZ, NV, PA	UT	AZ
MA, NH, NY	VT	NY
GA, KY, MD, NC, PA, SC, TN, WV	VA	DE, DC, FL, IN, GA, IL, KY, MD, MA, MI, MS, NV, NJ, NY, NC, OH, ON, PA, SC, TN, WV
OR	WA	AK, BC, ID, OR
KY, MD, NY, OH, PA, TN, VA	WV	MD, NJ, NY, OH, PA, VA
IL, IA, MI	WI	IL, IA, MN
MT, PA	WY	

Figure 3. MSW Exports in 2003



Exports

In 1989, CRS found that only 13 states and the District of Columbia exported waste to another state for disposal. As the waste volumes increased over the years, so did the number of states exporting waste. In 2003, the number of states exporting waste was 47 plus the District of Columbia, 3 Canadian provinces (British Columbia, New Brunswick, and Ontario), and Mexico.

Based on CRS's 2003 data (Table 1 and Figure 3), exports were:

- Eight states (Illinois, Maryland, Massachusetts, Missouri, New Jersey, New York, Ohio, and Washington), the District of Columbia, and Ontario, Canada, exported more than 1 million ton of MSW. The number of states exporting more than a million tons of MSW per year doubled in 2003 compared to 1989 when four states (Missouri, New Jersey, New York, and Pennsylvania) exported more than a million tons per year of MSW.

- The state exporting the largest volume of MSW in 2003 was New York (8.248 million tons) followed closely by New Jersey (5.803 million tons).

- Three states (California, Indiana, and North Carolina) exported between 0.75 million tons and 1.00 million tons of MSW in 2003.

- Twenty-one states (Arkansas, Connecticut, Delaware, Florida, Georgia, Iowa, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Mississippi, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Vermont, Virginia, West Virginia, and Wisconsin) had exports that were less than 0.75 million tons, but greater than 0.10 million tons.

- Fifteen states (Alabama, Alaska, Arizona, Colorado, Idaho, Maine, Nebraska, Nevada, New Hampshire, New Mexico, North Dakota, Oklahoma, Oregon, Utah, and Wyoming) exported less than 100,000 tons.

- Three states (Hawaii, Montana, and South Dakota) did not export MSW for disposal in another state.

Only the District of Columbia and New Jersey exported more than 50 percent of the MSW it generated. This high export rate in the District of Columbia (187%) is probably attributable to the lack of disposal capacity within its jurisdiction and waste being shipped through District transfer stations. Maryland and Missouri had the next highest export rate at 43 percent and 37 percent respectively. All other states had export rates of less than 30 percent of their generation rates. The majority of the exporting states (31 states) exported less than or equal to 10 percent of the MSW that they generated including the states of Alabama, Alaska, Arizona, Arkansas, California, Colorado, Florida, Georgia, Idaho, Kentucky, Louisiana, Maine, Michigan, Mississippi, Nebraska, Nevada, New Hampshire, New Mexico, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, Tennessee, Texas, Utah, Virginia, Wisconsin, and Wyoming.

Imports

In 1989, 14 states imported MSW for disposal and by 2003, 44 states imported MSW for disposal. The largest importer of MSW was Pennsylvania (9.156 million tons) followed by Virginia (5.489 million tons) and Michigan (4.503 million tons). Based on year 2003 data presented in Table 1 and Figure 4 (page 8), imports were:

- Ten states imported more than 1 million tons of MSW including Georgia, Illinois, Michigan, New Jersey, Ohio, Oregon, Pennsylvania, South Carolina, Virginia, and Wisconsin. In 1989, only Illinois, Indiana, Ohio, and Pennsylvania imported more than 1.0 million tons of MSW.

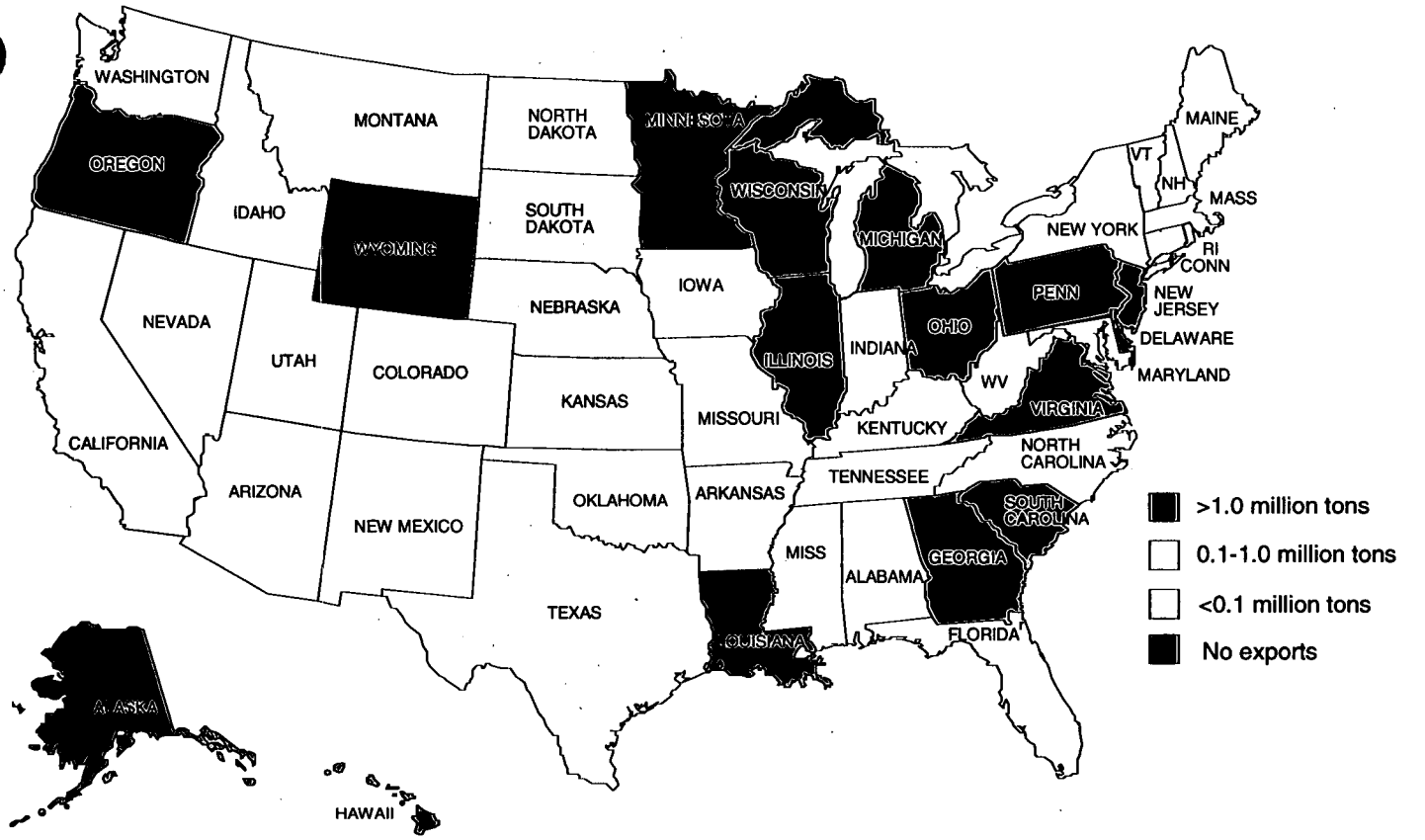
- Twenty-two states (Alabama, Arizona, Indiana, Iowa, Kansas, Kentucky, Maine, Maryland, Massachusetts, Mississippi, Missouri, Nevada, New Hampshire, New Mexico, New York, North Carolina, North Dakota, Oklahoma, Tennessee, Texas, Washington, and West Virginia) imported less than 1.0 million tons, but greater than 0.1 million tons.

- Twelve states (Arkansas, California, Colorado, Connecticut, Florida, Idaho, Montana, Nebraska, Rhode Island, South Dakota, Utah, and Vermont) and the District of Columbia imported less than 100,000 tons of MSW.

- Six states (Alaska, Delaware, Hawaii, Louisiana, Minnesota, and Wyoming) did not import MSW for disposal.

Pennsylvania, with the highest volumes of imports, also had the largest amount of imported waste compared to waste generated. Pennsylvania's imports were almost as large as the waste it generated (84%) in 2003. Eight states had import rates of at least 20 percent when compared to generation rates including Kansas (24.9%), Michigan (29.4%), Mississippi (20.0%), New Hampshire (30.9%), Oregon (31.0%), South Carolina (27.9%), Virginia (53.3%), and Wisconsin (26.3%). Twenty-one states (Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Florida, Idaho, Maryland, Massachusetts, Missouri, Montana, Nebraska, New York,

Figure 4. MSW Imports in 2003



North Carolina, Rhode Island, South Dakota, Tennessee, Texas, Utah, and Washington) and the District of Columbia imported less than 10 percent of the waste they generated.

Net Imports and Exports

Table 1 and Figure 5 (page 9) contain data on the net volumes of imports and exports (i.e., import volumes minus export volumes) of MSW by state for the year 2003. The data showed:

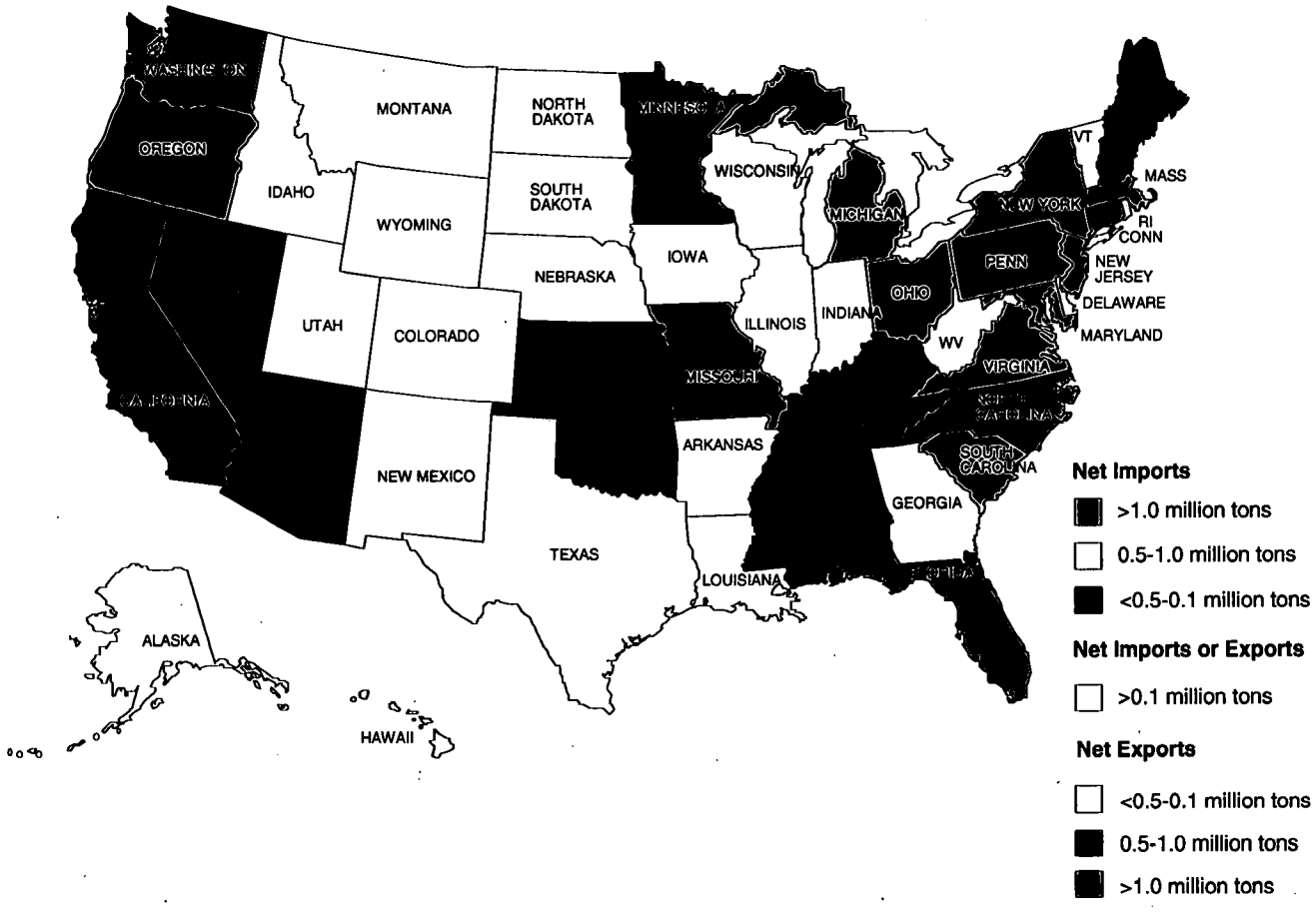
- Six states had net imports greater than 1 million tons. Pennsylvania was the largest net importer at 8.597 million tons followed by Virginia (5.249 million tons), Michigan (4.280 million tons), Ohio (1.439 million tons), Oregon (1.406 million tons), and South Carolina (1.042 million tons).

- Three states (Georgia, New Mexico, and Wisconsin) had net imports greater than 500,000 tons, but less than 1 million tons.

- Six states (California, Connecticut, Florida, Minnesota, North Carolina, and Washington) had net exports greater than 500,000 tons, but less than 1 million tons.

- Five states, the District of Columbia, and Ontario, Canada, had net exports greater than 1 million tons. New York was the largest net exporter at 7.936 million tons, followed by New Jersey (4.132 million tons), Ontario (2.922 million tons), Missouri (2.128 million tons), Maryland (1.739 million tons), District of Columbia (1.176 million tons), and Massachusetts (1.060 million tons).

Figure 5. Net Imports and Exports in 2003



As shown in Figure 5, the majority of states had net imports or exports that were less than 500,000 tons. In fact, 15 states had net imports or exports that were less than 100,000 tons including Alaska, Arkansas, Colorado, Hawaii, Idaho, Indiana, Iowa, Montana, Nebraska, North Dakota, South Dakota, Utah, Vermont, West Virginia, and Wyoming.

CONCLUSION

In similar trends to the last decade, the latest data show that almost all states import or export MSW with the majority of the shipments occurring between neighboring states. These waste movements represent routine partnerships among states and municipalities that are based on economic, social, environmental, and political factors. Based on the available data, the amount of MSW moving interstate is expected to increase in future.

National Solid Wastes Management Association
4301 Connecticut Avenue, NW
Suite 300
Washington, DC 20008
800-424-2869
www.nswma.org

EXHIBIT O

Presentation to the ECR
November 15 2006

Speaking on behalf of the following groups:
NC Coastal Federation, Sierra Club, Conservation Council of NC

Our focus is on addressing new challenges presented by proposed regional mega-landfills as well as on North Carolina's broader challenge to reduce solid waste.

- proposed regional mega-landfills are of a size and scope not previously seen in North Carolina. Specific environmental concerns include impacts to groundwater, shallow wells, drinking water supplies, methane release, wildlife, and viewsheds among others.

- After years of being a net exporter of waste, North Carolina is facing a future of being a net importer. If all proposed mega-landfills are permitted, North Carolina will become the 4th largest importer of waste in the nation.

- In 1991, the Solid Waste Management Act set a goal of reducing the waste going into North Carolina's landfills 40% by the year 2001. Instead, waste has increased by more than 57% as of 2004. This is in spite of a growing recycling industry eager for access to more "product." We need to take a closer look at our own home generated waste.

We will submit more detailed comments in writing, but today I'd like to highlight these recommendations:

1) The larger the landfill, the more important the need for a comprehensive review of environmental and community impacts, including an analysis of alternatives, as part of the permitting process. The state's current mechanism for this sort of review is the State Environmental Policy Act or SEPA. Landfills are currently exempt from SEPA.
   Recommendation: make SEPA applicable to all landfills over 1000 tons per day because they have a regional impact.

2) The bigger the project, the more DENR staff time is needed for thorough review of the application. Division Solid Waste is currently one of the only regulatory agencies in DENR not to charge permit fees.
   Recommendation: establish permit fees for solid waste permitting.

3) Recommendation: Enact a statewide tipping fee comparable to what other states charge. This will discourage the targeting of North Carolina for mega-landfills. Two important uses for these funds are to close out over 800 old abandoned, leaking landfills and to provide support for expanded local recycling programs.

4) Recommendation: Add additional siting restrictions. These should include exclusion zones that appropriately restrict the siting of landfills in hydric soils, wetlands, floodplains, near state and national parks and wildlife areas, or in areas with minimal natural separation with the groundwater.

5) Recommendation: Make existing bans on certain materials enforceable by hiring and training new DENR enforcement staff to ensure that facilities are complying with the bans. This will reduce the amount of waste going into landfills while promoting recycling industries. Additional staff is also needed to support expanded availability of recycling options statewide.

6) Recommendation: Ban electronics waste. It puts toxics in landfills and there is a viable industry to recycle it.

7) Recommendation: Ban single entity Limited Liability Corporations (LLC's) from owning landfills of any size or function.

EXHIBIT P

PHOTOGRAPHS
CAMDEN COUNTY
Presented at ERC Meeting, 15 November 2006





EXHIBIT P

PHOTOGRAPHS
CAMDEN COUNTY
Presented at ERC Meeting, 15 November 2006

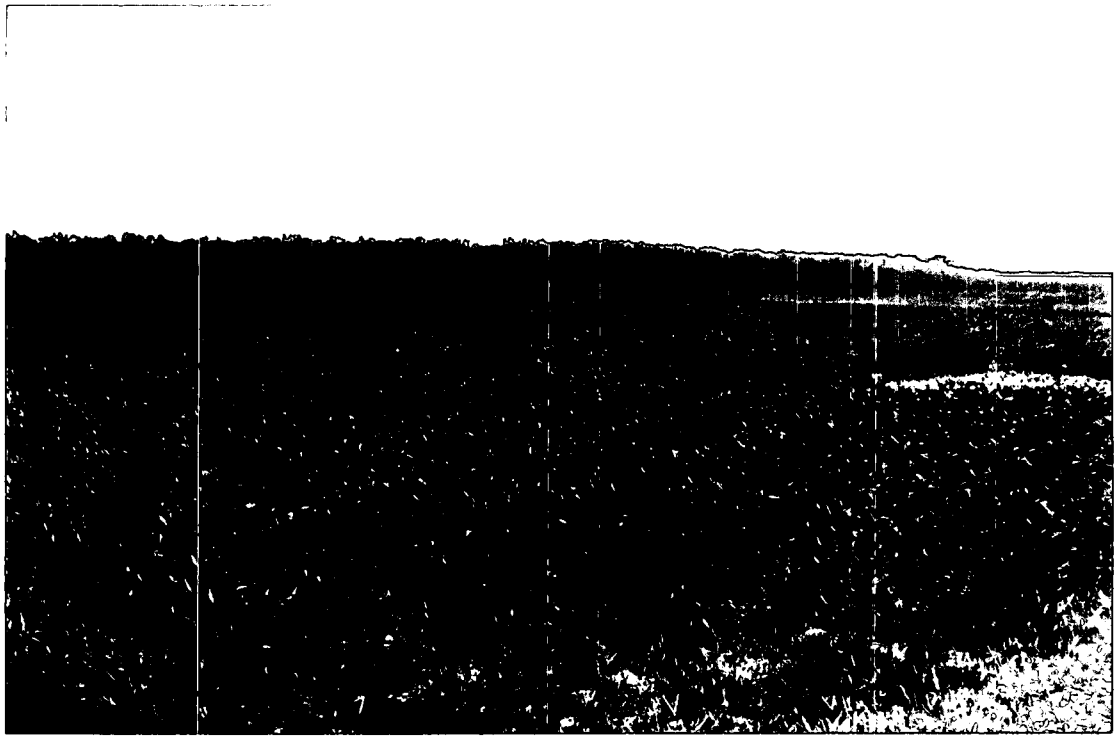




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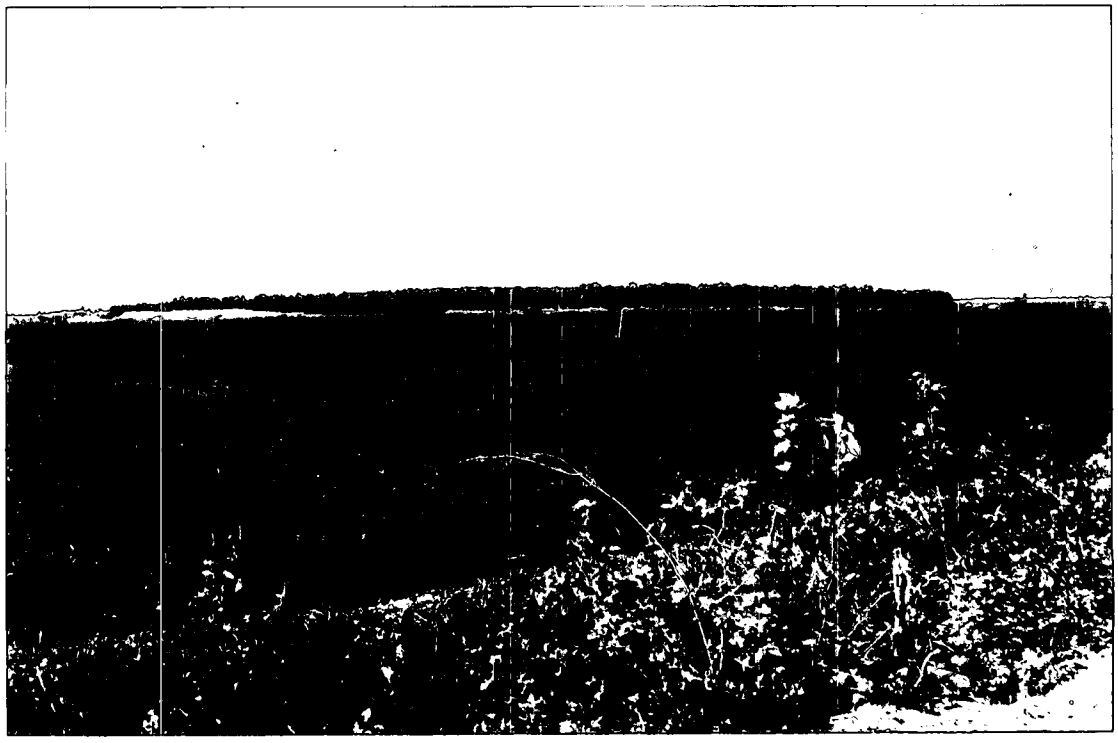




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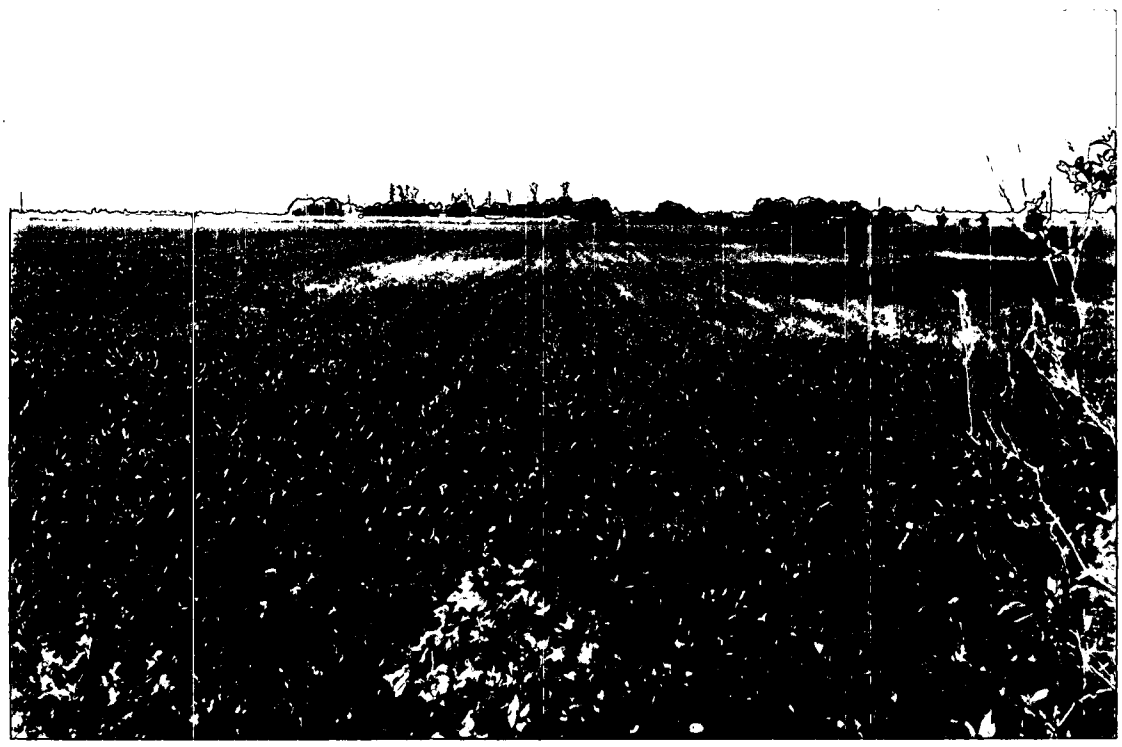




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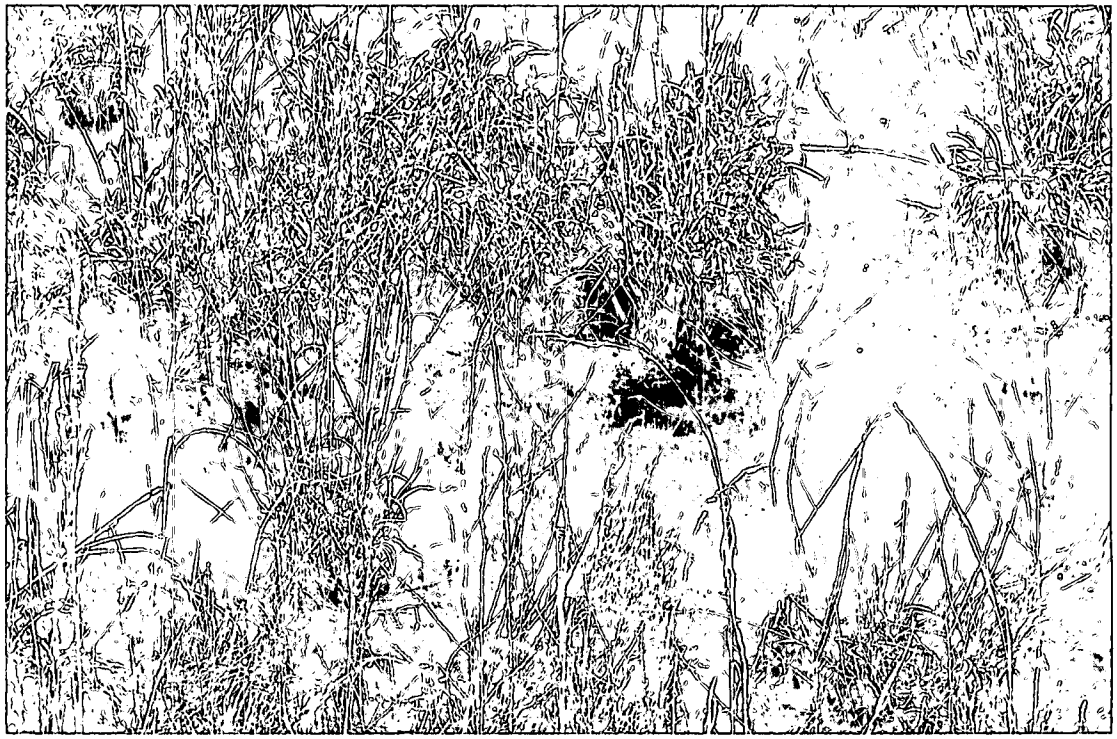




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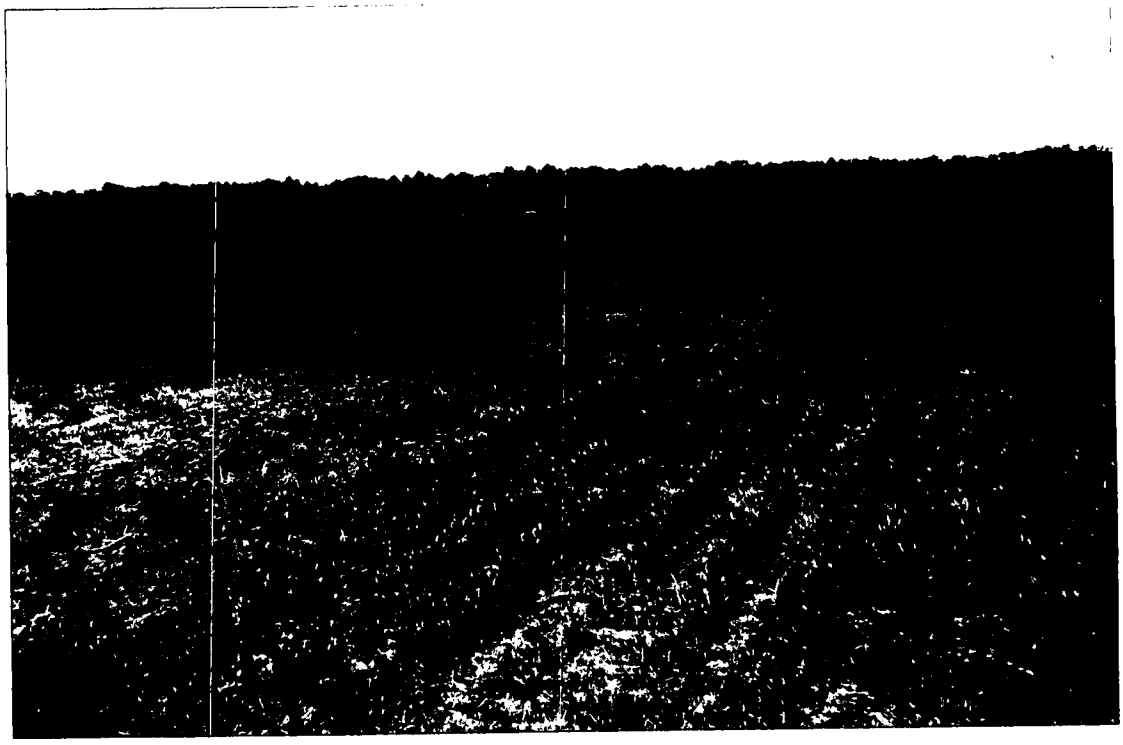




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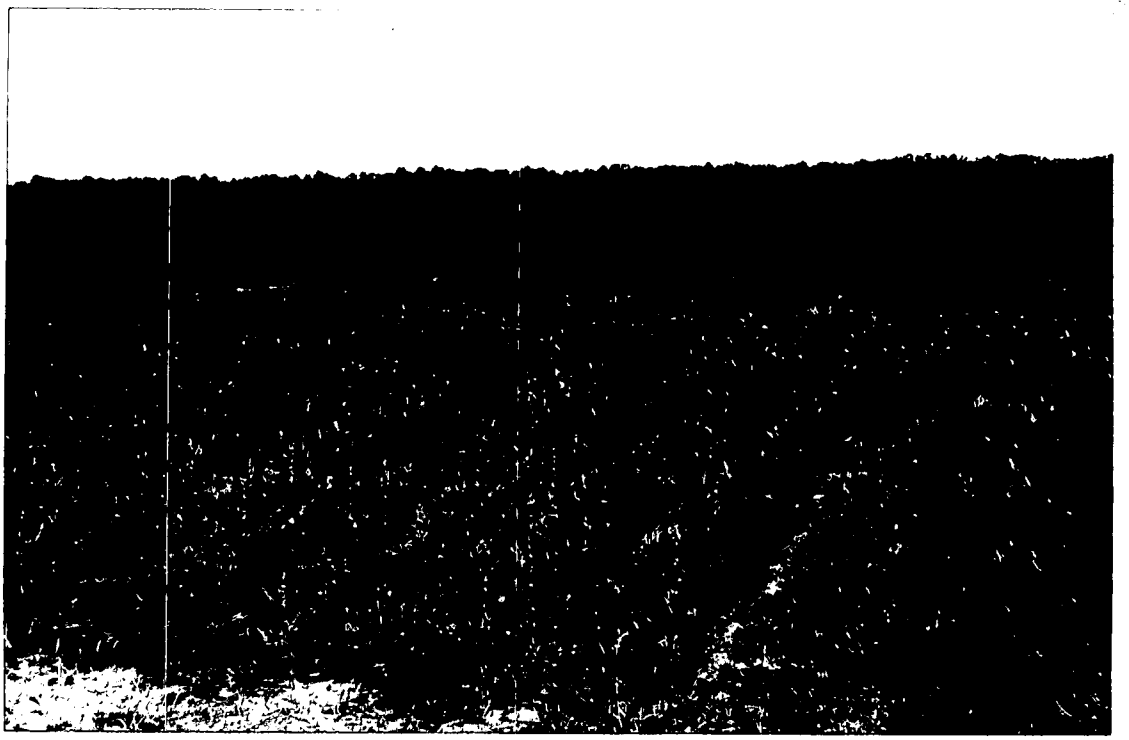


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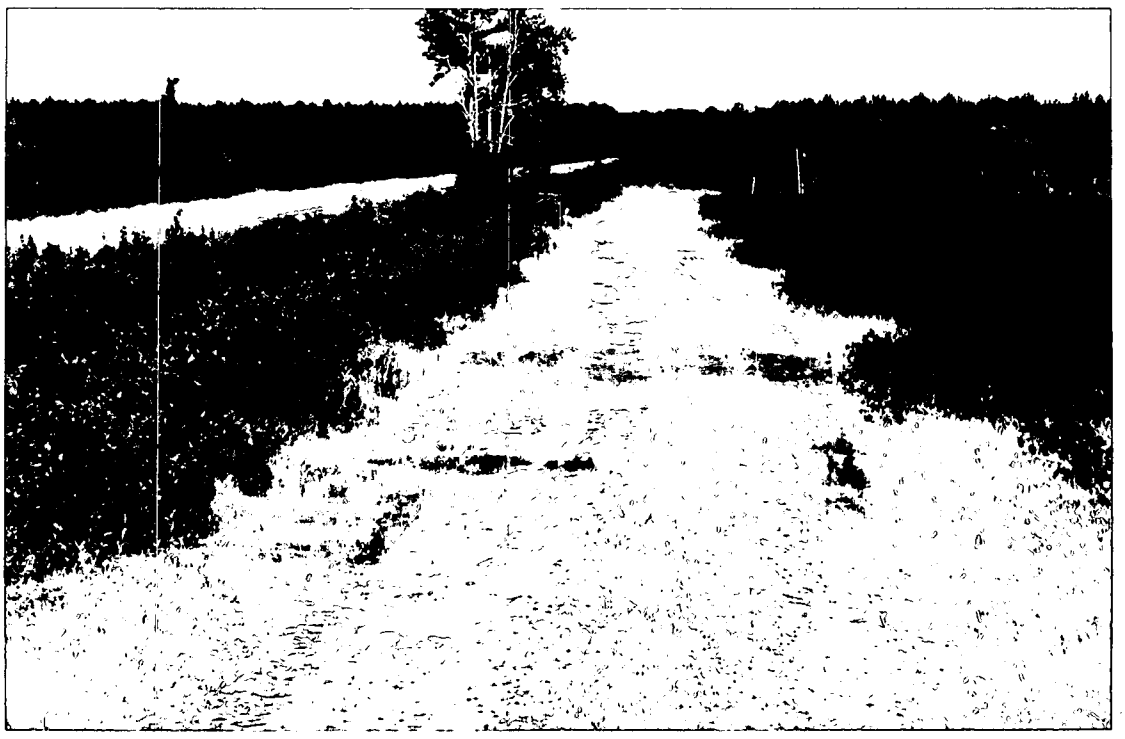
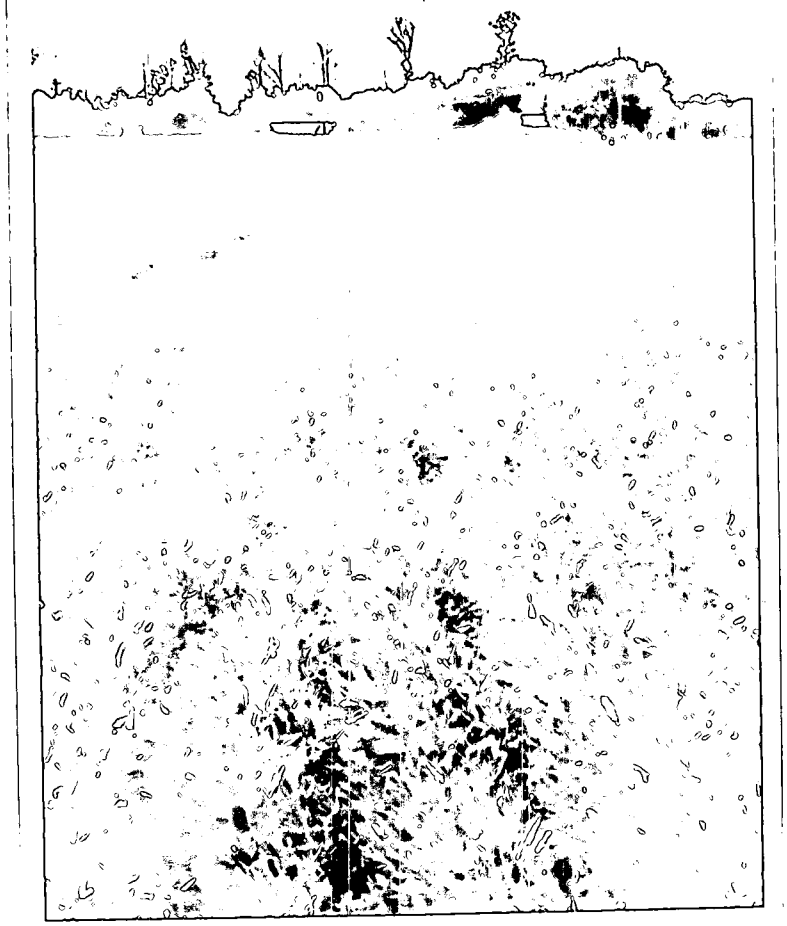


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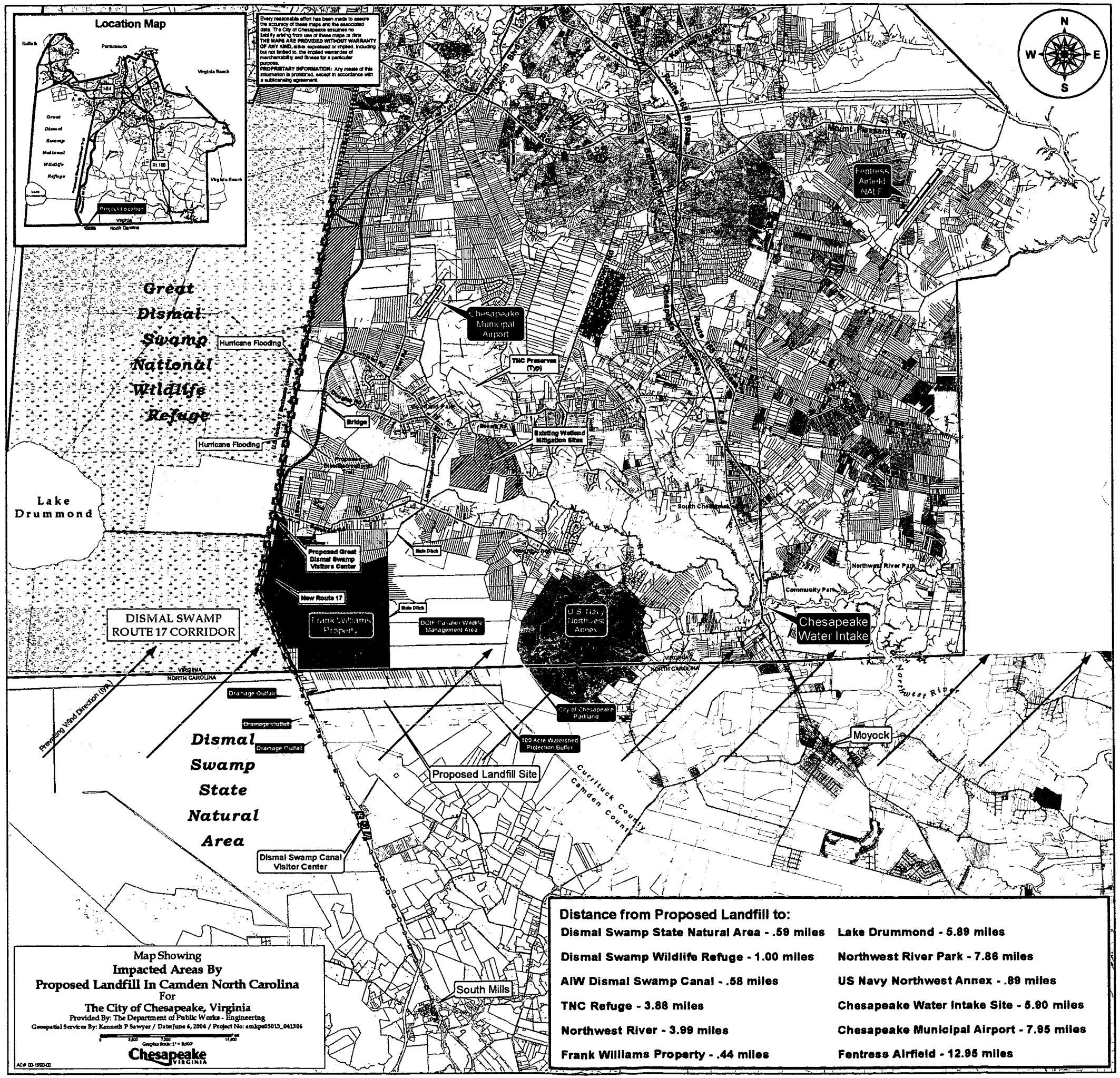

Location Map
Suffolk
Portsmouth
Virginia Beach
Great Dismal Swamp National Wildlife Refuge
Rt 168
Project Location
Virginia
North Carolina
Every reasonable effort has been made to assure the accuracy of these maps and the associated data. The City of Chesapeake assumes no liability arising from use of these maps or data. THE MAPS ARE PROVIDED WITHOUT WARRANTY OF ANY KIND, either expressed or implied, including but not limited to, the implied warranties of merchantability and fitness for a particular purpose.
PROPRIETARY INFORMATION: Any reuse of this information is prohibited, except in accordance with a sublicensing agreement.
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W
E
S
Great Dismal Swamp National Wildlife Refuge
Hurricane Flooding
Hurricane Flooding
Lake Drummond
Bridge
Proposed Great Dismal Swamp Visitors Center
New Route 17
Frank Williams Property
DISMAL SWAMP ROUTE 17 CORRIDOR
Main Ditch
DGIF Cavalier Wildlife Management Area
Chesapeake Municipal Airport
TNC Preserves (Typ)
Existing Wetland Mitigation Sites
Fentress Airfield NALF
Mount Pleasant Rd
Route 168
Northwest River Park
Community Park
Chesapeake Water Intake
U.S. Navy Northwest Annex
City of Chesapeake Parkland
100 Acre Watershed Protection Buffer
Northwest River
Moyock
VIRGINIA
NORTH CAROLINA
Prevailing Wind Direction (typ.)
Drainage Outfall
Drainage Outfall
Drainage Outfall
Dismal Swamp State Natural Area
Proposed Landfill Site
Currituck County
Camden County
Dismal Swamp Canal Visitor Center
South Mills
Map Showing
Impacted Areas By
Proposed Landfill In Camden North Carolina
For
The City of Chesapeake, Virginia
Provided By: The Department of Public Works - Engineering
Geospatial Services By: Kenneth P Sawyer / Date:June 6, 2006 / Project No: amkpw05015_041506
Graphic Scale: 1" = 8,000'
Chesapeake VIRGINIA
AC# 00-1990-00
Distance from Proposed Landfill to:
Dismal Swamp State Natural Area - .59 miles
Dismal Swamp Wildlife Refuge - 1.00 miles
AIW Dismal Swamp Canal - .58 miles
TNC Refuge - 3.88 miles
Northwest River - 3.99 miles
Frank Williams Property - .44 miles
Lake Drummond - 5.89 miles
Northwest River Park - 7.86 miles
US Navy Northwest Annex - .89 miles
Chesapeake Water Intake Site - 5.90 miles
Chesapeake Municipal Airport - 7.95 miles
Fentress Airfield - 12.95 miles

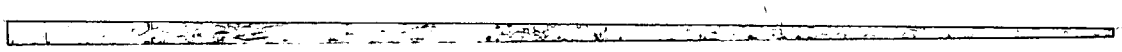
EXHIBIT P

PHOTOGRAPHS
CAMDEN COUNTY
Presented at ERC Meeting, 15 November 2006









Report on Implementation of Senate Bill 953
North Carolina Department of Transportation
Statewide Transportation Demand Management Program

General Statute 143-215.107C requires the departments of Transportation, Environment and Natural Resources, Administration, and Commerce, and the Office of State Personnel to develop a plan to reduce the number of vehicle miles traveled for both public and private sector employees. The statute also requires the Department of Transportation to report to Joint Legislative Transportation Oversight Committee and the Environmental Review Commission each year.

DOT Secretary Lyndo Tippett announced the completion of the Statewide Transportation Demand Management Program in April 2004. The plan was the culmination of work guided by a panel of 16 representatives appointed by Governor Easley. Transportation Demand Management (TDM) strategies influence travel behavior by mode, time of day, cost, frequency and other related activities to reduce traffic congestion, enhance mobility, and improve air quality. The panel consisted of existing representatives of TDM programs, local elected officials, developers, major employers in the state, marketing professionals and federal and state environmental agencies to guide the development of the statewide TDM plan. The work involved an analysis of the existing rideshare/TDM programs, and an evaluation of comparable program efforts in locations such as California, Washington, Maryland, Florida and Connecticut.

From this work, a series of guidelines were developed for the North Carolina Department of Transportation (NCDOT). The guidelines, further refined by the consulting firm of Parsons Brinkerhoff, NCDOT and the panel, include 20 action items that could be undertaken by NCDOT and local TDM programs in several areas to improve TDM statewide. The Panel prioritized the guidelines and developed a three-year action plan, including the establishment of a Commuter Assistance Program within the NCDOT that would focus on demand management techniques and TDM initiatives for North Carolina.

Activities and accomplishments during the past year are summarized below:

Activity: Statewide Best Workplaces for Commuters Program

Established a couple of years ago by the US Environmental Protection Agency (EPA) and the US Department of Transportation to publicly recognize employers whose commuter benefits reach the *National Standard of Excellence* (www.bwc.gov), this program highlights the efforts of many top employers to help get employees to work safely, on time, and free of commute-related stress. It provides the tools, guidance, and promotion necessary to help employers of any size incorporate commuter benefits into their standard benefits plan, reap financial benefits and gain national recognition. EPA believes that providing commuter benefits helps employers address limited or expensive parking, reduce traffic congestion, improve employee recruiting and retention, and minimize the environmental impacts associated with drive-alone commuting. Participating companies earn the designation "Best Workplaces for Commuters^{SM}"—a mark of excellence for environmentally and employee-friendly organizations.

Prior to implementing a statewide Best Workplaces for Commuters (BWC) Program as recommended in the plan, the NCDOT made the decision to expand ongoing TDM activities and focus its efforts on developing a BWC Program in the Triangle region. In partnership with the Triangle J Council of Governments, the NCDOT developed a Triangle Best Workplaces for Commuters program. In the summer of 2006, Triangle J and other members of the BWC Organizing Committee launched the 2006 Triangle Best Workplaces for Commuters Campaign.

Through the combined efforts of NCDOT, Triangle J and area TDM programs, the Triangle BWC Coalition will sponsor a campaign celebration on November 15, 2006 to recognize employers and announce the third annual list of Triangle Best Workplaces for Commuters. The list includes nineteen new Triangle employers that provide outstanding commuter benefits to their employees and have been designated by EPA, representing approximately 11,900 employees. Currently, North Carolina has almost 50% of state agencies designated as BWC employers, giving us the distinction of having the highest percentage of state agencies designated as BWC of any state in the country.

Activity: Commuter Choice Professional Development Training Program

The NCDOT has worked with the Center for Urban Transportation Research (CUTR) at the University of South Florida to include NCDOT transportation professionals in its Commuter Choice Certificate Program. The goal of the Commuter Choice Professional Development Training Program is to improve the effectiveness of transportation professionals in North Carolina by providing training and technology transfer related to transportation demand management strategies. TDM strategies influence travel behavior by mode, time of day, cost, frequency and other related activities to reduce traffic congestion, enhance mobility, and improve air quality.

Specific goals and objectives of the program are:

1. To provide technical training and transfer of technology for Commuter Choice transportation professionals in North Carolina.

2. To continually broaden the reach of the training program.
    a. Increase the number of individuals and agencies receiving training
    b. Expand access to training opportunities
    c. Reduce the costs for the participant through use of technology

3. To increase the effectiveness of training and technology transfer efforts
    a. Use technology and case studies to increase the comprehension of the material
    b. Foster active learning among participants

4. To increase program utility
    a. Offer an opportunity for Continuing Education Units (CEU)
    b. Offer an opportunity for participation in a certificate program with national reputation

NCDOT arranged with Triangle J Council of Governments to host a CUTR Netconference titled "Striving to be the Best: Employer TDM Programs That Deliver Results to Employees and Stockholders." This conference was held October 18th and TDM planners from across the state participated via the Internet. The conference provided presentations by TDM representatives of VPSI, a firm that provides vanpool services, for Wyeth Pharmaceuticals, by the principal transportation planner for the City of Berkeley, and the TDM coordinator for Yahoo in San Francisco. Each representative discussed how its TDM programs were developed as well as how each is funded and administered. There was also a discussion of various strategies used, including carsharing, ecopass, pre-tax commuter benefits, and ridematching services. The NCDOT TDM planner also participated in an EPA telephone forum on Commuter Benefits in Small Towns and Rural Areas. This forum highlighted the successful techniques that three BWC employers have used to solve their employees' rural commuting challenges.

In addition, NCDOT is investigating offering additional course modules from the CUTR TDM certification program. NCDOT has already received a proposal from CUTR, and some courses may be offered this winter. Other courses could possibly be offered in conjunction with the Southeast Association for Commuter Transportation Conference this spring and/or the Association for Commuter Transportation Conference in the summer. One course also being investigated is CUTR training on the use of the EPA Commuter Model. The EPA developed computer model can be used by MPO's, state DOT's, and employers to assess the effectiveness of Commuter Choice Programs. The computer model will estimate travel and emission impacts of transportation changes.

Activity: North Carolina TDM Planner Meetings

NCDOT held two meetings for TDM planners across the state. The first was held in Asheville on May 24th. At this meeting, the TDM planners were provided instruction on new features in the latest version of Ridepro-the web-based ridesharing matching program. There was also a review of the ad hoc reports available to the TDM Planners through Ridepro, including a new product for tracking and reporting vanpool ridership.

The second meeting was held on September 25th. Parsons-Brinkerhoff provided a Marketing "101" presentation to the TDM Planners. This presentation covered a framework plan for a marketing effort, working with the media, and how to deal with advertising placement and pricing. There was also a discussion on upcoming changes to the Ridepro Web site, the costs and potential for a adding a module in Ridepro, which will allow for registering for Emergency Ride Home Program, and creating an interface for ShareTheRideNC.org for student registration and matching. The web interface for the student registration introduces the ability to record a student's schedule by day of week, with individually set arrival time, departure time, and time flexibility for each day.

Activity: Contract with TJCOG to Coordinate TDM Programs in the Triangle

NCDOT contracted with the Triangle J Council of Governments to review workplans of department-funded TDM organizations to ensure coordinated and effective regional TDM planning. Triangle J also created and maintains a coordinated TDM marketing plan taking into account the activities of DOT-funded TDM organizations and convened meetings of the DOT-funded TDM programs in the Triangle. This effort has assisted in improving the effectiveness of the individual programs and enhanced the effectiveness and efficiency of the TDM activities.

Activity: Triangle 7-Year Long Range TDM Plan

The Triangle Transit Authority, with funding provided by the NCDOT Public Transportation Division, University of North Carolina at Chapel Hill, North Carolina State University, Triangle J Council of Governments, the Research Triangle Foundation, and the Durham and Capital Area MPO's, has contracted with UrbanTrans to develop a 7-Year TDM Plan for the Triangle by March 2007. The plan will do the following:

- Provide a comprehensive assessment of existing TDM Programs
- Document existing policies, ordinances, and activities that support or undermine TDM objectives and subsequent impacts on program success
- Identify policies and ordinances that local governments could adopt in support of transportation alternatives
- Assess current TDM market opportunities and reveal potential future markets
- Educate key stakeholders about the opportunities for TDM to serve as an integral component of the region's mobility solution and provide a process for input of key stakeholders into regional TDM workplans
- Establish a process for determining program priorities as related to annual funding levels and future investment recommendations based on continual evaluation of TDM Programs
- Evaluate the existing institutional arrangements for providing TDM services in the region, and reach consensus on changes needed to accomplish desired outcomes
- Establish a standardized data collection method for reporting program accomplishments for base year and future program years
- Determine effective methods of accounting for TDM program activities within long range transportation plans

Activity: Fare Free Transit for Raleigh-area Based State Employees

In September 2003, the North Carolina Department of Administration entered into agreement with Capital Area Transit (CAT) that would allow state employees to use transit services at no cost to the employee. The cost of the agreement is funded with revenue from state employee parking fees. Ridership by state employees has increased from 7,438 riders in the first month of the program back in September 2003 to 16,247 riders during the month of August 2006. Since the inception of the program, 440,318 trips have been taken by state employees on CAT.

The Triangle Transit Authority developed a proposal for a similar program that went into effect October 2005. State employee U-Pass ridership on TTA for October 2005 to August 2006 was

24,379. There were 79,341 boardings for NCSU and an estimated 109,000 boardings for UNC-Chapel Hill.

At the end of September 2005 the use of state ID cards to ride CAT and TTA was discontinued. In their place, employees are now issued GoPass cards, which are swiped in the farebox of the buses. This permits calculation of the number of U-Pass Program riders without the bus driver having to manually count the riders. A Web- based database has been established for the parking coordinators to enter data about state employees who request a GoPass. This has the advantage of developing a database of users that can be used for planning and marketing purposes. To date, approximately 2,000 GoPass cards have been distributed to state employees.

Activity: SmartCommute Challenge

The SmartCommute Challenge was held August 15 through September 30, 2006. The challenge was open to all employees of Wake, Durham, and Orange counties. The goal of the campaign was to increase awareness and encourage employees to try a commute alternative such as telecommuting, carpooling, vanpooling, taking the bus, biking or walking for at least one day during the challenge. There were 12, 700 persons who took the challenge. This resulted in a reduction of 1.4 million commuter miles of travel and saved more than 58,000 gallons of gas. This also resulted in a reduction of 1,572 kg of NOx. Participation in the 2006 challenge was up more than 5% compared to the 2005 SmartCommute Challenge. The most popular alternate commute option was carpooling, with an estimated 42% of participants pledging to carpool instead of drive alone. Of the participants, 25% pledged to take public transit rather than drive alone. Staff from NCDOT held informational sessions during the SmartCommute Challenge at the Highway Building, Century Center, and the Division of Motor Vehicles on New Bern Avenue. There were 120 participating employers, including NCDOT.

Activity: Downtown Raleigh Transportation Cooperative Association

The TDM planner from NCDOT participated in the Downtown Raleigh Transportation Cooperative Association Meetings. This is a group of representatives from downtown employers who meet to discuss transportation issues and formulate ideas for mitigation as well as provide education opportunities. Some of the ideas the group is working on include a downtown circulator system during midday so employees can run errands and eat lunch without having to bring their car to work, creating a Google map of all transit stops in downtown so users can easily plan their trips, and investigating the feasibility of a zipcar program in downtown to allow employees to lease cars by the hour. In addition, a lunch-n-learn was held to provide an update on the City of Raleigh Telework Initiative, which has produced impressive results in terms of gallons of gas saved, time saved, and vehicle miles traveled.

Activity: ShareTheRideNC.org

NCDOT paid for the implementation of a Web-based rideshare matching software program. This program allows individuals to enter information online regarding their address and work location/hours and to receive an instantaneous list of persons who might be potential matches for carpooling, vanpooling, or biking. The software also provides transit information and reporting

functions for those TDM programs with a license. The Web site is called ShareTheRideNC.org, and it went live October 2004. To date, 12,392 persons have registered in the ShareTheRideNC database. Over the past year, this has resulted in the estimated savings of $8,513,642 in commuting costs and an estimated reduction of parking needs in the amount of 3, 691 spaces.

Activity: Employee Commuter Survey

During the fall of 2005 and the spring of 2006, many employers in the Triangle area participated in the employee commuter survey conducted by TTA with financial assistance from NCDOT. There were a total of 15,041 surveys completed in the Triangle area, representing almost 70,000 employees. This survey asked questions about commuting patterns such as length of commute and type of mode used. It also asked for vehicle type and age to quantify air quality impacts. In addition to the surveys being required by the Durham Trip Reduction Ordinance, the survey results are used by employers designated as Best Workplaces for Commuters for the BWC requirement to certify that at least 14% of their employees are using an alternate form of commuting within 18 months of being designated as a BWC employer.

Statewide TDM Planner

The Public Transportation Division of NCDOT was awarded a Congestion Mitigation Air Quality grant for hiring a statewide TDM Planner. The grant will provide 80% of the funding for the position. The Public Transportation Division is in the process of getting this position posted. This will fulfill one of the strategies outlined in the Statewide TDM Plan, which recommends creating a new position within the NCDOT to staff and manage the Office of Commuter Assistance. The creation of this full-time position will improve our oversight of the TDM programs and enable greater technical assistance to both state agencies and the TDM programs.

2006 Total Transportation Demand Management and Urban Transit System Reductions in Vehicle Miles Traveled (VMT) and Nitrogen Oxide (NOx) Emissions

The NCDOT has developed a methodology to calculate the estimated reductions in both vehicle miles traveled and nitrogen oxide emissions due to vanpooling, carpooling and transit usage in urban areas. The total estimated reduction in VMT during the period September 1, 2005-August 31, 2006 is estimated at 162,920,512 miles, representing approximately a 7.3% reduction in the expected growth of VMT in the state. This resulted in an estimated 405.83 tons reduction in NOx emissions. Of the total reduction, the breakdown by transit, vanpooling, and carpooling is as follows:

Commuter Trips on Transit -- Reduction of 110,345,716 vehicle miles of travel and a reduction of 274.87 tons of NOx

Vanpool Trips -- Reduction of 51,379,776 vehicle miles of travel and a reduction of 127.98 tons of NOx

Carpool Trips - Reduction of 1,195,020 vehicle miles of travel and a reduction of 2.98 tons of NOx

EXHIBIT S

NCDENR

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

Memorandum

Subject: Hazardous Waste Program 2006 Annual Report

From: William G. Ross, Jr.

To: Daniel G. Clodfelter, Co-Chairman, Environmental Review Commission
Pryor Gibson, Co-Chairman, Environmental Review Commission
Charlie Alberston, Co-Chairman Environmental Review Commission

Date: November 14, 2006

Attached please find the Hazardous Waste Program 2006 Annual Report as required by N.C.G.S. 130A – 294(i).

Attachment

cc: George Givens, Commission Counsel

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HAZARDOUS WASTE MANAGEMENT

2006 REPORT

Presented to

The Environmental Review Commission

October 1, 2006

NCDENR

North Carolina Department of
Environment and Natural Resources

North Carolina Department of Environment and Natural Resources

Michael F. Easley
Governor

William G. Ross Jr.
Secretary
Department of Environment and Natural Resources

Dexter R. Matthews
Director
Division of Waste Management

DENR
Division of Waste Management
Hazardous Waste Section
1646 Mail Service Center
Raleigh, NC 27699-1646
(919) 508-8400

INTRODUCTION

The State of North Carolina requires that the Department of Environment and Natural Resources (DENR) develop a comprehensive hazardous waste management plan every two years. The first plan was completed in July 1, 1990; the latest plan was completed in 2006. Beginning October 1, 2003, the Department was also required to make an annual report on the hazardous waste management plan per GS 130A – 294(i). This report includes an evaluation of hazardous waste management in North Carolina and identifies DENR's activities and recommendations in the following areas: improving waste management; cleaning up of hazardous waste; reducing the amount of waste generated; minimizing the amount of hazardous waste which must be disposed of; and maximizing resource recovery, reuse and conservation.

This report includes North Carolina data from the Environmental Protection Agency's (EPA) 2003 "Biennial Report of Hazardous Waste Generation" (2003 BR). Large Quantity Generators (LQGs) and Treatment, Storage, and Disposal Facilities (TSDFs) are required to provide EPA with information on their waste management activities on a biennial basis. The 2003 BR was published on October 1, 2003 and can be found at http://www.epa.gov/epaoswer/hazwaste/data/br03/index.htm. The 2005 BR data has not yet been published, so more recent data is not available at this time.

NORTH CAROLINA HAZARDOUS WASTE SECTION

The Hazardous Waste Section was authorized by EPA in 1980 to implement the Resource Conservation and Recovery Act (RCRA) in North Carolina in lieu of the EPA. Continuing developments in the hazardous waste program nationwide have required the Section to continually apply for authorization in program areas, such as case development audits (criminal and administrative investigations), corrective action, and alternatives to permitting and emission monitoring. The Hazardous Waste Section (HWS) has a staff of 54 people working in three branches: Compliance Branch, Facility Management Branch and Programs Branch. Collectively, the duties include, but are not limited to, the following areas:

- Regulate the management of hazardous waste by generators, transporters, treatment, storage, disposal and recyclers facilities;
- Educate the hazardous waste community by providing technical assistance through individual consultations and seminars that encourage waste reduction, sound recycling, safe management practices and proper disposal (as a last resort);
- Issue permits specifying requirements that each hazardous waste treatment, storage, recycling or disposal facility must meet;
- Provide a continuing compliance presence at commercial hazardous waste management facilities through the HWS Resident Inspector Program;
- Conduct compliance inspections and, in coordination with the North Carolina Office of the Attorney General, take enforcement actions against violators;

- Require groundwater assessments, facility investigations and corrective measures at facilities where hazardous wastes have been released into the environment and
- Ensure section staff receives necessary training and professional development opportunities to continually improve their job performance.

Information on most of the activities above is captured in the national hazardous waste database, Resource Conservation and Recovery Act Information (RCRAInfo). The database is managed by the EPA, and most of the data is entered by authorized state programs. RCRAInfo contains comprehensive information on all facilities that generate or manage hazardous waste within a state, as well as all the HWS's activities affecting these facilities. Data from RCRAInfo will be used to provide information to the Department's Facility Identification Template for States database (FITS) and the Departmental Decision Support System.

To view regulatory information for specific hazardous waste sites, visit http://www.epa.gov/enviro/. For details about the Division of Waste Management and the Hazardous Waste Section, visit http://www.wastenotnc.org/.

HAZARDOUS WASTE GENERATION, MANAGEMENT AND CLEANUP

In 2003, 439 North Carolina large quantity generators (LQGs) [1] reported generating 78,817 tons of hazardous waste. Of the 439 LQGs, the top 10 facilities generated 43,610 tons, or 55 percent, of the total quantity of hazardous waste generated by North Carolina's large quantity generators. In 2001, 501 LQGs generated 94,534 tons of hazardous waste and the top 10 facilities generated 32,515 tons.

Although only LQGs and TSDFs are required to report their hazardous waste generation and management amounts, it is important to note that North Carolina also has 1,827 small quantity generators and 4,498 conditionally exempt small quantity generators.[2] These facilities are not required to report the amount of hazardous waste they generate because they are typically small businesses for whom periodic reporting could be overly burdensome. However, these facilities collectively generate a significant amount of hazardous waste that must be managed properly and in compliance with all applicable rules. Significant resources are devoted to compliance and enforcement activities, technical assistance and outreach at these facilities.

North Carolina has 31 facilities in the permitting workload universe and 60 facilities in the post-closure workload universe. Approximately 93 percent of these facilities are permitted, under an order or other approved control for management or remediation of their hazardous waste. There are 109 facilities that are subject to RCRA Corrective

[1] Large Quantity Generators are defined as facilities that generate 1,000 kg (2,200 lbs.) or more of hazardous waste in a calendar month.

[2] Small Quantity Generators are defined as facilities that generate between 100 kg and 1,000 kg (220 lbs. to 2,200 lbs.) per calendar month. Conditionally Exempt Small Quantity Generators generate less than 100 kg (220 lbs.) per calendar month.

Action. Progress in the Corrective Action Program is tracked through environmental indicators. Currently, 100 percent of high priority corrective action sites have human exposures under control and 82 percent of high priority corrective action sites have groundwater migration under control.

NORTH CAROLINA HAZARDOUS WASTE REDUCTION INITIATIVES

HAZARDOUS WASTE REDUCTION INITIATIVES

A. Commitment to Hazardous Waste Minimization

The HWS continues to work with EPA Region 4 to solicit participants in the National Partnership for Environmental Priorities. This voluntary program fosters partnerships between government and industry to reduce hazardous waste -- especially waste containing any of the 30 chemicals known to be highly toxic. Partners who make significant progress in waste reduction receive national recognition for their achievements.

The North Carolina Hazardous Waste Section has also committed to the following:

- Incorporate pollution prevention training (based on targeted priority chemical waste streams) into annual generator workshops, industry meetings and enforcement settlement negotiations;
- Review facility requests for alternative management practices for hazardous waste (use/reuse, substitution, reclassification and delisting), and
- Support intervention projects to reduce/eliminate the presence of priority chemicals via partnerships with other agencies.

B. Environmental Stewardship Initiative

DENR's Environmental Stewardship Initiative promotes and encourages superior environmental performance by North Carolina's regulated community. This voluntary program stimulates the development and implementation of programs that use pollution prevention and innovative approaches to meet and exceed regulatory requirements. There are three levels of participation. "Environmental Partners" is for organizations interested in developing a systematic approach to improving their environmental performance. The "Rising Steward" level is designed for those organizations that have a mature environmental management program. The "Environmental Steward" level is for organizations that already display a commitment to exemplary environmental performance beyond what is required by law. All participants must set environmental performance goals that include pollution prevention and are required to report annually on progress towards these goals and net pollution reductions.

This important program not only recognizes outstanding environmental performance at the "Steward" level, but provides encouragement and assistance to foster improved environmental performance by North Carolina organizations. Coaches (technical staff)

are assigned to each participant to provide technical assistance on pollution prevention and develop an environmental management system. Networking opportunities allow participants to learn from each other and share success stories. This program seeks to reduce the impact on the environment beyond measures required by any permit or rule, producing a better environment, conserving natural resources and resulting in long-term economic benefits.

For more information about the program, visit http://www.p2pays.org/esi/.

C. Mercury Switch Removal

The HWS will soon implement a program to encourage removal and recycling of mercury-containing convenience light switches from automobiles. Enacted by the General Assembly in 2005, this program requires auto recyclers and scrap metal dealers to remove the switches before the vehicles are crushed, shredded, and recycled into new steel. The vehicle recyclers and scrap metal dealers will receive $5.00 for each switch that is removed, collected, and sent for recycling. Removal of the switches prior to recycling will greatly reduce mercury emissions during the steel-making process.

D. Other Activities

The HWS will continue to support safe hazardous waste management in North Carolina by:

- Supporting opportunities for waste minimization and recycling and supporting annual generator workshops that help educate the largest generators on hazardous waste regulations and the expectations of hazardous waste inspectors;
- Continuing the HWS initiative to improve compliance in the vast SQG universe through a SQG self-certification survey;
- Seeking to establish a hazardous waste generator security deposit to fund the cleanup of abandoned generator sites that do not meet acceptable environmental standards;
- Continuing to seek EPA authorization to maintain HWS's authority to implement newly promulgated regulations and standards;
- Improving the quality of hazardous waste data for hazardous waste trend analysis and sound decision-making; and
- Participating in EPA's rulemaking projects such as those involving standards for the recycling of used industrial rags and wipes, tailored waste management requirements for academic laboratories, revisions to the regulatory standards for materials that are recycled, and other regulatory proposals.

EXHIBIT T

NCDENR

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

Memorandum

Subject: Resident Inspectors Program 2006 Annual Report

From: William G. Ross, Jr.

To: Daniel G. Clodfelter, Co-Chairman, Environmental Review Commission
Pryor Gibson, Co-Chairman, Environmental Review Commission
Charlie Albertson, Co-Chairman, Environmental Review Commission

Date: November 14, 2006

Attached please find the Resident Inspectors Program 2006 Annual Report as required by N.C.G.S.. 130A-295.02(m).

Attachment

Cc: George Givens, Commission Counsel

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RESIDENT INSPECTOR PROGRAM

2006 ANNUAL REPORT

Presented to

The Environmental Review Commission

November 14, 2006

NCDENR

North Carolina Department of Environment and Natural Resources

HAZARDOUS WASTE SECTION

North Carolina Department of Environment and Natural Resources

Michael F. Easley
Governor

William G. Ross, Jr.
Secretary
Department of Environment and Natural Resources

Dexter R. Matthews
Director
Division of Waste Management

Elizabeth Cannon
Chief
Hazardous Waste Section

1646 Mail Service Center
Raleigh, North Carolina 27699-1646
(919) 508-8400
www.enr.state.nc.us

Resident Inspector Program

Michael Brailsford
Program Supervisor
(919) 508-8532
or (704) 947-9512

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RESIDENT INSPECTOR PROGRAM
2006 ANNUAL REPORT

This annual report is presented to the Environmental Review Commission pursuant to Article 9, G.S. 130A 295.02(m). The report covers the activities of the Resident Inspector Program from July 1, 2005 through June 30, 2006.

I. OVERVIEW

The Resident Inspector Program has been operating for more than 15 years in the Division of Waste Management. This program monitors all aspects of the commercial hazardous waste facilities in North Carolina and assures compliance with all laws and rules administered by the Department of Environment and Natural Resources. It may also enforce laws or rules administered by any other state agency through a memorandum of agreement.

The Resident Inspector Program was established "... to enhance the ability of the Department to protect the public health and the environment by providing the Department with the authority and resources necessary to maintain a rigorous inspection and enforcement program at commercial hazardous waste facilities" [G.S. 130A-295.02(f)]. Under the program, commercial facilities, which receive and process a wide variety of hazardous waste from large quantity, small quantity and small quantity conditionally exempt generators, are subject to an inspection frequency of two, four or six times per month. This level of inspection presence helps to ensure a high compliance rate at these facilities whose primary business is the management of hazardous waste.

II. PROGRAM STAFFING

For this fiscal year, the program was comprised of two resident inspectors assigned to home duty stations, one administrative assistant and a program supervisor (See Attachment 1 for the Organization Chart). The Resident Inspector Program resides within the Hazardous Waste Section's Compliance Branch.

III. THE RESIDENT INSPECTOR

Most state agencies perform their compliance monitoring inspections as required from their specific respective regulations. The Resident Inspector Program, however, is unique in that its inspections utilize a multi-media approach. This approach covers all regulatory responsibilities for which DENR is authorized, such as hazardous waste management and treatment requirements, workplace safety, air emissions requirements, wastewater treatment and discharge requirements.

There are inherent overlaps of DENR's regulatory requirements with regulations administered by other departments. Two examples include the Department of Labor's Occupational Safety & Health Act and the Department of Transportation's hazardous materials transportation regulations. Deviations from these various departments' regulations could adversely affect public health and the environment, as well as a facility's compliance with air, water or hazardous waste management regulations. As part of the Resident Inspector Program's comprehensive approach to monitoring commercial hazardous waste facilities, resident inspectors also evaluate these sites for potential violations in these other regulatory areas. When necessary, they make recommendations to the facilities and/or make referrals to the authorized agency or agencies. The mandated frequency of inspection at each facility gives resident inspectors the time needed to achieve this high degree of oversight.

To prepare resident inspectors for their multimedia approach to inspections, initial training typically consists of Hazardous Waste Operations and Emergency Response (40 hours), Environmental Surveillance, RCRA Hazardous Waste Training, Hazardous Materials Transportation and the care and use of Level B / Personal Protective Equipment.

Annual training for resident inspectors includes an 8-hour Health & Safety Basic Refresher, Level B Update and Environmental Surveillance Update. Depending upon the inspector's area of expertise and responsibility, other miscellaneous training may be received, including Hazardous Waste Incineration, Ambient Air Monitoring, Air Pollution Control Devices, Chemical Safety Audit, OSHA Inspector's Course, Hazardous Materials Management and various EPA regulatory workshops.

IV. SUBJECT FACILITIES

To be subject to oversight by the Resident Inspector Program, the facility must be a commercial hazardous waste facility. The term "commercial," as it relates to a hazardous waste facility, is defined as a facility "... that accepts hazardous waste from the general public or another person for a fee" [G.S. 130A-290(a)(3)]. Presently, there are 11 permitted commercial hazardous waste treatment, storage, and disposal facilities in North Carolina under the jurisdiction of the Resident Inspector Program. Beginning in April, Heritage Environmental Services, (one of four commercial permitted treatment, storage and disposal facilities located in Mecklenburg County), ended their suspended operations status and resumed operation. Although currently treating, storing or disposing of hazardous waste at a limited/minimal operating level at the Charlotte facility, Heritage Environmental Services continues to provide full services for their North Carolina customers, still utilizing the Charlotte facility as a transfer station. While this permitted RCRA Part 'B' TSDF was inactive, the facility was monitored by the Resident Inspector Program as a Category 1; after operations were resumed, the facility ranking returned to a Category 3 (See Section V and Attachment 2).

V. FACILITY CATEGORY RANKINGS

Each commercial hazardous waste treatment, storage and disposal facility is ranked to determine its required inspection fees and minimum inspection frequency as required under 15A NCAC 13A .0116.

The frequency of the inspections at each facility is dependent upon its qualification as a "special purpose" commercial hazardous waste facility and the category ranking assigned to it, which is based on such factors as the capacity of the facility, the nature of the hazardous waste and the type of treatment being performed. Currently, all existing commercial hazardous waste treatment, storage and disposal facilities in North Carolina qualify as "special purpose" facilities. (See Attachment 2 for current category rankings and primary waste treatment activities for these facilities.) The designated categories of 1, 2 or 3 correspond to a minimum inspection frequency of two, four or six times per month, respectively.

VI. FUNDING & EXPENSES

The Resident Inspector Program is funded by fees collected from the commercial hazardous waste facilities. These fees are based upon each facility's category ranking and volume (tons) of hazardous waste handled. The category ranking system is designed to be an indirect measure of the costs associated with the oversight at each commercial hazardous waste facility. While the commercial hazardous waste facilities' total tonnage throughput has continued to increase this year, yielding increased Program fees, Program operating expenses have increased due to transportation / fuel costs. However, Program costs were again reduced due to delayed staff replacement caused by the previous year's 75% turnover in personnel. The savings to the salary budget during the re-staffing period (lapse in personnel coverage) was partially offset by the cost incurred for the vacancy re-staffing and training of new personnel. The Program's effectiveness is hampered by the inability to attract and keep sufficiently skilled, competent personnel with competitive compensation in today's job market. Due to the periodic loss of personnel, it remained necessary for the Resident Inspector Program supervisor to conduct a significant portion of the required inspections to meet the Program's minimum mandates.

For FY 2005-2006, the budget was developed using anticipated revenues from Resident Inspector Program fees of approximately $295,000. The actual hazardous waste tonnage received by two of the commercial facilities greatly increased over the previous year, while all other facilities remained relatively unchanged. (A detailed list of the individual tonnages received by each of the commercial hazardous waste facilities in FY 2005-2006 can be found in Attachment 3.) The actual Program receipts in FY 2005-2006 totaled $297,000, while Program expenses were held to $225,934.

VII. INSPECTION GOALS & ACHIEVEMENT

During FY 2005-2006, for the periods when the program was fully staffed, additional inspections were conducted. Thus, a total of 460 inspections were conducted, exceeding the required minimum of 444 inspections. These inspections included routine site inspections as well as specific inspections to monitor partial closure activities at one facility and the resumption of normal operation at another facility, and to assist in improving compliance performance by other facilities. (A detailed list of the inspections performed by program staff at the commercial hazardous waste facilities in FY 2005-2006 can be found in Attachment 4.)

VIII. ENFORCEMENT & COMPLIANCE

Enforcement Activities

In general, the commercial hazardous waste facilities continue to be cooperative and have rapidly responded with corrective action in most cases when deficiencies or violations were cited or recommendations made. When either of these actions do not result in timely and consistent compliance, a more severe enforcement action is taken, such as a compliance order with administrative penalty.

During the past fiscal year, resident inspectors issued one Notice of Violation to a commercial facility and two Compliance Orders (see Attachment 5 for current and historic enforcement tracking). These violations, when compared to the actual number of inspections, translate to an overall compliance rate of 97.8 percent. The root cause for the decline in compliance from the previous year has been identified as changes in facility operating personnel and/or changes in the facility's operating methods.

Compliance Assistance Activities & Homeland Security

Compliance assistance activities offered under this program are conducted routinely during the inspectors' site visits. Since the inspectors visit these facilities at least semi-monthly, they have the opportunity to become very familiar with the operations of each facility and may offer compliance assistance in several ways. Inspectors identify past trouble areas and work with the facility toward a permanent solution. They also increase scrutiny of these areas during each visit to keep the facility's compliance awareness high. Inspectors communicate frequently with facility management and front-line workers to clarify the permit and current regulatory requirements, the reasons for the requirements, and the potential risks incurred for noncompliance. Inspectors continue to develop and schedule and facilitate roundtable training workshops customized for each specific facility. These workshops cover the most frequent violations observed overall at commercial facilities, the most frequent violations observed at their particular facility, any potential areas of concern and positive facility operations.

If a facility repeats a violation, the primary inspector and program supervisor will set up an informal enforcement conference with the local facility compliance managers, the plant manager, and, if applicable, the corporate compliance officers. They discuss the facility's current compliance issues and work with the facility to find a permanent solution, which may include formal enforcement.

IX. PUBLIC MEETINGS / HEARINGS & PERMIT RENEWALS

The Resident Inspector Program staff continues to observe and assist/support public meetings/hearings that involve the operation of and proposed modifications to the commercial hazardous waste facilities in this state. A continuing program goal is for the staff to be fully aware of public concerns and to be conscious of these concerns during oversight efforts at these facilities. Program staff members have provided assistance in facility compliance audits by generators, consultants, other agencies and the public. Program staff work with area schools to provide information in the classroom about environmental responsibility and how the facilities help with that responsibility.

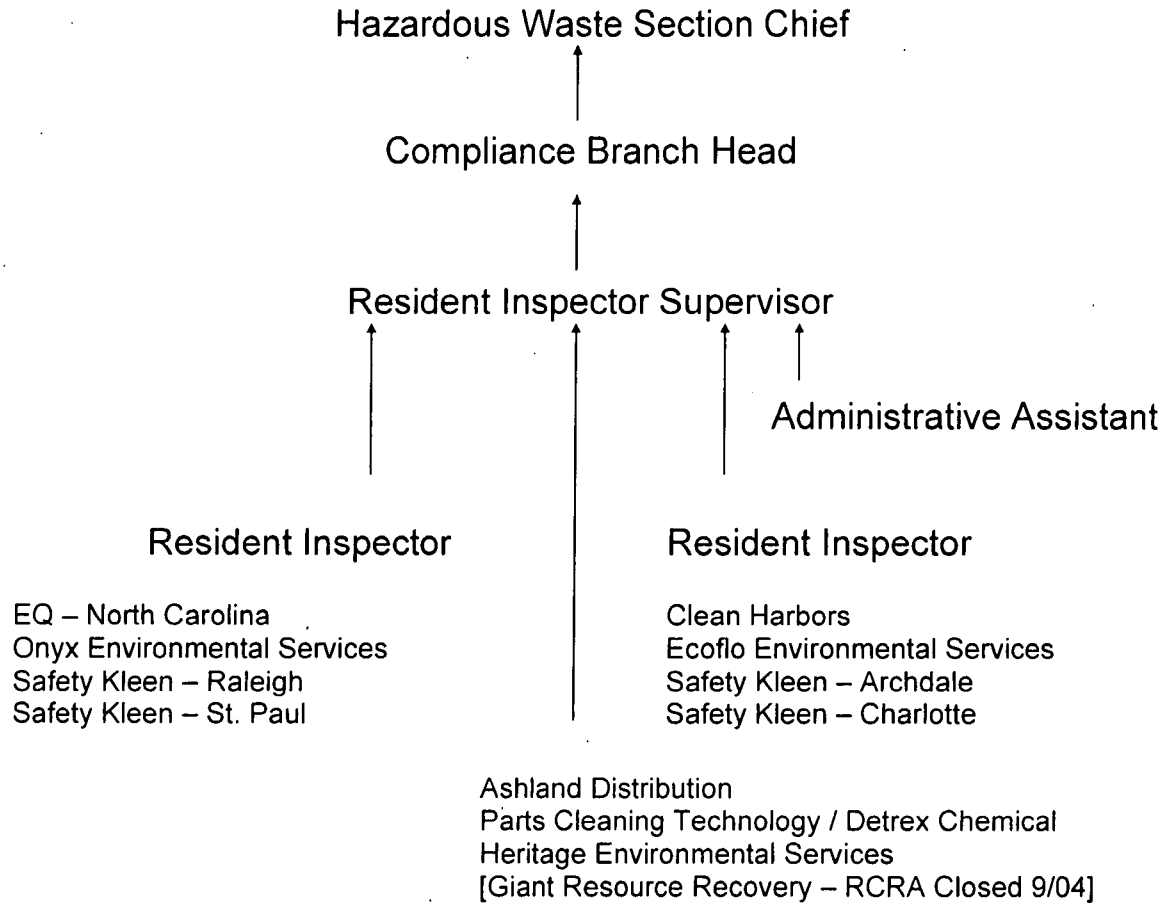
The Resident Inspector Program staff continues to work with the Facility Management Branch (the permitting arm of the Hazardous Waste Section) and each commercial hazardous waste facility during the permit renewal/application process and other compliance reviews, such as, closure of a permitted unit (storage tank, processing area, container storage area, etc.). The purpose of this joint effort is to provide clarification, address areas of concern, and assist in ensuring the permit application accurately reflects the facility as it is operated.

X. SUMMARY

At the conclusion of the program's 15th year, the Resident Inspector staff continues to provide rigorous oversight of the commercial hazardous waste facilities in this state. This is reflected in the facilities' overall compliance rate of 97.8 percent. The staff is constantly seeking new approaches and initiatives to improve the department's ability to protect public health and the environment. Also, the staff works to ensure that new regulatory requirements are fully understood by the facilities so they can be implemented rapidly and correctly. Proactive approaches, such as workshops, program oversight and compliance assistance efforts, have clearly demonstrated a heightened level of compliance at the commercial hazardous waste facilities in North Carolina.

ATTACHMENTS

ORGANIZATIONAL CHART



ATTACHMENT 2
RESIDENT INSPECTOR PROGRAM

Commercial Hazardous Waste Facilities

CATEGORY RANKINGS & PRIMARY TREATMENT

(FY 2005-2006)

FACILITY	CURRENT CATEGORY RANKING	Primary Waste Treatment
Ashland Distribution Co.	1	Container Storage
Clean Harbors	3	Hazardous Waste Consolidation, Fuels Blending, Container Storage
Detrex Chemical / Parts Cleaning Technologies	2	Chlorinated Solvent Reclamation
ECOFLO, Inc.	3	Hazardous Waste Consolidation, Fuels Blending, Container Storage
EQ – North Carolina	2	Container Storage
Heritage Environmental Services	3*	Hazardous Waste Consolidation, Fuels Blending, Container Storage
ONYX Environmental Services	2	Container Storage
Safety-Kleen / Archdale	1	Mineral Spirits Reclamation
Safety-Kleen / Charlotte	1	Mineral Spirits Reclamation
Safety-Kleen / Raleigh	1	Mineral Spirits Reclamation
Safety-Kleen / St. Pauls	1	Mineral Spirits Reclamation

* Operations previously suspended by the corporate office to evaluate facility economics and were designated as a Category 1. When normal operations were resumed effective April 1, 2006, the facility was re-designated as a Category 3

ATTACHMENT 3
RESIDENT INSPECTOR PROGRAM

Commercial Hazardous Waste Facilities

ANNUAL HAZARDOUS WASTE TONNAGE RECEIVED REPORT

(FY 2005/2006)

COMMERCIAL FACILITY	Tons Received 2005/2006	Tons Received 2004/2005	Tons Received 2003/2004	Tons Received 2002/2003	Tons Received 2001/2002
ASHLAND	3,933.47	3,624.00	3,164.72	3,363.58	3,108.87
CLEAN HARBORS	10,561.87	8,593.29	4,039.98	4,199.94	5,333.92
DETREX	742.13	522.68	674.57	1,017.31	1,643.76
ECOFLO	3,961.10	4,938.21	6,126.56	4,916.60	4,131.37
EQ–North Carolina	7,345.74	6,626.97	3,221.14	152.52	0
HERITAGE	5.85	0.00	431.28	920.54	2,501.15
ONYX	1,530.00	1,248.24	1,297.00	1,245.00	1,325.55
SK-ARCHDALE	435.90	474.00	498.00	564.50	728.90
SK-CHARLOTTE	411.20	423.00	472.00	493.20	653.30
SK-RALEIGH	391.60	406.60	449.90	512.00	676.50
SK-ST. PAULS	288.80	317.80	319.73	339.90	396.00
TOTAL	29,607.66	27,174.79	20,694.88	17,726.09	20,499.32

ATTACHMENT 4
RESIDENT INSPECTOR PROGRAM

Commercial Hazardous Waste Facilities

INSPECTION TOTALS

(FY 2005/2006)

FACILITY	REQUIRED INSPECTIONS	ACTUAL INSPECTIONS
Ashland Distribution Co.	24	25
Clean Harbors	72	73
Detrex Chemical / Parts Cleaning Tech.	48	50
ECOFLO, Inc.	72	73
EQ - North Carolina	48	49
Heritage Environmental Services	36*	36
ONYX Environmental Services	48	49
Safety-Kleen / Archdale	24	26
Safety-Kleen / Charlotte	24	27
Safety-Kleen / Raleigh	24	27
Safety-Kleen / St. Pauls	24	25
TOTAL	444	460

* [nine months as Category 1 = 18] + [three months as Category 3 = 18] = Total 36

ATTACHMENT 5
RESIDENT INSPECTOR PROGRAM

ENFORCEMENT OVERVIEW at COMMERCIAL HAZARDOUS WASTE FACILITIES (7/1/91 through 6/30/06)

FACILITY	NOVs FY 05-06	NOVs To Date	Compliance Orders FY 05-06	Compliance Orders To Date
ASHLAND	0	13	1	1
CLEAN HARBORS [1]	0	15	0	0
DETREX	0	12	0	1
ECOFLO	0	9	0	0
ENVIROCHEM [2]	0	10	0	1
EQ–North Carolina[2]	0	0	1	1
HERITAGE	0	30	0	3
ONYX	0	11	0	1
SK-ARCHDALE [3]	0	14	0	0
SK-CHARLOTTE [3]	1	17	0	0
SK-RALEIGH [3]	0	11	0	0
SK-ST. PAULS [3]	0	15	0	0
GIANT [4] **CLOSED**	0	12	0	0
SOLITE [5] **CLOSED**	0	8	0	1
TOTALS	1	177	2	9

1 Clean Harbors (formerly owned by Safety-Kleen Technical Services; formerly owned by Laidlaw)

2 EQ-North Carolina (formerly owned by EnviroChem Environmental Services, Inc.)

3 SK = Safety-Kleen Corporation

4 Giant Resource Recovery (formerly owned by Oldover Corp.) - CLOSED September 2004

5 Solite Corporation has ceased operation as a hazardous waste burner - CLOSED January 2003

Animal Feeding Operations Compliance and Inspection Report

JULY 1, 2005 – JUNE 30, 2006

NC Division of Water Quality
October 31, 2006

Permitting Actions

• Total Permits Issued (FY 05-06)	159
▫ Swine	131
▫ Cattle	23
▫ Poultry	3
▫ Horses	2

Inspections & Operation Reviews

Total Animal Operations (FY 05-06)	2,500
• DWQ Inspections Completed	2,135
✓ Routine	2,051
✓ Compliant/Emergency Response	33
✓ Follow-up Inspections	26
• DSWC Reviews Completed	2,580
✓ Routine	2,545
✓ Technical Assistance	18
✓ Follow-up Reviews	13

Animal Inspection Issues
(FY 05-06)

Inspections w/Identified Violations	310
☞ Discharges	39
▪ To Surface Waters	18
☞ Inadequate freeboard	64
▪ Less Than One (1) Foot	11
☞ Evidence of over application	112
☞ Crops different than approved	74

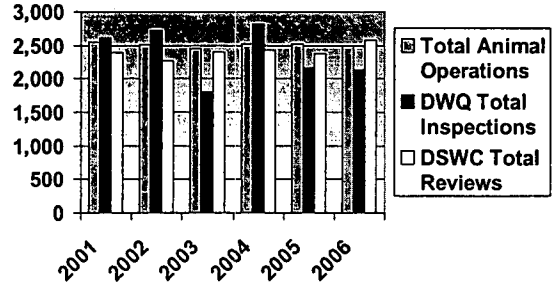
Violations & Enforcement Cases
(FY 05-06)

➢ Identified Violations	310
➢ Notice of Violation Issued	137
➢ Enforcements Initiated	7
➢ Penalties Assessed	$58,318

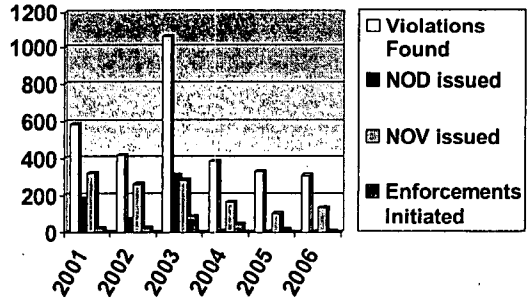
Historical Perspective

	2002	2003	2004	2005	2006
Total Animal Operations	2,512	2,461	2,524	2,517	2,500
DWQ Total Inspections	2,720	1,800	2,808	2,168	2,135
DSWC Total Reviews	2,266	2,402	2,429	2,382	2,580
Violations Found	416	1,060	383	331	310
NOD Issued	71	310	6	2	0
NOV Issued	262	285	164	105	137
Enforcements Initiated	24	89	43	16	7
Penalties Assessed	$107,440	$356,972	$156,733	$69,622	$58,318

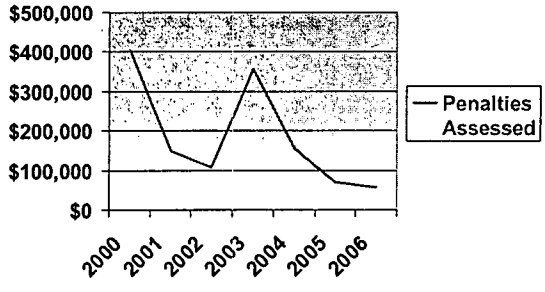
Site Visits



Violations



Penalty Amounts



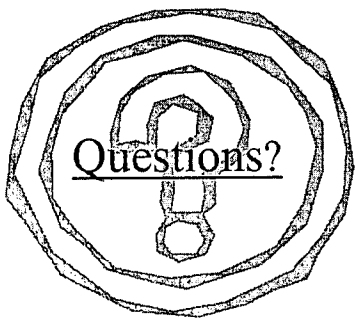

Questions?

EXHIBIT V

NCDENR

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

October 15, 2006

TO: Senator Dan Clodfelter
Senator Charlie Albertson
Representative Pryor Gibson

FROM: William G. Ross Jr., Secretary

RE: Animal Waste Management Annual Report

G.S. 143-215.10M requires the Department of Environment and Natural Resources to report to the Environmental Review Commission each year on permitting, inspection, and compliance activity of animal waste operations across the state. Attached is this year's report. If you have any questions please contact Ted Bush at (919) 715-6172.

Attachment

cc: Alan W. Klimek, P.E.

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NCDENR

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

October 15, 2006

TO: Lynn Muchmore

FROM: William G. Ross Jr., Secretary

RE: Animal Waste Management Annual Report

G.S. 143-215.10M requires the Department of Environment and Natural Resources to report to the Fiscal Research Division each year on permitting, inspection, and compliance activity of animal waste operations across the state. Attached is this year's report. If you have any questions please contact Ted Bush at (919) 715-6172.

Attachment

cc: Alan W. Klimek, P.E.
Jennifer Haygood, Fiscal Research

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STATUS OF PERMITTING AND INSPECTING ANIMAL WASTE MANAGEMENT SYSTEMS

ANIMAL WASTE COMPLIANCE REPORT

JULY 1, 2005 – JUNE 30, 2006

REFERENCE:
G.S. 143-215.10M

For Period Beginning July 01, 2005 and Ending June 30, 2006*

	ARO	FRO	MRO	RRO	WARO	WIRO	WSRO	State Totals
Total number of Animal Operations Requiring Inspections and Operation Reviews during 2005/2006	24	763	103	257	562	690	101	2500
DWQ Total number of inspections completed	44	532	65	230	533	639	92	2135
Routine DWQ annual compliance inspections	28	520	65	226	511	610	90	2051
Inspections conducted due to complaints	14	4	0	0	2	4	2	26
Follow-up of previous review or inspection	0	6	0	1	8	11	0	26
Emergency Notification	0	1	0	0	2	4	0	7
Lagoon Evaluations	1	1	0	3	7	0	0	12
Other inspections	1	0	0	0	3	9	0	13
DSWC Total number of compliance inspections completed** (Brunswick, Columbus, Jones, and Pender County Only)	-	-	-	-	58	53	-	111
Routine DSWC annual compliance inspections	-	-	-	-	47	50	-	97
Inspections conducted due to complaints	-	-	-	-	0	1	-	1
Follow-up of previous review or inspection	-	-	-	-	3	2	-	5
Emergency Notification	-	-	-	-	1	0	-	1
Response to DWQ Referral	-	-	-	-	0	0	-	0
Other	-	-	-	-	7	0	-	7
DSWC Total number of operation reviews completed***	25	936	75	219	519	756	50	2580
Routine operation reviews	25	933	75	219	505	739	49	2545
Technical Assistance	0	1	0	0	6	11	0	18
Follow-up of previous review	0	2	0	0	6	5	0	13
Emergency	0	0	0	0	1	0	0	1
Other inspections	0	0	0	0	1	1	1	3

*Numbers are reported as of 06/30/2006 and may vary from actual due to delays in data entry and continued refinements to database.

** Pilot Project. Compliance Inspections will only be conducted in Brunswick, Columbus, Jones, and Pender County by DSWC. Operation reviews are normally conducted in the Pilot Counties in the spring and compliance inspections are conducted in the fall. Brunswick County was added to the Pilot Project on July 1, 1999 and Pender County was added on January 1, 2006.

***DSWC numbers include site visits completed by Soil & Water Conservation District and NRCS staff.

For Period Beginning July 01, 2005, and Ending June 30, 2006

	ARO	FRO	MRO	RRO	WARO	WIRO	WSRO	State Totals
Number of Permits Issued to Animal Operations	9	46	9	17	37	36	5	159
Swine	1	46	2	10	36	36	0	131
Cattle	6	0	7	5	0	0	5	23
Poultry	1	0	0	2	0	0	0	3
Horses	1	0	0	0	1	0	0	2

For Period Beginning July 01, 2005 and Ending June 30, 2006

	ARO	FRO	MRO	RRO	WARO	WIRO	WSRO	State Totals
Deficiencies and Violations found during DSWC operation reviews and DWQ inspections*	23	78	11	23	94	63	18	310
Number of facilities receiving a deficiency or violation from inspections	15	37	5	18	39	17	6	137
Enforcement actions initiated for violations noted during this period**	0	2	0	1	2	1	1	7

*Violation totals include violations noted during both operation reviews and compliance inspections and may include multiple violations at a single facility.

**Enforcement actions being developed by the regional staff are normally not shown as actions initiated during this reporting period. These actions will be included in the next year to date totals.

Deficiencies and Violations Identified	Total number of inspections with identified problem	Percent of total problems identified	Percent of total inspections completed (4,836)
Discharges from Animal Waste Management System	39	12.6	0.8
Of the total discharges identified, the number of discharges that reached surface waters of the state	(18)**	(5.8)	(0.4)
Inadequate Freeboard (Certified Farms)	64	20.6	1.3
Of the total inspections identified with inadequate freeboard, the number of inspections with freeboard noted at less than 1 foot	(11)	(3.5)	(0.2)
No Certified Operator in Charge	15	4.8	0.3
Evidence of over application	112	36.1	2.3
Does not meet setbacks	5	1.6	0.1
Inadequate land	1	0.0	0.0
Crop differs from that stated in Certified Animal Waste Management Plan	74	23.9	1.5
Totals	310*	100	

*4,836 inspections and reviews were conducted. There were 7 potential problems evaluated on each report. Therefore the total possible deficiencies and violations that could have been noted was 33,852. The 310 problems identified represents less than one percent of the total potential number.

**Of the 18 discharges to surface waters, 12 were from swine operations, 1 was from poultry operations, and 5 were from cattle operations.

For Period Beginning July 01, 2005 and Ending June 30, 2006*

TOTAL NUMBER OF INSPECTIONS WITH IDENTIFIED PROBLEM								
Deficiencies and Violations Identified	**ARO**	**FRO**	**MRO**	**RRO**	**WARO**	**WIRO**	**WSRO**	**State Totals**
Discharges from Animal Waste Management Systems	8	11	0	0	13	6	1	39
Of the total discharges identified, the number of discharges that reached surface waters of the state	(5)	(6)	(0)	(0)	(3)	(3)	(1)	(18)
Inadequate Freeboard (Certified Farms)	3	3	5	1	30	18	4	64
Of the total inspections identified with inadequate freeboard, the number of inspections with freeboard noted at less than 1 foot	(0)	(0)	(0)	(0)	(8)	(3)	(0)	(11)
No Certified Operator in Charge	2	1	1	2	8	0	1	15
Evidence of over application	4	38	2	12	30	23	3	112
Does not meet setbacks	1	0	1	0	1	0	2	5
Inadequate land	0	0	0	1	0	0	0	1
Crop differs from that stated in Certified Animal Waste Management Plan	5	25	2	7	12	16	7	74
Totals	23	78	11	23	94	63	18	310

* Numbers are reported as of 06/30/2006 and may vary from actual due to delays in data entry and continued refinements to database.

For Period Beginning July 01, 2005 and Ending June 30, 2006*

TOTAL NUMBER OF INSPECTIONS WITH IDENTIFIED PROBLEM					
Deficiencies and Violations Identified**	**Swine**	**Cattle**	**Poultry**	**Horses**	**State Totals**
Discharges from Animal Waste Management System	30	8	1	0	38
Of the total discharges identified, the number of discharges that reached surface waters of the state	(12)	(5)	(1)	(0)	(18)
Inadequate Freeboard (Certified Farms)	52	12	0	0	64
Of the total inspections identified with inadequate freeboard, the number of inspections with freeboard noted at less than 1 foot	(11)	(0)	(0)	(0)	(11)
No Certified Operator in Charge	11	4	0	0	15
Evidence of over application	100	10	2	0	112
Does not meet setbacks	1	4	0	0	5
Inadequate land	1	0	0	0	1
Crop differs from that stated in Certified Animal Waste Management Plan	58	16	0	0	74
Totals	253	54	3	0	310

*Numbers are reported as of 06/30/2006 and may vary from actual due to delays in data entry and continued refinements to database.

**From the period of 7/1/05 through 6/30/06, DWQ has issued approximately 137 Notice of Violations. This number can only be estimated due to the slight time delay between the issuance of a NOD or NOV from the DWQ regional staff, and the receiving of the copy of the letter by the DWQ Central Office.

DWQ FY06 Status Report
7/1/2005-6/30/2006

Individually Permitted Discharging Systems

Per General Statute 143-215.9A

DWQ Programs Highlighted

- NPDES wastewater dischargers
- Sanitary sewer overflows

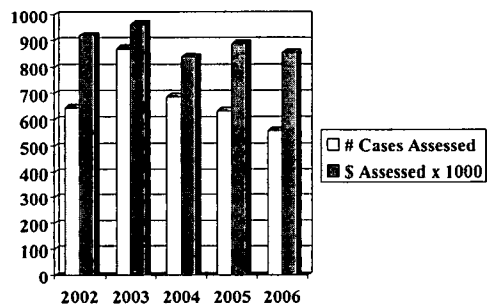
NPDES Wastewater Permitting Summary FY06

Total# Individual Permitted Facilities:	**1,360**
Municipals:	**299**
Non-Municipals:	**1,061**
NPDES Permits Issued:	**283**
Permit Backlog:	**4.8%**
Total # Facility Inspections:	**1,562**

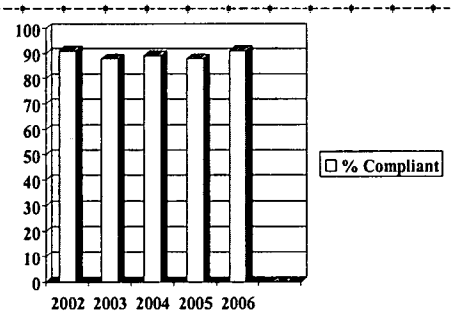
NPDES Wastewater Compliance Summary FY06

Total# Enforcement Actions Assessed:	**553**
Civil Penalties Assessed: **Civil Penalties Collected:**	**$857,775** **$616,490**
Remission Requests: **Partial/Full Remission by Director:**	**69** **22**
Facilities with Active SOCs: **Requests for new/amended SOCs:**	**27** **15**

NPDES Wastewater Penalty Assessment Trends



NPDES Wastewater Compliance Trends



Sanitary Sewer Overflows
Annual Spill Trends

Year	Total # Spills	# Spills To Surface Waters	Volume To Surface Waters
2003	2,907	2,547	103.8 MG
2004	1,930	1,705	29.0 MG
2005	2,228	2,076	47.6 MG
2006	1,902	1,744	25.6 MG

Sanitary Sewer Overflows
Penalty Assessment Trends

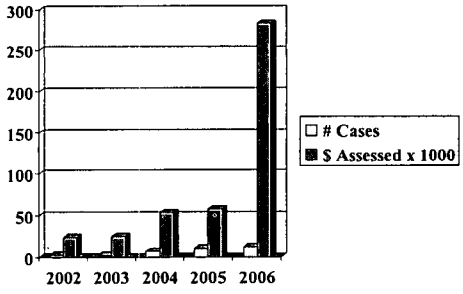




EXHIBIT X

North Carolina
Department of Environment and Natural Resources

Michael F. Easley, Governor
William G. Ross, Jr., Secretary

MEMORANDUM

To: Environmental Review Commission Members

From: William G. Ross, Jr.

Subject: Status Report on Individually Permitted Discharging Systems
Beginning July 1, 2005 and Ending June 30, 2006
Fiscal Year 2005-2006

Pursuant to General Statutes 143-215.9A, the Department of Environment and Natural Resources submits the subject fiscal year report.

If any additional information or clarification is needed, please contact Vanessa Manuel at 919/733-5083, extension 532.

ATTACHMENTS

Cc: Alan W. Klimek, P.E.

North Carolina
Department of Environment and Natural Resources

Michael F. Easley, Governor
William G. Ross, Jr., Secretary

MEMORANDUM

To: Jim Johnson
Director, Fiscal Research Division of Water Quality
Room 619, Legislative Office Building

From: William G. Ross, Jr.

Subject: Status Report on Individually Permitted Discharging Systems
Beginning July 1, 2005 and Ending June 30, 2006
Fiscal Year 2005-2006

Pursuant to General Statutes 143-215.9A, the Department of Environment and Natural Resources submits the subject fiscal year report.

If any additional information or clarification is needed, please contact Vanessa Manuel at 919/733-5083, extension 532.

ATTACHMENTS

Cc: Alan W. Klimek, P.E.
Jennifer Haygood, Fiscal Research

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Status Report on Individually Permitted Discharging Systems For the Period Beginning July 1, 2005 and Ending June 30, 2006.

Summary

North Carolina General Statute (N.C.G.S.) 143-215.9A requires the Department of Environment and Natural Resources to report to the Environmental Review Commission and the Fiscal Research Division on the status of facilities discharging into surface waters during the previous fiscal year. Facilities discharging into surface waters are required by N.C.G.S. 143-215.1 to first apply for and secure a permit from the Environmental Management Commission. As a result, the data provided within this fiscal report is captured for those facilities individually permitted with National Pollutant Discharge Elimination System (NPDES) permits.

The enclosed report details the inspections completed and the enforcement actions taken in North Carolina during fiscal year 2005-2006 by the Division of Water Quality. In addition, information on Special Orders by Consent is included. The report also includes a table showing the number of permits issued by region.

The enclosed tables list totals for each of the Department's regional offices as well as State totals. The regional offices are noted as follows:

- ARO – Asheville Regional Office
- FRO – Fayetteville Regional Office
- MRO – Mooresville Regional Office
- RRO – Raleigh Regional Office
- WARO – Washington Regional Office
- WIRO – Wilmington Regional Office
- WSRO – Winston-Salem Regional Office

If any additional information or clarification is needed, please contact Vanessa Manuel at 919/733-5083, extension 532.

CONTENTS

Table 1	Enforcement actions taken, Civil Penalties assessed and collected, and Remissions Requested from July 1, 2005 through June 30, 2006.
Table 2	Permits Issued and Inspections completed from July 1, 2005 through June 30, 2006.
Table 3	Special Orders by Consent (SOCs) active and pending from July 1, 2005 through June 30, 2006.
Addendum	Support information

ADDENDUM

The following is provided to support the information in the above status report.

- The Division of Water Quality does not have the data or management system in place to currently track information on the number of violations found during each inspection, the date of the violation, or the nature of the violation. A Basinwide Information Management System is, however, under development to address these needs. Funding has been allocated for the initial development phase. Completion of the system will require further funding. Therefore, at this time, the Division is unable to provide such information as requested in the amended G.S. 143-215.9A(a)(3).
- As found in Table 2, "Other Inspections" include:
  - **Audit Inspections**, a comprehensive review of all elements of a municipal's pretreatment program including a records review & an inspection of an industrial facility conducted once every 5 years;
  - **Bioassay Compliance Inspections**, evaluates the biological effect of a permittee's effluent discharge on test organisms using acute and chronic toxicity testing;
  - **Compliance Sampling Inspections**, a sampling inspection designed to verify the permittee's compliance with applicable permit self-monitoring requirements -- analytical results from representative samples collected during the inspection are used to evaluate the permittee's compliance;
  - **Diagnostic Inspections**, focuses on Publicly Owned Treatment Works that have not achieved permit compliance – the purpose is to identify the causes of noncompliance, suggest immediate remedies, and support current or future enforcement action;
  - **Operation & Maintenance Inspections**, focuses on the operation and maintenance aspect of a facility;
  - **Performance Audit Inspections**, inspections that include actual observation of the permittee performing the self-monitoring process from sample collection and flow measurements through laboratory analyses, data work-up and reporting;
  - **Pre-Treatment Inspections**, an annual inspection of a municipal's pretreatment program; and
  - **Toxicity Sampling Inspections**, same as CSI – however, increased emphasis is placed on toxic substances regulated by the NPDES Permit.
- Effective July 1, 1998, the Director of the Division of Water Quality delegated each Regional Water Quality Supervisor the authority to sign all Civil Penalty Assessments for fast-track enforcement actions for violations of NPDES Permit effluent limitations and/or monitoring frequencies in accordance with NCGS 143-215.6A.
- As found in Table 1, "Other Permit Condition Violations" may include
  - discharge violations (resulting from collection system overflows);
  - submitting late Discharge Monitoring Reports;
  - submitting late Toxicity Tests; and
  - permit condition violations (examples, violations of pre-treatment program, improper operation & maintenance of treatment works, or by-pass of treatment works)
- Due to the length of the post assessment process, total civil penalties assessed and total civil penalties collected will not coincide.

Table 1
Status of Civil Penalty Assessments
For the Period Beginning July 1, 2005 and Ending June 30, 2006*

	ARO	FRO	MRO	RRO	WARO	WIRO	WSRO	State Totals
Total Number Of Enforcement Actions Assessed+**	**89**	**54**	**103**	**103**	**40**	**63**	**101**	**553**
Total Number Of Enforcement Actions Assessed By The Central Office++	12	9	10	16	7	3	7	**64**
Total Number Of Enforcement Actions Assessed By The Regional Supervisors	77	45	93	87	33	60	94	**489**
Enforcement Actions Generated From Limit &/or Monitoring Violations	76	41	93	87	29	59	94	**479**
Enforcement Actions Generated From Other Permit Condition Violations	13	13	10	16	11	4	7	**74**
Total Civil Penalties Assessed	$123,347.76	$81,975.05	$156,472.86	$240,630.39	$35,985.63	$58,337.98	$161,025.50	**$857,775.17**
Total Civil Penalties Collected+++	$94,831.78	$50,649.83	$113,630.29	$123,594.79	$49,167.44	$63,568.02	$121,048.47	**$616,490.62**
Remission & Contested Case Responses to Enforcement Actions								
Total Number Of Remission Requests	18	3	6	14	4	15	9	**69**
Total Number Of Enforcement Actions With Partial Or Full Remission By The Director	1	2	1	5	2	4	7	**22**
Total Number Of Remission Requests Pending The Director's Decision	12	6	4	18	4	14	9	**67**
Total Number Of Remission Requests Pending The EMC's Final Agency Decision	14	8	5	21	4	10	12	**74**
Total Number Of Contested Cases (known at this time)	0	0	1	2	0	0	3	**6**

* Fiscal Year numbers are reported as of 8/7/2006 and may vary from actual due to delays in data entry.

+ Data based on penalty assessment approved date; violations assessed may have occurred outside of the quarter date range.

++ Includes assessments by the Environmental Sciences Section.

+++ Penalties collected may not include penalties assessed during this reporting quarter and may include penalties assessed outside this quarter date range.

Table 2
Status of Individually Permitted Facilities
For the Period Beginning July 1, 2005 and Ending June 30, 2006*

	ARO	FRO	MRO	RRO	WARO	WIRO	WSRO	State Totals
Total Number Of Individually Permitted Facilities	**282**	**88**	**260**	**198**	**134**	**127**	**271**	**1360**
Major Municipal Permitted Facilities	19	19	28	31	15	12	25	149
Major Non-Municipal Permitted Facilities	15	9	18	7	9	12	8	78
Minor Municipal Permitted Facilities	25	21	26	16	23	16	23	150
Minor Non-Municipal Permitted Facilities	223	39	188	144	87	87	215	983
Number Of NPDES Permits Issued	**116**	**15**	**64**	**22**	**16**	**3**	**47**	**283**
Major Municipal Permits Issued	8	3	11	1	1	0	4	28
Major Non-Municipal Permits Issued	4	4	6	2	1	0	0	17
Minor Municipal Permits Issued	8	3	8	2	1	1	5	28
Minor Non-Municipal Permits Issued	96	5	39	17	13	2	38	210
Total Number Of Compliance Evaluation Inspections Completed+	325	89	154	246	76	75	253	1218
Total Number Of Other Inspections Completed+	107	15	46	104	16	12	44	344

Table 3
Status of Special Orders By Consent (SOCs)
For the Period Beginning July 1, 2005 and Ending June 30, 2006*

	ARO	FRO	MRO	RRO	WARO	WIRO	WSRO	State Totals
Total Number of Individually Permitted Facilities With Active SOCs	1	2	1	2	7	2	12	27
Total Number of Individually Permitted Facilities Requesting New or Amended SOCs	5	3	1	1	2	0	3	15

* Fiscal Year numbers are reported as of 8/7/2006 and may vary from actual due to delays in data entry.

+ Includes Single Family Domestic Wastewater Discharge COC

Recommendations to Governor Michael F. Easley and Members of the General Assembly of North Carolina From The North Carolina State Water Infrastructure Commission

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The State Water Infrastructure Commission was created by act of the North Carolina General Assembly in 2005. The purpose of the Commission is to identify the State's water infrastructure needs, develop a plan to meet those needs, and monitor implementation of the plan. The Commission is comprised of 13 members representing State agencies and non-profits, organizations representing North Carolina local governments and members of the water infrastructure and water resources professions.

In its work thus far, the Commission has examined how water, wastewater and stormwater infrastructure is funded and developed today in North Carolina and in several other states faced with this same crunch. The Commission submitted a report on November 1, 2006 to the Governor and the members of the General Assembly that provides a careful assessment of what the Commission views as its most important near-term tasks - to understand the needs for infrastructure financing in the State and to make recommendations to the members of the General Assembly on potential solutions to those funding needs. The report calls for near term actions on part of the State of North Carolina and establishes a work agenda for the State Water Infrastructure Commission for the next several years.

Excerpt from report and recommendations:

Water is a resource we use daily. Yet, we rarely give a thought to where it comes from and where it goes to be disposed of in this State. Our complacency has grown because of the protections afforded by federal and State regulations. We expect safe drinking water and environmentally sound disposal of our wastewater. We also expect that business, those already in our State or those considering our State as a location, will find clean and plentiful water for their operations, thus enabling needed job creation and retention.

Yet, the reality is that North Carolinians face significant challenges to our environment and public health, and to our ability to create and retain jobs. These come in the form of a growing population, concentration of that growth in certain regions of the State, increased demand for water and growing volumes of wastewater for disposal. When coupled with complacency, we risk missing crucial opportunities to manage our water resource and infrastructure needs with time still on our side.

There are a wide range of water infrastructure needs facing the State of North Carolina. The Water 2030 Initiative, a recent study of the State's infrastructure capital needs, estimated we will need $16.6 billion between 2005 and 2030 to develop new treatment facilities and upgrade

those already existing, to improve operations and maintenance capacities, to provide much needed technical assistance and training for owners and managers, and to adequately plan for a sustainable water future.

Owners and operators of these systems know well the challenges they face as they work every day to produce safe drinking water and protect the environment from the degradation that can be caused by inadequate control and disposal of wastewater and stormwater. Costs of construction and maintenance, however, continue to rise. Systems across the State struggle to keep pace with inflation and only the most financially secure are prepared to address today's escalating construction cost overruns pushed by global forces such as increases in petroleum and material prices that affect the cost of water and wastewater pipe.

To adequately address the financing challenge will require that we put new ideas to work in North Carolina such as finding ways for our water and wastewater funds now available to work more effectively together, dedication of a permanent source of funding and encouraging systems to price water, wastewater and storm water services to customers to cover all costs associated with the provision of clean water. Customers of local systems must pay their fair share of these costs through their rates.

Drafters of our State's constitution found that protection and conservation of the State's natural resources were essential to create a sustainable future and provide for a rich quality of life in this State. The members of the State Water Infrastructure Commission believe it is our challenge to continue this tradition. We must continue to develop ways to effectively and efficiently provide for water, wastewater and stormwater infrastructure development. We must also ensure that these services are provided equitably and sustainably because every citizen of this State has a basic right to safe drinking water and adequate disposal of waste.

It shall be the policy of this State to conserve and protect its lands and waters for the benefit of all its citizenry, and to this end it shall be a proper function of the State of North Carolina and its political subdivisions to acquire and preserve park, recreational, and scenic areas, to control and limit the pollution of our air and water, to control excessive noise, and in every other appropriate way to preserve as a part of the common heritage of this State its forests, wetlands, estuaries, beaches, historical sites, openlands, and places of beauty. Article XIV, Section 5, North Carolina State Constitution

Recommendations to the Governor and the members of the North Carolina General Assembly are:

Establish new and stable State funding for water, wastewater and stormwater improvements

To ensure that North Carolina can protect human health, preserve its water resources for the future and sustain economic growth the Commission's first priority is to recommend that the Governor and the 2007 General Assembly provide stable, new state funding for drinking water, wastewater and stormwater infrastructure of at least $100,000,000 per year. The Commission's second priority is to recommend that the Governor and the 2007 General Assembly authorize a referendum for the voters of the State to consider passage of a $1 billion Clean Water Bond.

Provide $50 million in the 2007-2008 State Budget to address critical needs.

The 1998 Clean Water Bonds have been utilized. Coupled with the diminishing role of the federal government as a funder of infrastructure have left many North Carolina communities without the funding needed to make system improvements. Figures from October 2006 available from the Department of Environment and Natural Resources indicate that there are 114 wastewater systems under some type of order from the State, either limiting or preventing additional connections to their systems. The majority of these systems is located in rural, economically distressed areas and has small user populations, further limiting the ability of the system to afford improvements without some infusion of grant funds. The State Water Infrastructure Commission recommends appropriation of $50 million to address immediate and critical water infrastructure needs in fiscal years 2007-2008.

Establish conditions on State funding that ensure financial, technical and managerial efficiency of operation

State-supported funding assistance should carry certain conditions that ensure these funds support sustainable infrastructure investments. The State Water Infrastructure Commission recommends that technical assistance providers and funding providers develop a plan to guide future state investments that 1) ensures customers of public systems contribute their "fair share" to fund improvements, 2) ensures local Ability to Pay is analyzed and used to allocate funding types and amounts, 3) ensures collaboration between existing infrastructure funders is established to maximize the use of all available funds, and 4) ensures that regionalization, water reuse and other conservations practices become a standard part of project evaluation and funding.

Support efforts to improve operation and maintenance of water, wastewater and stormwater systems

The State Water Infrastructure Commission recognizes the importance of sound operation and timely maintenance to the efficiency and effectiveness of our state's water, wastewater and stormwater systems. The Commission encourages State support for improving system operations and maintenance including improved education for system owners, development of a shadowing program between current and retired operators, capitalization of two scholarship programs, one for continuing education, the other for enrollment in water resource management at a North Carolina community college, development of a list serve for operators to post questions, information and open an online dialog for operators, and production of educational materials for use in high school career fairs to promote the operator profession and for conferences.

Provide for Regular Updates to the State Water and Wastewater Data Layers

The State Water Infrastructure Commission supports full funding for an initial update of the Water 2030 water, wastewater and stormwater data and annual updates thereafter. Such data is essential to support planning and emergency management efforts and will be easily accessible to the public through **NCOneMap**.

Establish State Funding for North Carolina Stream Mapping Project: Phase II

The State Water Infrastructure Commission recommends full funding for completion of the NC Geographic Information Coordinating Council's plan to improve the mapping and digital representation of streams and surface waters. Stream Mapping Project data is a critical foundation for water quality monitoring and water supply planning.

Fund the State Water Infrastructure Commission

The State Water Infrastructure Commission recommends that the Governor and 2007 General Assembly appropriate $250,000 per year to fund the ongoing work of SWIC. In the current national environment, states are being called upon to define a broader and more comprehensive role in both the financing and development of infrastructure. The State Water Infrastructure Commission provides a necessary forum for discussion and decision-making on water resources and infrastructure matters for the State of North Carolina.

Members of the State Water Infrastructure Commission 2006-2008

Standing Members:

Bill Holman, Chairman (also Executive Director of the Clean Water Management Trust Fund)

Chris Beacham, Assistant Secretary, NC Department of Commerce

Dempsey Benton, Deputy Secretary- NC Department of Environment and Natural Resources

Billy Ray Hall, President, NC Rural Economic Development Center

Ellis Hankins, Executive Director, NC League of Municipalities

Vance Holloman, Deputy State Treasurer, Office of State Treasurer

David Thompson, Executive Director, NC Association of County Commissioners

Appointed Members: Serving two-year terms

Dr. Downey Brill, Professor, NC State University (Chancellor's Appointee)

Steve Cavanaugh, Cavanaugh Associates (American Council of Engineering Companies Appointee)

Harold Herring, Executive Director, Neuse Regional Water and Sewer Authority (Appointee of Speaker Pro Tem)

The Honorable Bill Owens, NC House of Representatives (Appointee of House Speaker)

Dudley Watts, Forsyth County Manager (Governor's Appointee)

Richard Whisnant, Associate Professor, UNC School of Government (Appointee of Water Resources Research Institute)

EXHIBIT Z

North Carolina State Water Infrastructure Commission
1651 Mail Service Center
Raleigh, NC 27699-1651

November 1, 2006

The Honorable Charlie Albertson, Co-Chairman
The Honorable Dan Clodfelter, Co-Chairman
The Honorable Pryor Gibson, Co-Chairman
Environmental Review Commission

RE: Report and Recommendations from State Water Infrastructure Commission

Dear Sirs:

On behalf of the members of the North Carolina State Water Infrastructure Commission, I submit this report which contains a series of recommendations for consideration by the members of the Environmental Review Commission, other members of the General Assembly and the Governor regarding drinking water, wastewater and stormwater infrastructure. The State Water Infrastructure Commission was created by act of the North Carolina General Assembly in 2005.

The purpose of the Commission is to identify the State's water infrastructure needs, develop a plan to meet those needs, and monitor implementation of the plan. This report outlines a series of seven recommendations we believe essential to the protection of public health and the environment and to the economic stability of our future in North Carolina.

Should you have any questions regarding the enclosed document, please contact me at (919) 733-6375. We look forward to scheduling a time to present the results of our work to the members of the Environmental Review Commission in January 2007.

Respectfully,

Bill Holman, Chairman
State Water Infrastructure Commission

BH:jck

CC: George Givens
Lynn Muchmore

Report and Recommendations

To

The Governor Michael F. Easley

and Members of the General Assembly of North Carolina

From

The North Carolina

State Water Infrastructure Commission

November 1, 2006

The State Water Infrastructure Commission was created by act of the North Carolina General Assembly in 2005. The purpose of the Commission is to identify the State's water infrastructure needs, develop a plan to meet those needs, and monitor implementation of the plan. The Commission is comprised of 13 members representing State agencies and non-profits, organizations representing North Carolina local governments and members of the water infrastructure and water resources professions.

Report Author: Jean Crews-Klein, Staff to Commission
Contributors: Jeff Hughes, NC Environmental Finance Center
Tim Johnson, NC Center for Geographic Information and Analysis

Evaluation of Training and Qualification Requirements of Animal Waste Technical Specialists

SL 2006-38

Background

- 2002 Farm Bill required NRCS to develop system to hire private contractors for technical assistance to landowners.
- NRCS requested PE board to identify conservation practices that are engineering as criteria for hiring private contractors.
- PE board identified more than 60 conservation practices as engineering.

Impacts – Technical Specialists

- Closure of Waste Impoundments
  - Approx. 1,100 inactive lagoons/holding ponds
  - More 4,600 active lagoons
  - Increased cost of closure with Professional Engineers

Impacts – District Technicians

- 110 District Technicians affected
- Job Approval Authority rescinded for 46 different conservation practices (Table 4).

Impacts – NC Agriculture Cost Share Program

- 116 District Technicians funded by NCACSP
- $2,557,915 in state appropriations for TA.
- Added layer of review for practices.

1) Action

- Continue to provide technical services to clients.
- District technicians rely on Job Approval Authority of NRCS Employees

2) Actions

- Request PE Board to review determination on specific practices (Job Class I,II or III)

3) Recommendations

- Strengthen Division Engineering Staff
- Supports:
  - Ongoing Conservation Programs
  - Community Conservation Program

4) Recommendations

- Consider legislation to:
  - grant District employees job approval authority in accordance with existing NRCS Job Approval Authority Process
  - grant Animal Waste Technical Specialist authority for development of plans for closure of waste impoundments, except for design or installation of spillways if needed.

EXHIBIT BB

RECEIVED
NOV 7 2006
[illegible] DIVISION

November 6, 2006

MEMORANDUM

TO: Representative Pryor A. Gibson III, Co-Chair
Senator Daniel G. Clodfelter, Co-Chair
Environmental Review Commission

FROM: Richard E. Rogers, Assistant Secretary for Natural Resources

SUBJECT: Report on the *Evaluation of Training and Qualification Requirements Of Animal Waste Technical Specialists*

In accordance with Session Law 2006-38, Section 2, and on behalf of the Division of Soil and Water Conservation, I herewith submit the Report on the *Evaluation of Training and Qualification Requirements Of Animal Waste Technical Specialists*.

RER:vnc

Attachment

cc: Manly S. Wilder

Report to the Environmental Review Commission

as required pursuant to Session Law 2006-38

Evaluation of Training and Qualification Requirements Of Animal Waste Technical Specialists

November 15, 2006

NCDENR

N.C. Division of Soil and Water Conservation

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EXECUTIVE SUMMARY

The 2002 Farm Bill required the USDA-Natural Resources Conservation Service (NRCS) to develop a system for hiring private contractors, known as Technical Service Providers (TSPs), to provide a portion of its technical services for Farm Bill Programs. The TSP program is intended to supplement the technical assistance resources that continue to be available from NRCS and local Soil and Water Conservation Districts.

By national NRCS policy and state law, only licensed Professional Engineers (PEs), or NRCS employees with assigned job approval authority, can legally approve the design and installation of those practices deemed to be engineering practices by the NC Board of Examiners for Engineers and Surveyors (PE Board). NRCS requested that the PE Board review NRCS conservation practice standards and determine which practices constitute the practice of engineering in North Carolina. This determination would be used in evaluating the qualifications of potential TSPs interested in contracting with NRCS.

The review of the conservation practices by the PE Board and subsequent determination that more than 60 practices constitute the practice of engineering (see Table 1) has broad impacts on the animal industry of North Carolina and the larger conservation effort in North Carolina. The authority of Animal Waste Technical Specialists designated by the Soil and Water Conservation Commission included some significant practices deemed to be engineering practices by the PE Board. On a broader scale, 110 District Technicians who had been granted job approval authority by NRCS for 46 of these conservation practices had their job approval authority rescinded because NRCS cannot grant job approval authority to District Employees for practices identified as engineering. Loss of Technical Specialist authority and District Employee job approval authority for these practices could significantly impair the conservation effort in this state, while significantly increasing the costs to the state and the agricultural community.

As a result of meetings held with interested parties, the Department has asked the PE Board to revisit this issue and reconsider their determination for some of the most common practices. (See attached letter). The Department is awaiting a response from the Board. The Department recommends that the ERC consider legislation that would provide an exemption to NC General Statute 89C-25 for employees of Soil and Water Conservation Districts having federal engineering job approval authority, and an exemption for development of plans for the closure of waste impoundments, except for the design or installation of a spillway if needed.

INTRODUCTION

Session Law 2006-38 (SB1598) requires the Department of Environment and Natural Resources to evaluate the training and qualification requirements for approval as an animal waste management systems technical specialist. The purpose of this evaluation is to determine whether the current approval process ensures an appropriate level of knowledge and expertise to provide services related to the development, implementation or operation of an animal waste management plan or animal waste management system.

In conducting the study, a meeting was held on September 18, 2006 in Raleigh to allow for input from interested parties. Representatives from the DENR-Division of Soil and Water Conservation, NC Farm Bureau, NC Department of Agriculture and Consumer Services, NC Cooperative Extension Service, NCSU Department of Biological and Agricultural Engineering, NC Pork Council, the Natural Resources Conservation Service (NRCS) of the United States Department of Agriculture, NC Conservation District Employees Association and the NC Board of Examiners for Engineers and Surveyors (PE Board) were in attendance at this meeting.

BACKGROUND

In 2003, NRCS requested that the PE Board review NRCS conservation practice standards and determine which practices constitute the practice of engineering in North Carolina. An official determination was required so that NRCS could properly implement its Technical Service Provider (TSP) program, as required in the 2002 Farm Bill. TSPs are private contractors who are certified through NRCS to provide planning, design and construction inspection and certification services for conservation practices. The TSP program is intended to supplement the technical assistance resources that continue to be available from NRCS and local Soil and Water Conservation Districts.

By national NRCS policy and state law, only Professional Engineers(PEs), or NRCS employees with assigned job approval authority, can legally approve the design and installation of those practices deemed to be engineering practices by the PE Board. As a result, all animal waste technical specialists, TSPs and district technicians would have to be PEs in order to design or

install any of the practices identified as engineering by the PE Board. There were a series of talks and discussions in 2003 and 2004 between the PE Board, representatives from NRCS, the Division of Soil and Water Conservation and other interested parties. A formal response was received from the PE Board in November, 2005. The list of NRCS Conservation Practices determined to be engineering by the PE Board and therefore require the services of a Professional Engineer are shown in Table 1.

Table 1. Conservation Practices Requiring Engineering Approval

Practice Code	Practice Name
560	Access Road
702	Agrichemical Mixing Facility
365	Anaerobic Digester, Ambient Temperature
366	Anaerobic Digester, Controlled Temperature
316	Animal Mortality Facility
397	Aquaculture Ponds
584	Channel Stabilization
360	Closure of Waste Impoundment
317	Composting Facility
656	Constructed Wetland
402	Dam
348	Dam, Diversion
356	Dike
362	Diversion
554	Drainage Water Management
432	Dry Hydrant
398	Fish Raceway or Tank
714	Floodproofing
410	Grade Stabilization Structure
561	Heavy Use Area Protection
769	Incinerator
320	Irrigation Canal or Lateral
388	Irrigation Field Ditch
464	Irrigation Land Leveling
552	Irrigation Regulating Reservoir
436	Irrigation Storage Reservoir
441	Irrigation System, Microirrigation
442	Irrigation System, Sprinkler
443	Irrigation System, Surface and Subsurface
428 (A,B,C)	Irrigation Water Conveyance, Ditch and Canal Lining
430 (DD,EE)	Irrigation Water Conveyance, Pipeline
453	Land Reclamation, Landslide Treatment
543	Land Reconstruction, Abandoned Mined Land
544	Land Reconstruction, Currently Mined Land
468	Lined Waterway or Outlet
634	Manure Transfer
582	Open Channel
516	Pipeline
378	Pond
521 (A,B,C)	Pond Sealing or Lining
533	Pumping Plant

566	Recreation Land Grading and Shaping
350	Sediment Basin
580	Streambank and Shoreline Protection
587	Structure for Water Control
606	Subsurface Drain
608	Surface Drainage, Main or Lateral
620	Underground Outlet
367	Waste Facility Cover
313	Waste Storage Facility
359	Waste Treatment Lagoon
638	Water and Sediment Control Basin
642 *	Water Well
351 *	Well Decommissioning
658 **	Wetland Creation
659 **	Wetland Enhancement
657 **	Wetland Restoration

* Engineer, geologist, or state certification required
** Engineering, if structures involved.

REVIEW OF TRAINING/EDUCATION REQUIREMENTS FOR TECHNICAL SPECIALISTS

NC General Statute 139-4(d)(11) authorizes the NC Soil and Water Conservation Commission to develop and implement a program for the approval of animal waste management systems technical specialists. For animal operations required to obtain a State General Non-discharge Permit or a National Pollution Discharge Elimination System (NPDES) General Permit, a technical specialist is required to certify that the animal waste management system has been designed and installed so as to meet or exceed the conservation practice standards of NRCS or the Soil and Water Conservation Commission. Table 2 summarizes the various technical specialists categories, their responsibilities, experience, education and training requirements that have been developed by the Soil and Water Conservation Commission.

In 1996, the Division of Soil and Water Conservation requested the PE Board to review the technical specialist category for construction inspection (SI) of waste structures. At that time, the PE Board chose to review all categories of technical specialist designation for animal waste management systems. As a result of their review, design and installation inspection of waste storage structures (SD/SI) was determined to constitute the practice of engineering and is therefore reserved solely for Professional Engineers(PEs), and employees who have been granted appropriate job approval authority from NRCS.[1] Also during this review of technical specialist categories, the PE Board determined that irrigation (I) design is an engineering practice and would require the services of a Professional Engineer. As a result of this determination, the PE Board requested that the Soil and Water Conservation Commission amend their requirements for the I designation so as to require the services of a Professional Engineer. Agreement was not reached between the PE Board and the Soil and Water Conservation Commission on this issue. The General Assembly subsequently passed legislation (GS 89C-25(10)) that specifically provided an exemption from the requirements of the PE Law for the design of animal wastewater irrigation systems when the individual had met specific requirements for designation by the Soil and Water Conservation Commission as an irrigation (I) technical specialist. The Commission designation process for technical specialist categories for both runoff controls (RC) and irrigation

[1] As specified in GS 89C-25(6), the Soil and Water Conservation Commission recognizes that NRCS employees with appropriate engineering job approval authority meet the requirements for receiving the SD/SI designation.

design (I) recognizes that a PE may be qualified to provide technical assistance on these practices, but being a PE is not the sole criteria for designation in that category.

Waste Utilization Planning/Nutrient Management requires a four year degree in agronomy, three years of experience or a combination of education and experience totaling 4 years. The wettable acres (/WA) category is a supplemental designation that requires the individual to possess an I or WUP designation and successfully complete training provided by the Cooperative Extension Service on conducting wettable acre determinations. The Water Management (WM) category, which involves the design and installation of water control structures such as flashboard risers, is reserved solely for Professional Engineers(PEs), and agency employees with appropriate NRCS job approval authority. The Cooperative Extension Service, NCDA&CS, Division of Soil and Water Conservation, and NRCS are responsible for designating their own employees for the appropriate technical specialist category. Soil and Water Conservation District employees under the technical supervision of NRCS are designated as technical specialist by NRCS.

Table 2. SWCC Criteria for Technical Specialists Designation

Category	Role	Experience / Education / Other Requirements	Training Requirements
Collection, Storage, and/or Treatment (SD/SI Design/Installation)	Design and/or Installation Inspection of lagoons, storage ponds, dry stacks, storage structures, composters, pushoff ramps, curbing, settling basins and other similar structures.	1) NRCS job approval authority; or 2) Professional Engineer license	n/a
Runoff Controls (RC)	Development and implementation of filter strips, grass channels, and related nonstructural BMPs used to reduce runoff from exterior lots (primarily dairy operations)	1) Agency* designation of staff; or 2) Experience in design & implementation of nonstructural BMPs; or 3) Professional Engineer license.	n/a
Irrigation Equipment (I)	Design and installation of irrigation systems to include pipe size, pump horsepower, nozzle size, system layout, thrust blocks, etc. and operation plan to meet criteria of Waste Utilization Plan (hours per set, etc.).	1) Design Certification by National Irrigation Association; or 2) Professional Engineer license; or 3) Agency* designation of staff	n/a
Wettable Acres (/WA)	Determine wettable acres in accordance with Certified Animal Waste Management Plan	1) I or WUP Designation, or 2) Agency* designation of staff	Attend CES Wettable Acres Training Course
Waste Utilization Plan / Nutrient Management (WUP/NM)	1) Develop .0200 animal waste plans 2) Certify other items associated with animal waste, i.e. lagoon closures 3) Approve river basin nutrient management plans (/NM) 4) Certify the Land Application component of a USDA Comprehensive Nutrient Management Plan (/NM)	1) Previous WUP designation; or 2) 3 years of nutrient management planning; or 3) 4 year degree in agronomy or related field; or 4) a combination of education and experience totaling 4 years; or 5) Agency* designation of staff	1) Nutrient Management by CES (or NRCS**) 2) NC Nutrient Management Software 3) PLAT Course 4) Conservation Planning with RUSLE
Water Management (WM)	Design and installation approval of subsurface water management systems	1) NRCS job approval authority; or 2) Professional Engineer license	n/a

IMPACTS OF ENGINEERING DETERMINATION

The review of the conservation practices by the PE Board and subsequent determination that more than 60 practices constitute the practice of engineering has broad impacts on the animal industry of North Carolina and the larger conservation effort in North Carolina.

Table 3 shows the number of Technical Specialist by organization and by designation category. Agency personnel constitute the majority of technical specialists, but there are a significant number of private technical specialist in the WUP and I designation categories. Professional Engineers are recognized by rule as technical specialists for the SD/SI, I and RC designation categories. *The 12 private PEs shown in the table are the ones who have chosen to have their names listed as technical specialists with the Division. The fact that a particular Professional Engineer is not on our list does not prohibit that individual from providing engineering assistance to animal operations as a technical specialist.*

Table 3. Technical Specialists by Organization and Category

Technical Specialists by Organization							
Technical Specialist Category	NRCS	SWCD	CES	DSWC	NCDA	Private (non-PE)	PE
WUP	126	104	114	20	14	75	12
RC	112	73	0	9	0	5	12
I	13	2	0	2	0	21	12

Closure of Waste Impoundments (WUP Designation)

The standard for closure of waste impoundments applies to the closure of animal waste lagoons and waste storage ponds that are no longer used for their original intended purpose. Under current rules adopted by the Soil and Water Conservation Commission, individuals with the WUP technical specialist designation have the authority to develop closure plans for these structures and to certify their closure once the sludge and wastewater has been removed. Upon closure, the technical specialist is required to certify that the facility has followed a closure plan that meets all requirements set forth in the closure standard, all waste liquids and sludges have

been removed and land applied at agronomic rates, all input pipes have been removed, all slopes have been stabilized as necessary, and vegetation has been established on all disturbed areas.

There were extensive discussions with the PE Board in 2004 regarding whether the closure of waste impoundments constitutes the practice of engineering. However, the ultimate decision by the PE Board was that a Professional Engineer is required to implement this practice. Legislation had been introduced that would have provided an exemption from the decision of the PE Board for development of lagoon closure plans, except for the design or installation of a spillway when needed. However, this legislation was not enacted.

In North Carolina there are approximately 1,100 inactive lagoons/holding ponds that have not been closed and more than 4,600 active lagoons that will need to be properly closed at some point, when they are no longer in use. Closure of lagoons and holding ponds is already an expensive undertaking. Because of the flooding of numerous swine farms as a result of Hurricane Floyd in 1999, the Division of Soil and Water Conservation has been conducting a Swine Farm Buyout program for facilities located in the 100 year flood plain. This program is funded through the NC Clean Water Management Trust Fund. To date, this program has closed a total of 59 lagoons on 27 farms. The average closure cost is $31,603 per lagoon. The cost varies by size with an average cost of $40,125 per surface acre of lagoon. A determination that a Professional Engineer be required to close waste impoundments could result in a significant increase in the cost of these closures. This determination could delay the closure of lagoons in cases where landowners choose to receive assistance from NRCS employees with job approval authority for this practice, rather than obtain the services of a professional engineer.

Runoff Controls (RC Designation)

Runoff Controls are methods used to minimize the runoff of pollutants from lounging and heavy use areas. These are primarily applicable to dairies and beef feedlots. Diversions (code 362) and Heavy-Use Area Protection (code 561) are conservation practices that could currently be certified by a technical specialist with the Runoff Control (RC) designation. The PE Board has determined that these practices constitute the practice of engineering and would therefore require the seal of a Professional Engineer.

District Technician Impacts

Existing operational agreements between NRCS and Soil & Water Conservation Districts require that district technicians operate under the technical supervision of the federal NRCS District Conservationist in their office. District technicians receive job approval authority for specific conservation practices based on their training and demonstrated competency to design and/or install a particular practice. The purpose of the Job Approval Authority procedure is to ensure that all individuals who provide technical assistance have adequate training and demonstrated competency to design and/or install specific conservation practices. Most district technicians have received some level of job approval authority for practices determined to be engineering by the PE Board. There are a total of 110 district technicians statewide that have had their job approval authority rescinded for one or more practices as a result of the PE Board's review of NRCS conservation practices. Table 4 summarizes the impact of the determination by the PE Board on district technicians by practice. It also indicates the extent of the practice in the NC Agriculture Cost Share Program.

Table 4 District Technician Impacts

Code	Practice Name	Extent of Practice in ACSP	District Techs. Affected (No.)
560	Access Road	27,630 feet	82
702	Agrichemical Mixing Facility	95 units	10
365	Anaerobic Digester, Ambient Temperature		0
366	Anaerobic Digester, Controlled Temperature		0
316	Animal Mortality Facility		4
397	Aquaculture Ponds		0
584	Channel Stabilization		8
360	Closure of Waste Impoundment	194 units	4
317	Composting Facility	406 units	9
656	Constructed Wetland	4 units	10
402	Dam		5
348	Dam, Diversion		2
356	Dike		0
362	Diversion	1,807,382 ft.	60
554	Drainage Water Management		7
432	Dry Hydrant		15
398	Fish Raceway or Tank		8
714	Floodproofing		0
410	Grade Stabilization Structure	636 units	27
561	Heavy Use Area Protection	2,132 units	72
769	Incinerator	407 units	10
320	Irrigation Canal or Lateral		7
388	Irrigation Field Ditch		7
464	Irrigation Land Leveling	10,927 acres	11
552	Irrigation Regulating Reservoir		9
436	Irrigation Storage Reservoir		7
441	Irrigation System, Microirrigation		4
442	Irrigation System, Sprinkler		4
443	Irrigation System, Surface and Subsurface		0
428(A,B,C)	Irrigation Water Conveyance, Ditch and Canal		1
430(DD,EE)	Irrigation Water Conveyance, Pipeline		0
453	Land Reclamation, Landslide Treatment		0
543	Land Reconstruction, Abandoned Mined Land		0
544	Land Reconstruction, Currently Mined Land		0
468	Lined Waterway or Outlet	171 units	43
634	Manure Transfer		6
582	Open Channel		18
516	Pipeline	5,090 units	50
378	Pond		10
521(A,B,C)	Pond Sealing or Lining		6
533	Pumping Plant		2
566	Recreation Land Grading and Shaping		59
350	Sediment Basin	11 units	10
580	Streambank and Shoreline Protection	45,881 feet	33
587	Structure for Water Control	3,846 units	22
606	Subsurface Drain		54
608	Surface Drainage, Main or Lateral		45
620	Underground Outlet		21

367	Waste Facility Cover		0
313	Waste Storage Facility	1,429 units	12
359	Waste Treatment Lagoon	615 units	7
638	Waster and Sediment Control Basin		18
642	Water Well	521 units	47
351	Well Decommissioning		13
658	Wetland Creation		12
659	Wetland Enhancement		12
657	Wetland Restoration	356.8 acres	19

The NC Agriculture Cost Share Program provides up to 50% cost share funding to local governments for 116 district technicians to design and install conservation practices in the 96 Soil and Water Conservation Districts across the state. In the current fiscal year, the state has provided $2,557,915 in state funds for technical assistance cost share, with an additional $203,581 in federal grant funds also being invested into the program. District technicians who have had their job approval authority rescinded will no longer be authorized to approve the design and installation of those practices deemed to be engineering practices by the PE Board. District technicians will now be required to have an NRCS employee with appropriate Job Approval Authority to review, approve and take responsibility for all practices identified as engineering. Implementation of this policy will hinder the ability of districts to get conservation practices installed. This problem is exacerbated by the fact that NRCS field staffing levels have been decreasing in recent years due to federal budget constraints.

District conservationists, employed by NRCS, are the primary source of technical supervision in the Soil & Water Conservation District office. NRCS currently has 76 District Conservationist, 24 Soil Conservation Technicians, 9 Soil Conservationists, 8 Civil Engineers and 4 Civil Engineering Technicians serving the state's 96 Soil and Water Conservation Districts. If the current trend towards decreased NRCS field staff continues, it will become increasingly difficult for District Technicians to perform their jobs in a timely and efficient manner. This would have a serious and significant negative impact on the NC Agriculture Cost Share Program and the overall conservation effort in North Carolina.

ACTIONS/RECOMMENDATIONS

1. The Division of Soil & Water Conservation and NRCS have encouraged affected district technicians to continue to provide technical services and receive full credit for the services provided, while complying with the requirement that NRCS is now required to review, approve and take technical responsibility for all work on conservation practices identified as engineering.
2. Provide adequate funding to the Division of Soil and Water Conservation to hire a Professional Engineer in each of the seven DENR regional offices to provide additional technical supervision to district staff and to provide necessary engineering oversight for work performed by District Technicians. This will support the ongoing work of district technicians with the NC Agriculture Cost Share Program and will also provide necessary engineering assistance for the Community Conservation Assistance Program enacted by the legislature in spring 2006.
3. The PE Board has previously reviewed the categories of technical specialist designation. The responsibilities of Technical Specialists designated by the Soil and Water Conservation Commission are in compliance with the PE Boards determination and/or specific statutory exceptions[2], except for the technical specialist authority related to Closure of Waste Impoundments and certain Runoff Control practices previously identified. The Division of Soil and Water Conservation has requested that the PE board review these practices, as well as additional conservation practices for which Job Approval authority has frequently been granted to District Technicians as specified in the attached letter. The Department has not yet received a response to this request.
4. The Department recommends that the Environmental Review Commission consider legislation that would provide an exemption to NC General Statute 89C-25 to employees of Soil and Water Conservation Districts having federal engineering job approval authority, and an exemption for development of plans for the closure of waste impoundments, except for the design or installation of a spillway if needed.

[2] GS 89C-25(10) provides an exception for "design of land application irrigation systems for an animal waste management plan when the individual is designated as an Irrigation Design Technical Specialists by the Soil & Water Conservation Commission.

NCDENR
North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

November 6, 2006

Andrew L. Ritter
Executive Director
North Carolina Board of Examiners
For Engineers and Surveyors
4601 Six Forks Rd., Suite 310
Raleigh, NC 27609

Dear Mr. Ritter:

On September 18, 2006, a meeting was held with interested parties to receive input on Senate Bill 1598. Mr. Frank Tyndall, past chair of the PE Board, was present at that meeting as the PE Board representative.

As discussed during this meeting, the determination by the PE Board that the identified practices in your response to NRCS dated November 15, 2005 constitute the practice of engineering has the potential to seriously impair the ability of Animal Waster Technical Specialists and Soil & Water Conservation District Technicians to carry out their duties with regard to implementation of conservation practices on agricultural lands.

During this meeting, Mr. Tyndall suggested the Board might consider revisiting some of these practices in order to minimize the impact on District Technicians and Technical Specialists. This letter is written to follow up on that discussion. Specifically, we ask that you revisit your previous engineering determination for certain conservation practices on agricultural lands. This request is made on the basis that the list of attached practices, at the specified scale or level of complexity **(non-shaded practice classes)** do not exceed the regulatory threshold such that a Professional Engineer is required in order to safeguard life, health, or property. The system of practice classes shown on the attached table is the same system used to assign Job Approval Authority to NRCS employees. The non-shaded classes in the list generally reflect the level of Job Approval Authority previously granted to District Technicians.

This request to the PE Board will be included in the report to the Environmental Review Commission (ERC) of the General Assembly as required under Senate Bill 1598. The Department looks forward to resolving this issue in a satisfactory manner to all parties so that the conservation efforts of NC farmers and the agricultural community are not unnecessarily impaired and safeguards to life, health and property are adequately maintained.

Please contact Manly Wilder or Vernon Cox of the Division of Soil and Water Conservation with any questions or comments.

Sincerely,

Richard Rogers

1601 Mail Service Center, Raleigh, North Carolina 27699-1601
Phone: 919-733-4984 \ FAX: 919-715-3060 \ Internet: www.enr.state.nc.us/ENR/

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Conservation Practices for which additional review is requested

Practice Code	Practice Name	Controlling Factor	Units	Class I	Class II	Class III	Class IV	Class V
560	Access Road	Surface Treatment Length Maximum Grade Culvert Pipe, ID Bridge Span	--- feet percent inches feet	soil 2,000 8 18 None	Gravel 5,000 10 24 None	Gravel 10,000 12 36 None	Asphalt 20,000 15 48 None	Other All All 72 24
316	Animal Mortality Facility	Incinerator Capacity	lbs.	400	600	800	1,000	All
360	Closure of Waste Impoundment	*PE required only for design and installation of spillway when required to convert to freshwater pond.*						
362	Diversion	Drainage Area	acres	5	10	50	100	All
554	Drainage Water Management	Area	acres	5	30	100	300	All
410	Grade Stab. Structure	*Maximum drop of 5 feet*						
561	Heavy Use Area Protection	Surface Area Treated	— sq. ft.	Vegetated 2,000	Gravel 5,000	Gravel 10,000	Concrete or Asphalt 25,000	All All
464	Irrigation Land Leveling	Area	acres	5	10	50	150	All
468	Lined Waterway or Outlet	Capacity	cfs	25	50	150	300	All
516	Pipeline	Length Inside Diameter Pressure	feet inches psi	500 1 50	1,000 2 100	3,000 3 200	10,000 6 250	All 8 300
566	Recreation Land Grading & Shaping	Area Graded Soil Moved	acres cy/ac	4 300	8 800	10 1,000	25 2,500	All All
580	Streambank and Shoreline Protection	Streambank – Vegetative Drainage Area Mechanical Bankfull Capacity Bankfull Velocity Drainage Area Channel Depth At Low Bank	 sq.mi. cfs fps sq. mi. feet	 2 100 2 2 2	 5 200 4 5 4	 10 500 6 10 6	 50 1,500 8 50 8	 100 2,000 10 100 10
587	Structure for Water Control	Effective Height Drainage Area Conduit, ID Flashboard Riser Discharge Weir Structure Discharge	feet acres inches cfs cfs	6 100 12 10 50	6 400 24 20 150	25 1,000 36 40 250	30 2,500 42 80 350	35 4,000 48 200 500
606	Subsurface Drain	Length Diameter	feet inches	2,500 4	5,000 6	10,000 8	15,000 12	All All
608	Surface Drainage – Main or Lateral	Capacity Velocity	cfs fps	25 2	40 4	150 6	300 8	1,000 10
620	Underground Outlet	Pipe Outlet	inches	8	12	24	30	All

EXHIBIT CC

SOIL & WATER CONSERVATION

GUILFORD SOIL AND WATER CONSERVATION DISTRICT
3309 Burlington Road/Greensboro, North Carolina 27405-7605 / (336) 375-5401 / Fax: (336) 375-5042

To: Environmental Review Commission

From: Richard L. Phillips, PE

Subject: District Technician Job Approval Authority

I address you today as a licensed Professional Engineer in N. C., a Guilford Co. SCD Supervisor, and as a retired State Conservation Engineer with the NRCS. I do this as a passionate conservationist.

I am concerned about the unnecessary restrictions which have been placed on District Technicians in this State by the NC Professional Engineer's Board. As a result, these actions severely impede our technician's efforts to conserve our soil resource and protect our waters.

North Carolina has always been a leader in the Nation in the conservation effort. Hugh Hammond Bennett, born in Anson County, was the founder of the Soil Conservation Service in the 1930's. On August 4, 1937, North Carolina was the first in the Nation to organize a soil conservation district. Further, North Carolina is second in the US in the number of District employees, some 270 in the field. And, North Carolina is a leader in the Nation in funding conservation measures through the Agriculture Cost Share Program.

The policy of the legislature in this matter is stated in G. S 139-2 (b), *"provide for the conservation of the soil.....and for the prevention of floodwater and sediment damages.....and promote the health, safety and general welfare of the people of this State"*

For more than 50 years, technicians (both Federal and State) have done the bulk of the work to plan and build conservation measures on our farms. These include the traditional practices to control erosion and sediment with terraces, diversions, waterways, ponds, and grade stabilization measures. Then with the passage of the Clean Water Act, their work was expanded to the control (and management) of agricultural pollutants using Best Management Practices like lagoons, manure storages, composting, and wastewater irrigation.

Yours for Life

District Technicians are very well qualified to do this work by education, experience, and training. Almost all have at least two years of college, and over half have BS degrees. Their expertise includes: plant and soil-water relationships, precipitation and runoff, evaporation and transpiration, soil structure and organic mater, nitrogen transformations and movement, phosphorus accumulation, cropping systems, residue management, soil losses by sheet and gully erosion, animal science, drainage, irrigation, waste treatment, manure storage, and composting. And, since most have farm backgrounds, they are able to work easily with farmers. In other words, District Technicians are the best available human resource in the State to tackle these problems, and they are already on the payroll.

My analysis of the situation is this:

- District Technicians have the ability to do this work, but are currently restricted from doing so because of the action of the NC PE Board. This has become a critical issue with the significant reduction of NRCS field staff reductions in recent years.
- Most of the jobs are small, usually less than $20,000, and are not of interest to professional engineers. PE's are not restricted from working on these problems, but their fees preclude it, and most farmers would not have the funds to employ them. It is only with incentives of the Agriculture Cost Share Program that farmers are willing and able to install the practices.
- Almost all of the Professional Engineers I know do not have the education, training, or experience to address these problems.

In conclusion, I recommend the law(s) be changed to allow District Technicians to resume what they have traditionally done so they can effectively carry forward this vital work.

Thank you for the opportunity to address this issue.

Sincerely,

Richard L. Phillips

Richard L. Phillips, PE
Guilford Soil and Water District Supervisor
Greensboro, NC

Prepared for a meeting of the Environmental Review Commission, Raleigh, NC, November 15, 2006

2006

ENVIRONMENTAL REVIEW COMMISSION

MINUTES

MINUTES
ENVIRONMENTAL REVIEW COMMISSION
13 December 2006

The Environmental Review Commission (ERC) met on Wednesday 13 December 2006 at 9:30 a.m. in Room 1228 of the Legislative Building. Senators Clodfelter and Albertson presided.

The following members were present: Senators Albertson, Bingham, Clodfelter, Kinnaird and Weinstein; and Representatives Gibson, Hackney, Harrell, Harrison, Justice and Warren. Mr. George Givens, Commission Counsel; Jeffrey Hudson, Assistant Commission Counsel; Jennifer McGinnis, Assistant Commission Counsel; Susan Iddings, Assistant Commission Counsel; Jennifer Mundt, Commission Analyst; and Dot Waugaman, Commission Clerk, were also present.

On 28 November 2006, notice was sent to members and interested parties via e-mail and regular mail. A copy of the notice is included in the attachments to these minutes as **Exhibit A**. Copies of the agenda for the meeting and visitor registration sheets are included in the attachments as **Exhibits B** and **C**.

Senator Clodfelter called the meeting to order and recognized Mr. Phil Land, a staff counsel to Senator Wes Hayes of the South Carolina General Assembly. He has been the leading proponent of getting North and South Carolina into closer cooperation in managing our shared resources, particularly the Yadkin-Pee Dee River and the Catawba River. Senator Clodfelter then asked George Givens to present his report and explain the agenda items. Mr. Givens pointed out that a packet of Read Only reports with an explanation memorandum from Ms. Jennifer Mundt was at their desks (see **Exhibit D**). The reports consists of the Title V Air Quality Permit Program Accountability Report, dated November 2006 (see **Exhibit D-1**); the Annual Mining Permit Fee Use Report memorandum, dated 5 December 2006 (see **Exhibit D-2**); the Annual Report of the Fish Kill Events dated December 2006 (see **Exhibit D-3**); the 2006 Report to the Joint Legislative Education Oversight Committee on "*Strengthening Littering* Laws, dated 15 December 2006 (see **Exhibit D-4**); and a document entitled, "Status of Reports to the ERC Required by Law", dated 12 December 2006 (see **Exhibit D-5**).

Mr. Givens noted that the public-staff planning meeting for this meeting was held at 10:00 a.m. on 1 December 2006. He then reviewed the agenda for Commission members (see **Exhibit B**). He brought up the Request for Proposals (RFP) to be issued jointly by the ERC and the Joint Legislative Transportation Oversight Committee on the possible merger of the Ecosystem Enhancement Program and the Clean Water Management Trust Fund. The RFP was issued on 21 November 2006; proposals are due on 22 December 2006; and it is anticipated that the contract will be awarded on 10 January 2007. A copy of the final RFP is included as **Exhibit E**. Also handed out was a list of questions and answers concerning the RFP provided by the Fiscal Research Division (see **Exhibit F**).

Mr. Givens next drew attention to the draft RFP for a report on costs associated with providing nutrient controls that are adequate to offset point source and nonpoint source discharges of nitrogen and other nutrients (see **Exhibit G**). The RFP is to be issued this week; proposals will be due on 5 January 2007; the contract is to be awarded on 19 January 2007; and a final report is expected by 1 May 2007, in time to impact the decision expected to be made during the 2007 session. The current legislation sunsets on 1 September 2007. Representative Gibson moved that the draft Request for Proposals captioned: "Report on Costs Associated with Providing Nutrient Controls that are Adequate to Offset Point Source and Nonpoint Source Discharges of Nitrogen and Other Nutrients" be approved for distribution subject to any necessary technical, clarifying, conforming, and scheduling changes by the Commission Counsel, and that the Commission Counsel be authorized, with the approval of the Cochairs, to select a vendor to conduct the study. Representative Gibson further moved that the Commission Counsel and the Cochairs, with the approval of the Legislative Services Commission, be authorized to enter into a contract with the vendor in accordance with the Request for Proposals on behalf of the Commission. Mr. Givens reported he had two meetings with interested parties during the development of the RFP which led to an increase in the scope of the study. The contract will provide for consultation with stakeholders to make any mid-course corrections needed. The motion carried.

Senator Clodfelter recognized Dr. David H. Moreau, Chair, Environmental Management Commission (EMC), Department of Environmental and Natural Resources (DENR), to discuss the recommendation of the hearing officer concerning the petition by the cities of Concord and Kannapolis to the EMC for a certificate for an interbasin transfer (IBT) from the Catawba River Basin and the Yadkin River Basin to the Rocky River Basin (see **Exhibit H** for a copy of his PowerPoint presentation). Senator Clodfelter commented that the ERC's role is not to be involved in the decision to grant a permit, but to look at issues that might require legislation.

Dr. Moreau thanked the staff of the Division of Water Resources, members of the EMC, and to the hearing officers and public who have been involved in the discussion of the issue for two years. He stated the basis for the request, discussed the recommendation that the hearing officers have made to the EMC for action in January, and provided some of the evidence on which the recommendation was based.

Dr. Moreau noted the following about the maps in his presentation. First, a large part of the Catawba Basin in North Carolina drains into Lake Wylie below the Mountain Island Reservoir, so that portion of the basin is not generally available for public water supply upstream. In the Yadkin-Pee Dee Basin, the South Yadkin comes in above High Rock Lake. The Rocky River Basin is described as a separate basin in statute, requiring any transfer to be subject to the Interbasin Transfer Act. The area concerned with the transfer is a contiguous urban area with high population densities, including Kannapolis, Salisbury, Charlotte, Gastonia and Kings Mountain. It is bisected by interbasin lines. The water demand patterns do not follow the boundaries of the river basins. A large portion of Charlotte is in the Rocky River Basin. The demand center from Mountain Island and High Rock Lake are roughly equidistant, so the demand center is roughly equidistant from the two supplies. The existing supplies for Kannapolis and Concord are restricted to the relatively small watersheds upstream of the cities.

The impacts on the basins were measured in various ways. One was by the use of a computer simulation model that ran various scenarios from 0 to 22 million gallons a day under the 79 years of historical stream flow records. The model simulates how the system would perform in the future given a repeat of the historical stream flows in the area. The credibility of the model was determined by looking at how much the reservoirs would be drawn down if the interbasin transfer was skimmed off for six months without any inflow to the reservoir.

The systems were built for and dominated by hydroelectric power production; therefore separating out the effect of the IBT is difficult. Referring to Slide 11, Dr. Moreau said that if there was a significant impact, there would be differences in the lines for each one of the interbasin transfer scenarios. However, all four of the lines plot on top of one other. From looking at the 79 year summary, no difference can be detected. There is a similar situation for the outflows of Lake Norman (see Slide 12). The EMC then looked at the worst drought in the 79-year period, 2000-2002. The bottom line (see Slides 13 and 14) is the 0 transfer and the 10 million gallon per day transfer. The lines also plot right on top of each other. The model gives some counter-intuitive results with larger transfers such as the 22 million gallons a day transfer. The explanation is that with the larger transfer, the conservation program to reduce power generation is triggered sooner. A simple check of the model showed just inches of elevation lost with the IBT skimmed off for six months without any inflow to the reservoir.

Dr. Moreau told ERC members that the full report is available on the Division of Water Resources website.

Senator Albertson asked for an explanation of the conservation of power and water. Dr. Moreau replied that the conservation strategy for the systems was developed as part of the licensing of the power project. All the reservoirs on the Catawba River are owned by Duke Energy. They periodically come up for re-licensing. As part of the re-licensing process, they have developed a low in-flow protocol. It is a complex set of rules about how the system will be operated when a drought is declared. The dominant use of the reservoir system is for power generation, although there are environmental constraints. The permits are for 25-30 years. Senator Clodfelter asked what would be done if changes in growth occur. Dr. Moreau replied that the language allows for reopening the permit decision if there are significant changes.

Senator Clodfelter asked why the EMC is granting today an allocation that will not be needed for 29 years. Dr. Moreau replied that it was done so the water systems can adjust their plans, perhaps by building connecting lines. If there is not enough lead time, the users will have to look at other alternatives that are also considered in the report. He added that the 10 million gallons a day, reduced from the request of 26 million gallons a day, should be sufficient for a reasonable time in the future. Senator Clodfelter asked why the water that was needed would not be taken out of the Yadkin in the near term as there is more in that basin, and have the EMC make a master plan for the whole area for the long term. Dr. Moreau replied the EMC is in part bounded by what was asked for. He added that the EMC would like people to look at off-stream storage, taking water from periods of high flow and storing it for use in dry periods. There is more water than can possibly be used from January to May.

Senator Albertson commented the policies made by the General Assembly need to be the best for all the people of the state, and that should be the guide by which decisions on issues are made.

Representative Harrison asked for a review of the Interbasin Transfer law, and asked if it needs some modification. Dr. Moreau said he believes the statute is well constructed. He said changing the time limits on the permit might be considered. He is concerned with the implicit assumption in the statute that the water will be taken when it is needed (during drought periods), not when it is available. There are also some process issues. The petition, but not the recommendation, must be taken to public hearing. He suggested the ERC look at a two-stage process to include notice when the petition is received (including receiving comments), and then holding a public hearing when the recommended decision comes forward.

Mr. Givens asked about shifting the burden of proof on the petitioner. Dr. Moreau said there is a question about the weight of evidence and the benefits and adverse effects. The EMC is obligated to evaluate the beneficial and adverse effects on both the donor and the receiving basins, but the statute is neutral on how the effects are to be weighted. Dr. Moreau said that IBTs will be a reality in order to continue the economic growth of the state. At the same time, the interests of the donor basins need to be protected, and that is what the EMC has tried to do.

Senator Clodfelter commented on some policy issues that he sees need to be considered. The first is that the IBT program is not linked to a larger surface water use program. There are no presumptions about priority of use for available water supplies, because there is no way to link the IBT statute to a more comprehensive water utilization plan. He added that South Carolina is working on an integrated water utilization plan for all surface water withdrawals, not just basin transfers. In North Carolina there are no policies to guide EMC about how to prioritize different classes of users in the basin as opposed to those outside of the basin. The second is that there is a low-inflow protocol that when triggered, will produce measures to conserve water within the basin. The policy question is what is the purpose of the water conservation measures—to free up water to be transferred out of the basin, or to make sure sufficient water is available for use within the basin. In densely populated areas of the state, urbanization could be driven further and further away because it would be permissible to force water conservation measures within the basin to feed new development further outside the basin. That would lead to dispersion of population instead of concentration. He added a suggestion that the ERC take a look at the South Carolina legislation to see if it would be appropriate for North Carolina. He added that North Carolina should have regional water supply plans to manage all surface water withdrawals in each part of the state.

Dr. Moreau said that as part of the analysis a 50-year projection of water needs within the basin was incorporated into the model, so basin needs were considered as part of the simulation. Senator Clodfelter commented that every one of the growth projections rely on local estimates, and most estimates have proved unreliable over the last 25 years.

Representative Gibson said he believes the starting point of the analysis is availability. He asked Dr. Moreau how to work with the partners so that the alternative water supplies do not create their own ecosystem. He asked to hear from the regulators whether these innovative and very expensive alternatives would guarantee that every area would have water. He said that the rules would need to stay the same over an extended period of time. He added that a regional water supply plan is needed so all will know what water will be going where. Representative Gibson said North Carolina is blessed with water, but we are also

blessed with people coming to use it. Solving the availability of water will be painful and will require long-term investments. Senator Clodfelter commented that shorter-term permits would allow more flexibility.

Senator Clodfelter recognized Mr. Jim Kerr, a member of the North Carolina Utilities Commission, to discuss the study of a renewable energy portfolio standard (REPS) for North Carolina. Mr. Kerr recognized Mr. Jimmy Ervin of the Commission and Mr. Robert Gruber, Chair of the Public Staff of the Commission. He introduced the report on the costs and benefits of a renewable portfolio standard. The Utilities Commission committed to work with a nationally known consultant to create a study as a tool for the General Assembly to use to develop policy on a REPS.

Mr. Kerr also recognized an advisory group of stakeholders on the subject of REPS that worked with the consultants through the entire study. They included Mitch Williams of Progress Energy, David Beam of the North Carolina Electric Membership Corporation, Ivan Urlaub of the Sustainable Energy Association, Kris Coracini of the Environmental Defense Fund, Sue Gouchoe of the North Carolina Solar Center, Preston Howard of the Manufacturers and Chemical Industry Council of North Carolina, Dr. Ed Erickson, Professor of Economics at North Carolina State University, James McLawhorn of the Public Staff of the Utilities Commission, and Len Green of the Attorney General's Office. He also thanked the State Energy Office, the North Carolina Solar Center, and others for support of the consultant in providing the most current underlying data available for North Carolina. The report will be posted on the Utilities Commission website later in the day. With the posting, comments are being solicited (see **Exhibit I**). He said the comments would be summarized and given to the ERC by the middle of January in time for consideration during the next session.

Mr. Kerr introduced Mr. Jonathan Winer, La Capra Associates, to present information from the REPS study report (see **Exhibit J** for a copy of Mr. Winer's PowerPoint presentation). Mr. Winer thanked the Utilities Commission for their assistance during the study, the advisory group for their help, and for other members of the team that put the report together. (See **Exhibit K** and **Exhibit L** for the two study reports.)

Senator Kinnaird asked if increasing hydroelectricity involved the use of current plants or the development of new ones. Ms. Mon-Fen Hong of La Capra Associates replied that hydro potential came from an Idaho National Lab study where hydro potential was looked at in existing impoundments and in potential expansion of existing hydroelectric facilities. Most of the hydroelectric they looked at for actual potential possibilities was from impoundment without any current generation. No new building of dams is expected.

Representative Gibson asked what the cost would be per kilowatt. He asked how comfortable Mr. Winer is with the findings of the report and how comfortable the stakeholders will be with them. Mr. Winer replied that the cost would vary by site for most projects. He added that he is comfortable with the installed cost figures on page 40 of the Technical Report (**Exhibit L**). He went on to say that the numbers in the study were drawn from their knowledge of real projects in the United States in comparable situations. Mr. Kerr added that the advisory group was particularly helpful in testing the foundational information. He said further that the period for comment on the reports would be helpful in further testing the information.

Representative Harrison asked if externalities such as impacts on public health and the environment were considered when developing the cost figures. Ms. Hong replied they did not give a monetary value to the externality costs. In response to a further question, Mr. Winer said that each state has a different portfolio based on their previous renewable resources and their potential. He said he believes a 10% increase in North Carolina would be a big challenge unless energy efficiency is counted toward the 10%. There are four states that currently include energy efficiency as one of the resources that can be applied against the REPS (Connecticut, Pennsylvania, Nevada and Hawaii). La Capra did not study energy efficiency as a resource available to North Carolina in the next 10 years. Other states are adopting policies to encourage certain kinds of renewable energy resources, and suggestions for North Carolina to encourage solar resources are made in the report. Mr. Winer said the report included a certain amount of interconnection costs, but it did not model extensive system upgrades. He gave the example that if the wind resource were in a location with no transmission lines nearby, they modeled the substation and up to 10 miles of transmission lines to connect to the existing grid. The adoption of an REPS is usually accompanied

by a major review of all associated issues that would need to be considered in order for the REPS to be effectively implemented.

Representative Harrell asked what period of time it would take to implement the options. Mr. Winer replied it is doable within 10 years. La Capra modeled a 10-year period. They would strongly recommend a several year lead-in if North Carolina decides to go forward and adopt an REPS policy to allow for the development of required resources. He said the model assumed the development of the REPS would be 1/2 % in year 1, 1% in year 2, to reach an increase of 5% over a 10-year period. The 10% model assumed a 1% a year increase, which might also be doable. However, he stressed that it is important to have a lead-in time before you expect to reach the first 1% increase.

Mr. Kerr told the Commission that the consultants were available to them to answer further questions if needed.

Mr. Givens recognized Mr. Sam Watson, another member of the Utilities Commission, and thanked him for his attendance at the meeting.

Senator Clodfelter recognized Ms. Jeryl Covington, Director of Environmental Services, City of Greensboro, to speak about local government perspectives on the future availability of landfill capability (see **Exhibit M** and **Exhibit N** for an outline of issues being studied). She spoke about concerns for local government described by Mr. Paul Chrisman at the last meeting, namely, the loss of landfill capacity within the state, and the import/export of solid waste. She reported that Greensboro has recently closed their landfill and is competing with others for space in out-of-county landfills. It is a daunting task for State regulators to work with the communities to prove that facilities are safe and have been operated fairly. With their Subtitle D facility, Greensboro has been able to identify the differences in operations and in construction and monitoring. They do not want to get caught up in a quagmire of looking at isolated issues that are not broad enough to affect the whole solid waste community, but may have implications due to geographic locations or waste generations of particular regions. She requests that the State look at the regulation of solid waste landfills and asks that the rules be communicated swiftly.

Senator Clodfelter recognized Ms. Charlotte Jesneck, Branch Head, Inactive Hazardous Sites Branch, Superfund Section, Division of Waste Management (DWM), DENR, to speak about the inventory of closed and unregulated landfills and dumps (see **Exhibit O** for a copy of her PowerPoint presentation). She showed pictures of the Buxton dump site in Dare County and another in Wilson County that are now trailer parks. The area around the trailers has been checked for methane gas, and wells within 500 feet have been tested. No problems were found. She spoke about the benefits of a state-wide surcharge to provide a revenue stream to convert old unlined landfills to a safe use.

Senator Kinnaird asked what the tip fees are in other states. Ms. McGinnis said she would find the information and make it available to Commission members.

Representative Harrison asked how often the unlined landfills are inspected. Ms. Jesneck replied they are using one-time money to locate them and determine what the areas are currently being used for. They have looked into 40 counties over a three-year period. They hope to have the survey completed in another three years.

Senator Albertson took the chair and recognized Mr. Steve Wall, Policy Analyst, Office of the Secretary, DENR, to discuss liabilities and consequences associated with closed and unregulated landfills and dumps (see **Exhibit P**). He said the problem has been decades in the making, and it will take long-term solutions to solve it. The longer the state waits to clean up the sites, the greater the liability and the expense will be.

Senator Albertson recognized Mr. Peter Anderson, Executive Director, Center for Competitive Waste Industry, on behalf of the International Brotherhood of Teamsters, to discuss liabilities associated with existing and proposed landfills (see **Exhibit Q** for a copy of his PowerPoint presentation and **Exhibit R** for a report on the landfill crisis in California). He had participated in a study of California in 2004 concerning the

adequacy of landfill financial assurance and brought a few copies of the report. He offered to provide copies for each member of the Commission by mail.

He began by describing an experience in South Carolina in 1977 in which an old clay pit was converted into a kitty litter factory. Later, because it was clay bottomed, it became a de facto site for hazardous waste. Ownership of the site changed a few times, and by 1985, the South Carolina Department of Environmental Health Control realized they had an enormous liability. The landfill is on the shores of Lake Marion, a reservoir overlying two aquifers that provides the drinking water supply for the South Carolina coastal area. After nine years of regulatory and political process they called on the owner company, Laidlaw, to post a bond for $133 million. Laidlaw spent $200,000 lobbying the legislature, the members of the governing Board were changed, and the Board determined they could use anything Laidlaw decided as a reasonable way of providing the financial assurance. Laidlaw said they would use their own corporate IOU. In the year 2000, the company closed its office in Columbia, re-opened their office in Delaware, and from there declared bankruptcy. When South Carolina asked about the liability that by then had increased to $1billion, the company offered them an annuity valued at $49 million, not even enough to maintain the site, to say nothing of addressing the consequences of a $1 billion liability.

Mr. Anderson said there were two major considerations. He stated that what has been considered state of the art is not going to work in the age of mega landfills. The financial assurances that are supposed to protect the state from risks are limited to 30 years and they are very unsure funding mechanisms that assure only routine care. The consequences of accidents and corrective actions are not covered at all. After closure of a landfill, the cap will eventually degrade, causing a second wave of biological problems to solve without financial assurances because the responsible parties will no longer be involved. He said that the actual costs incurred to remediate failed sites have been about $25 million per site. Those, however, are small sites, and today much larger sites are being proposed.

The Environmental Protection Agency has used containment (not remediation) criteria in their Superfund corrective actions. Ten to 20 years later, the problems will recur. It takes about a $.5 million per acre to install a liner system, which encourages making higher landfills. With mega landfills, it is not just a failure mechanism in general that needs to be discussed, it is also the fact that when landfills do fail, particularly in urban areas, the problem cannot simply be contained. The landfill will have to be excavated, stabilized, and the waste re-interred at costs that could run from $50 to $100 a ton. The kind of cost being covered presently in landfill financial assurance in the 30 years might be $5 million to replace the basic systems, but it might take $40 million for remediation. Waste Management has $12 billion in revenues a year. Even just replacing the caps on their 385 landfills every 40 years, the cost will exceed their cash flow. That does not include any corrective action.

Mr. Anderson's recommendation is that the people best able to manage the risk are not government officials, but the insurance industry. They are trained in risk management and know how to make risk assessments. The most important fact is that the risk management industry has to put their own money behind the assurance whether it be by letter of credit or other instrument. Their assets and their profits stand behind the premium. If they understate the risk because of political influence, it is their financial situation that will be affected. Any company has a fiduciary responsibility to off-load its risk onto the public, but it also is a fiduciary responsibility of legislators to not let the industry govern public policy.

Senator Kinnaird asked if this insurance exists. Mr. Anderson replied that currently it does not. He added that it will exist only if it is required by the states. There will have to be pools and reinsurance to assure the money will be available when needed.

Senator Albertson asked Steve Wall what the current State policy is in regard to landfills. Mr. Wall said they would fall under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), or the Resource Conservation and Recovery Act (RCRA). Mr. Anderson commented that there is a difference between assurance and liability. If a company cannot pay, liability has no value. The state needs assurance, not liability.

Representative Harrison asked if bonding is an answer. Mr. Anderson replied that bonding would have to be even across the board and would be too expensive. The way to be fair to both parties is to use a probabilistic-based approach as insurance is. Bonding cannot work because the liabilities are so large and probabilistic in nature.

Representative Harrison asked for a report on the Emergency Drinking Water Fund from DENR at a future ERC meeting.

The Commission broke for lunch from 12:40 to 1:30 p.m.

Senator Albertson called the meeting back to order at 1:30 p.m. He recognized Mr. Givens who announced that Agenda Items 8-10 would be omitted from the meeting and heard at one of the January meetings.

Senator Albertson next recognized Mr. Jim Hickman, Local Government Assistance Team Leader, Division of Pollution Prevention and Environmental Assistance, DENR, to speak about the management of end-of-life manufactured homes (see **Exhibit S** for a copy of his PowerPoint presentation).

Mr. Hickman described the three categories of manufactured homes. The first is modular. These homes are manufactured off-site and built to North Carolina building code. The second, manufactured homes, are homes that are built to a federal building code codified June 15, 1976. The third, mobile homes, are pre-Housing and Urban Development (HUD) homes that were built prior to June 15, 1976. Their life expectancy can vary; however 20 years is usually the figure given for their life expectancy. The newer HUD homes rival stick built homes in their quality of construction.

Only three counties have permanent clean-up programs: Brunswick, Scotland and Davidson counties. There are some pilot programs, one in Rockingham County. The Perquimans-Chowan-Gates Solid Waste Management Commission has been investigating how to dispose of their mobile homes but has struggled with the cost. The Association of County Commissioners, in conjunction with the Manufactured Housing Institute, has sponsored three or four pilot programs in the state.

Senator Albertson recognized Mr. Paul Meyer, Assistant General Counsel, North Carolina Association of County Commissioners, to speak about the county perspective on the clean-up of abandoned manufactured homes (see **Exhibit T** for a copy of his PowerPoint presentation). He said that one solution to financing the clean-up of abandoned mobile homes would be an advance disposal fee. The Association of County Commissioners is expected to propose a bill for an advance disposal fee on manufactured housing in the 2007 session.

Senator Albertson recognized Ms. Stephanie Lewis, Assistant Director of Operation Services in Brunswick County, to explain the Appearance and Code Enforcement program (ACE) and mobile home recycling in Brunswick County (see **Exhibit U** for a copy of her PowerPoint presentation and **Exhibit V** for a brochure on the ACE program). After describing the two options available for the disposal of mobile homes in Brunswick County, Ms. Lewis stated they will end the voluntary program because of its expense. It will be reassigned to their Code Enforcement Department.

The ACE program requires a resident to sign a waiver to release the County from any property damage while they are demolishing an abandoned mobile home. The Planning Department approves the item and makes sure it is appropriate for demolition. Once everything is approved, the work order is sent to the Solid Waste and Operations Services for actual demolition and disposal. The county has used 104,000 cubic yards of space in their landfill over the past five years for this program, about 13% of the space used each year in their landfill. To help with the backlog of requests for demolition, if someone wants to get rid of a mobile home and can make it road worthy, they can tow it to the landfill and the tip fee will be waived.

Senator Albertson recognized Mr. Jim Blackwell, County Engineer, Scotland County, to speak about the management of abandoned manufactured homes in his county (see **Exhibit W** for a copy of his PowerPoint presentation). Scotland County does not use any of their general funds for their program. Mr. J.

R. Horne, Solid Waste Enforcement Officer, receives complaints from customers, meets with them, and takes necessary action to resolve the problem. He is part enforcement officer and part information officer. Other people involved are from the Sheriff's Department and the district attorney and judges.

For the last 25 years, the county has experienced an increase in the number of mobile homes. Recently over 50 percent of the homes permitted by the Inspection Department are mobile homes. Four years ago, the County Commissioners decided the county needed a financial feasible program to clean up abandoned structures and mobile homes. The direct benefits of the program include aesthetics, reduction of fire hazards, and protection of health and the environment.

The amount of financial resources available for the program limits the number of units they can dispose of. Mr. Blackwell said it costs $800 to dispose of a single unit mobile home--$500 for transportation and $300 for the tipping fee. The same unit demolished on the site and then transported to the landfill costs approximately $1500. Demolition and disposal of a double-wide on site costs approximately $2200, including transportation to the landfill..

To put the legalities in place, the county amended their solid waste management ordinance to allow the inclusion of abandoned structures and mobile homes in the definition of construction and demolition waste. The ordinance is on their website. Landowners are identified as the responsible party because either the landowner owned the mobile home or had signed a consent form to allow a person to put a mobile home on their property. The Court could give the Enforcement Office permission through an order to go on the property and clean the mobile home up at the landowner's expense. Expenses can be collected in the same way as taxes. Prior to enacting the changes in the ordinance, the Office of Solid Waste consulted with the district attorney's office and the county attorney to be sure the ordinance was legal and enforceable. Mr. Blackwell said the relationship with the district attorney's office is very important to make the program work.

Senator Albertson asked how many mobile homes they are able to dispose of in a year. Mr. Blackwell replied they have removed approximately 25 per year. Mr. Givens asked what kind of a backlog they have. Mr. Blackwell replied there are about 250 that need to be disposed of now and they add about 10 to 15 a year to that number.

Senator Bingham asked how much time it takes from identification of the problem to disposal. Mr. Blackwell replied it depends on the financial resources of the customer. If the customer is a developer, the disposal will take 60-90 days. If there is a disagreement about whether or not a mobile home or structure should be demolished, the building inspector decides based on code enforcement and safety issues.

Representative Justice asked that the issue of hog waste lagoons be put on the agenda for a future ERC meeting. Mr. Givens replied that he would discuss that with the co-chairs of the Commission.

Mr. Givens announced the next meeting of the Commission will be 17 January 2007 in Room 544 of the Legislative Office Building.

The meeting adjourned at 2:40 p.m.

Representative Pryor Gibson, Co-Chair

Senator Charlie Albertson, Co-Chair, Presiding

Dot Waugaman, Commission Assistant

Senator Daniel Clodfelter, Co-Chair, Presiding

LIST OF EXHIBITS

Exhibit A Notice of Meeting dated 28 November 2006

Exhibit B Agenda of Meeting

Exhibit C List of Attendees

Exhibit D Package of Reports with memorandum from Jennifer Mundt dated 13 December 2006

D-1 Title V Air Quality Permit Program Accountability Report, dated November 2006

D-2 Memorandum from William G. Ross, Jr., transmitting Annual Mining Permit Fee Use Report, dated 5 December 2006

D-3 Memorandum from William G. Ross, Jr., transmitting Fish Kills Report, dated 1 December 2006

D-4 Annual Report Annual report on the recycling efforts of the public schools in the State, "*Strengthening Litter Laws*", dated 15 December 2006

D-5 Status of reports to the ERC Required by Law, dated 13 December 2006

Exhibit E Request for Proposals for Report on the study of the merger of the Ecological Enhancement Program and the Clean Water Management Trust Fund, dated 21 November 2006

Exhibit F Questions Received Related to the RFP – Report on the study of the merger of the Ecological Enhancement Program and Clean Water Management Trust Fund

Exhibit G DRAFT Request for Proposal for a Report on Costs Associated with Providing Nutrient Controls that are Adequate to Offset Point Source and Nonpoint Source Discharges of Nitrogen and Other Nutrients, dated 13 December 2006

Exhibit H PowerPoint Presentation on Interbasin Transfers by Dr. Moreau

Exhibit I Notice Announcing the Availability of an Analysis of a Renewable Portfolio Standard for the State of North Carolina and Request for Public Comments, 13 December 2006

Exhibit J PowerPoint Presentation on Renewable Portfolio Standard by Jonathan Winer, LaCapra Associates

Exhibit K Report for the NC Utilities Commission, entitled "A Study of the Feasibility of Energy Efficiency as an Eligible Resource as Part of a Renewable Portfolio Standard for the State of North Carolina, prepared by GDS Associates, Inc., dated December 2006

Exhibit L Analysis of a Renewable Portfolio Standard for the State of North Carolina, prepared by LaCapra Associates, Inc., GDS Associates, Inc., and Sustainable Energy Advantage, LLC, dated December 2006

Exhibit M Memorandum from Jeryl W. Covington, P.E., Director, Environmental Services Department, concerning Local Government Perspective: Landfill Moratorium and Solid Waste Study, dated 13 December 2006

Exhibit N Outline of Issues, Solid Waste Study, ERC

Exhibit O PowerPoint presentation, "Old Uncontrolled Landfills/Dumps", by Charlotte Jesneck

Exhibit P Memorandum from Steve Wall, NCDENR, concerning liability issues related to old uncontrolled landfills/dumps

Exhibit Q PowerPoint presentation by Peter Anderson, Executive Director, The Center for Competitive Waste Industry

Exhibit R Report to the California Recycling Network, entitled "Day of Reckoning", dated December 2004

Exhibit S PowerPoint presentation, "Managing End-of-Life Mobile Homes" by Jim Hickman

Exhibit T PowerPoint presentation, "County Perspective on the Clean-Up of Abandoned Manufactured Homes", by Paul Meyer

Exhibit U PowerPoint presentation, "Mobile Home Recycling", by Stephanie Lewis

Exhibit V Citizens Guide to Voluntary Participation in the Brunswick County Appearance & Code Enforcement Cleanup Effort

Exhibit W PowerPoint presentation, "Scotland County Abandoned Mobile Home Program", by Jim Blackwell

EXHIBIT A

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 733-2578
FAX: (919) 715-5460

SUSAN S. IDDINGS
ASSISTANT COMMISSION COUNSEL
401 LEGISLATIVE OFFICE BUILDING
(919) 733-6660

JENNIFER L. McGINNIS
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

DOT WAUGAMAN
COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 715-2525
FAX (919) 754-3232

JEFF W. HUDSON
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

JENNIFER R.F. MUNDT
COMMISSION ANALYST
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

28 November 2006

TO: Members of the Environmental Review Commission
Interested Parties

FROM: George F. Givens, Commission Counsel
Dot Waugaman, Commission Clerk

RE: **Notice of Commission Meeting**
Notice of Planning Meeting
Schedule of Future Meetings
Meetings of Interested Parties (605 Working Groups)
Additional Information

COMMISSION MEETING:

The Environmental Review Commission (Commission) will meet at 9:30 a.m. Wednesday 13 December 2006 in Room 1228 of the Legislative Building in Raleigh.

At this meeting, the Commission will begin or continue studies for which the Commission is responsible, hear reports from State agencies, discuss topics to be considered at future meetings, and attend to other matters. Listed below are potential agenda topics for this meeting and for future meetings. More specific information regarding the agenda for the 13 December meeting of the Commission will be developed at the staff planning meeting discussed below.

STUDIES

1) Issues related to solid waste management (S.L. 2006-244, Sec.4)

2) Issues related to the nutrient offset payment program with regard to the costs associated with providing nutrient controls that are adequate to offset point source and nonpoint source discharges of nitrogen; whether nutrient offset payments should be authorized for additional nutrients, including phosphorus; and whether the nutrient offset program should be expanded to other areas of the State (S.L. 2006-215, Sec. 2)

3) Issues related to abandoned manufactured (mobile) homes with regard to impacts on public health and safety, the environment, and the State's scenic resources (S.L. 2006-248, Sec. 8.3)

4) The merger of the organization and functions of the Ecosystem Enhancement Program and the Clean Water Management Trust Fund with the Joint Legislative Transportation Oversight Committee (S.L. 2006-248, Sec. 16)

REPORTS *(Report due dates are indicated in parentheses)*

General/Miscellaneous:

5) Annual report on the evaluation and adjustment of the boundaries of the area served by each Metropolitan Planning Organization (G.S. 136-202(d)) *(1 November)*

6) Report on the study by the Utilities Commission on renewable energy portfolio standards.

7) Annual report on the mercury minimization plan prepared by DENR (G.S. 130A-310.57) *(1 November)*

Air Quality:

8) Annual report on the cost of the Title V Program (G.S. 143-215.3A(c)) *(1 November)*

Hazardous Waste Management:

9) Annual report on the Effectiveness of the Brownfields Property Reuse Act (G.S. 130A-310.40) *(1 October)*

10) Update on the fire at the Environmental Quality Industrial Services of North Carolina, Inc. hazardous waste facility located in Apex, North Carolina.

Land Resources:

11) Annual report on implementation of the Sedimentation Pollution Control Act of 1973 (G.S. 113A-67) *(1 October)*

12) Annual report on the cost of implementing the Mining Act of 1971 (G.S. 74-54.1(c)) *(1 September)*

Solid Waste Management:

13) Annual report on the recycling efforts of the public schools in the State including information provided by local school administrative units on the number of public schools that have recycling programs and the types of recyclable materials that are collected (S.L. 2001-512, Sec. 11 *(15 December)*

Water Quality:

14) Annual report on the Wastewater Discharge Elimination Program (S.L. 2001-452, Sec. 2.9) *(15 October)*

15) Annual report on the implementation of stormwater rules and programs (G.S. 143-214.7(e)) *(1 October)*

16) Implementation of the Clean Water Management Trust Fund; projects and awarded grants. (G.S. 113-145.6A(a) and S.L. 2002-148, Sec. 3) *(1 December)*

17) Follow up discussion on the USEPA, Region 4 letter sent to Secretary Ross regarding concerns that the Commercial Leaking Petroleum Underground Storage Tanks Cleanup Fund is not adequately capitalized to meet current and future liabilities.

18) Annual report on fish kills in the previous year. (G.S. 143B-297.7(c)) *(1 December)*

19) Implementation of the Ecosystem Enhancement Program and use of the Ecosystem Enhancement Fund, including inventory of property and easements. (G.S. 143-214.13) *(1 November)*

Water Quantity:

20) Discussion of issues related to the interbasin transfer of water.

21) Annual report by the Catawba/Wateree River Basin Advisory Commission and the Yadkin/Pee Dee River Basin Advisory Commission (G.S. 77-117) *(1 October)*

PLANNING MEETING:

To facilitate development of the agenda for the 15 November meeting of the Commission, to begin planning for subsequent meetings of the Commission, and to receive input from interested persons regarding the work of the Commission, the Commission Counsel will hold an informal planning meeting at **10:00 a.m. on Friday 1 December 2006 in Room 605 of the Legislative Office Building**. Persons who wish to participate in the development of the agenda for meetings of the Commission, or who are interested in any matter before the Commission, are invited to attend.

SCHEDULE OF FUTURE MEETINGS:

Below is a schedule of meetings of the Environmental Review Commission for December 2006 through January 2007. This schedule is tentative and subject to adjustment. For planning purposes, however, please reserve these dates. Please note the following:

1. Commission meetings normally begin at 9:30 a.m., include a lunch break, and run until mid-afternoon. Please plan on meeting from 9:30 a.m. until at least 3:30 p.m. The Commission will meet in the Legislative Building (LB) or the Legislative Office Building (LOB) as indicated.

2. To facilitate development of the agenda for meetings of the Commission and to receive input from interested persons regarding the future work of the Commission, the Commission Counsel holds informal planning meetings for staff and interested parties. Commission members are not expected to attend these meetings. Unless otherwise announced, public staff planning meetings will be held at 10:00 a.m. in Room 605 LOB.

3. The 2007 Regular Session is scheduled to begin at 12:00 noon on Wednesday 24 January 2007. The Commission may meet after the beginning of the session to complete work and to consider any legislative proposals and recommendations.

Commission Meeting	Location	Staff Planning Meeting (605 LOB)
Wednesday 17 January 2007	544 LOB	Monday 8 January 2007
Tuesday 23 January 2007	1228 LB	Monday 8 January 2007

MEETINGS OF INTERESTED PARTIES (605 WORKING GROUPS):

The Commission Counsel will hold meetings of interested parties on specific topics as indicated below:

Nutrient Offset Payment Working Group
10:00 a.m. Monday 4 December 2006 – 605 Legislative Office Building

ADDITIONAL INFORMATION:

If you have questions related to the Commission, you may contact the Commission Counsel or other Commission staff at (919) 733-2578.

EXHIBIT B

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 733-2578
FAX: (919) 715-5460

SUSAN S. IDDINGS
ASSISTANT COMMISSION COUNSEL
401 LEGISLATIVE OFFICE BUILDING
(919) 733-6660

JENNIFER L. McGINNIS
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

DOROTHY M. WAUGAMAN
COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 715-2525
FAX: (919) 754-3232

JEFF W. HUDSON
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

JENNIFER R. F. MUNDT
COMMISSION ANALYST
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

AGENDA
9:30 a.m. Wednesday 13 December 2006
Room 1228 Legislative Building
Raleigh, North Carolina

1. Call to order
   Senator Daniel G. Clodfelter, Presiding

2. Introductory remarks by Cochairs (*5 minutes*)
   Senator Daniel G. Clodfelter
   Senator Charles W. Albertson
   Representative Pryor A. Gibson

3. Report to the Commission and explanation of agenda items (*10 minutes*)
   George F. Givens, Commission Counsel

4. Discussion of the petition by the Cities of Concord and Kannapolis to the Environmental Management Commission (EMC) for a certificate for an interbasin transfer (IBT) from the Catawba River Basin and Yadkin River Basin to the Rocky River Basin. *(45 minutes)*
   Dr. David H. Moreau, Chairman
   Environmental Management Commission, Department of Environment and Natural Resources (DENR)

5. Report on the study by the North Carolina Utilities Commission of a Renewable Energy Portfolio Standard (REPS) for the State of North Carolina. *(1 hour)*
   James Y. Kerr II, Commissioner
   North Carolina Utilities Commission

   Jonathan H. Winer, Managing Consultant
   La Capra Associates, Inc.

6. Continuation of the discussion of issues related to solid waste management (S.L. 2006-244, Sec.4) *(40 minutes)*

Local government perspective on the future availability of landfill capacity *(5 minutes)*
Jeryl Covington, Director of Environmental Services
City of Greensboro

Inventory of closed and unregulated landfills and dumps *(15 minutes)*
Charlotte V. Jesneck, Branch Head
Inactive Hazardous Sites Branch, Superfund Section, Division of Waste Management (DWM), DENR

Liabilities and consequences associated with closed and unregulated landfills and dumps *(5 minutes)*
Steve Wall, Policy Analyst
Office of the Secretary, DENR

Liabilities associated with existing and proposed landfills *(15 minutes)*
Peter N. Anderson, Executive Director
Center for Competitive Waste Industry on behalf of the International Brotherhood of Teamsters

***LUNCH** – Estimated for 12:10p.m. to 12:55 p.m.*

7. Discussion of issues related to abandoned manufactured (mobile) homes with regard to impacts on public health and safety, the environment, and the State's scenic resources *(40 minutes)*

Management of end-of-life manufactured homes *(15 minutes)*
Jim L. Hickman, Local Government Assistance Team Leader
Division of Pollution Prevention and Environmental Assistance, DENR

County perspective on the clean-up of abandoned manufactured homes *(5 minutes)*
Paul A. Meyer, Assistant General Counsel
North Carolina Association of County Commissioners

Appearance and code enforcement (ACE) and mobile home recycling in Brunswick County *(10 minutes)*
Stephanie M. Lewis, Assistant Director of Operation Services
Brunswick County

Management of abandoned manufactured homes in Scotland County *(10 minutes)*
Jim Blackwell, County Engineer
Scotland County

8. Report on the effectiveness of the Brownfields Property Reuse Act *(20 minutes)*
Bruce I. Nicholson, Brownfields Program Manager
DWM, DENR

9a. Report on the implementation of the Sedimentation Pollution Control Act of 1973 (*15 minutes*)
Jim D. Simons, State Geologist and Director,
Division of Land Resources, DENR

9b. Update on the approval of plans for land-disturbing activity along waters that have been classified as trout waters by the EMC (G.S. 113A-57(1)).
Mary Penny Thompson, Assistant General Counsel
Office of the Secretary, DENR

10. Report on the Implementation of the Ecosystem Enhancement Program and use of the Ecosystem Enhancement Fund, including inventory of property and easements (*20 minutes*)
Bill D.Gilmore, Director
Ecosystem Enhancement Program, DENR

11. Commission discussion and announcements (*10 minutes*)

12. Adjourn (*Estimated for 2:40 p.m.*)

SCHEDULE OF FUTURE MEETINGS:

Below is a schedule of meetings of the Commission for January 2007. This schedule is tentative and subject to adjustment.

To facilitate development of the agenda for meetings of the Commission and to receive input from interested persons regarding the future work of the Commission, the Commission Counsel holds informal planning meetings for staff and interested parties. The schedule of these public Commission staff planning meetings is also set out below.

9:30 a.m. Wednesday 17 January 2007
Location: 544 LOB
Staff Planning Meeting: 10:00 a.m. Monday 8 January 2007 – 605 LOB

9:30 a.m. Tuesday 23 January 2007
Location: 1228 LB
Staff Planning Meeting: 10:00 a.m. Monday 8 January 2007 – 605 LOB

OTHER MEETINGS:

The Commission Counsel will hold meetings of interested parties on specific topics as indicated below:

Underground Storage Tank Working Group
2:00 pm Monday 18 December 2006 – 605 Legislative Office Building

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — December 13, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Jim Warren	NC WARN
Jack Chandler	Catawba County Utilities & Eng.
DAN CRAWFORD	Electricities of NC
Pat Dennis	Duplin Co.
Phil Carter	WASTE INDUSTRIES
DAN MOORE	MRR Southern
Bob Leker	State Energy Office
Francis Pauls	Durham Co.
Gayle Wilson	Orange Co.
Jim Lowry	NC UCA
FRANK FOLGER	HELMS MULLISS WICKER

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — December 13, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Jason King	NCACC
Catherine Davis	Electricities
Dana Yeganiac	Progress Energy
Jeryl K. Covington	City of Greensboro
Tom Fransen	DWR
[illegible]	BREAC
John Murawski	N&O
Tommy Stevens	NCPC
Paul Sherman	NC Farm Bureau
Christa Wagner	NC Sierra Club
Amy Pickle	SELC

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — December 13, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Michelle M. Brown	Joyce Engineering - Greensboro
[illegible]	Poyner & Spruill
DAVID BARNES	Poyner + Spruill
Greg Peveril	SOIL & Mat Sci
Jeb McNeely	Gov Affairs
Ritta Harris	NCDOT
Kim Hibbard	NCLM
Butch Gunnells	NCBA
Bill Pittman	Pittman Law Firm
Tom Bacon	NC ED / NCSEA
[illegible]	Sierra Club

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — December 13, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Dr. Robert M. Fearn	Raleigh & Lake Jones, NC
[illegible]	GCRG
Amy Simes	NCDENR
George Everett	Duke Energy Carolinas
Gary Harris	NC Petroleum Marketers
[illegible]	NC PMA
[illegible]	NC DENR
Charles Case	Hunton & Williams
Lisa Sorg	Indie Weekly
Joe Teague	SELF
BRUCE NICHOLSON	NCDENR

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW — 12-13-06

Name of Committee — Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
Chip Roth	Teamsters P.O. Box 35405 Greensboro, NC 27425
Peter Anderson	Center for Competitive Waste Industry 4513 Vernon Blvd Madison WI 53705
J. Phillip Land	SC State Senate for Sen Wes Hayes
Donna Lisenby	Catawba Riverkeeper
Kennie Ellis	Public Staff NCUC
James McLawhorn	" "
CARL WILKINS	ADVANCED ENERGY
Michael Hubbard	Dominion
George + Suzy Johnson	Community of Lake James
Joey Hemi McClees	McClees Consulting
Joe Rudek	Environmental Defense

EXHIBIT C

VISITOR REGISTRATION SHEET

ENVIRONMENTAL REVIEW COMMISSION — December 13, 2006

Name of Committee — **Date**

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMISSION ASSISTANT

NAME	FIRM OR AGENCY AND ADDRESS
Barbara Satter	NC DENR Ecosystem Enhancement Program
Suzanne Klimek	DENR EEP
Bill Gilmore	NCDENR EEP
TAD BOGGS	NC DENR EEP
FRANK GRAY	NCMHI
Robin Smith	DENR
Sandra Long	Martin Marietta Materials

EXHIBIT D

General Assembly of North Carolina
Environmental Review Commission
State Legislative Building
Raleigh, North Carolina

GEORGE F. GIVENS
COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 733-2578
FAX: (919) 715-5460

SUSAN S. IDDINGS
ASSISTANT COMMISSION COUNSEL
401 LEGISLATIVE OFFICE BUILDING
(919) 733-6660

JENNIFER L. McGINNIS
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

DOROTHY M. WAUGAMAN
COMMISSION CLERK
309 LEGISLATIVE OFFICE BUILDING
300 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603
(919) 715-2525
FAX: (919) 754-3232

JEFF W. HUDSON
ASSISTANT COMMISSION COUNSEL
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

JENNIFER R.F. MUNDT
COMMISSION ANALYST
545 LEGISLATIVE OFFICE BUILDING
(919) 733-2578

13 December 2006

MEMORANDUM

To: Members of the Environmental Review Commission
From: Jennifer Mundt, Commission Analyst
Re: Reports to the Commission

The following reports have been submitted by the Department of Environment and Natural Resources (DENR) to the Environmental Review Commission since the last reports distribution on 15 November 2006. These reports are designated as read only reports. Copies of the reports are attached to this memorandum:

1. Annual Report on the Cost of the Title V Program. 1 November 2006. Statutory Authority: G.S. 143-215.3A(c).

2. Annual Report on the Cost of Implementing the Mining Act of 1971. 1 September 2006. Statutory Authority: G.S. 74-54.1(c).

3. Annual Report on the Fish Kills in the Previous Year. 1 December 2006. Statutory Authority: G.S. 143B-297.7(c).

The following report has been submitted by the Department of Public Instruction to the Environmental Review Commission since the last reports distribution on 15 November 2006. This report is designated as a read only report and is attached to this memorandum:

1. Annual report on the recycling efforts of the public schools in the State "*Strengthening Litter Laws*". 15 December 2006. Authority: S.L. 2001-512, Sec. 11.

The following reports have been submitted by the North Carolina Utilities Commission to the Environmental Review Commission and will be distributed in connection with ***Agenda Item #5*** as noted below:

1. A Study of the Feasibility of Energy Efficiency as an Eligible Resource as Part of a Renewable Energy Portfolio Standards for the State of North Carolina.

2. An Analysis of a Renewable Portfolio Standard for the State of North Carolina.

The following reports have been submitted by Department of Environment and Natural Resources (DENR) to the Environmental Review Commission and will be distributed in connection with Agenda Items as noted below:

1. Annual Report by DENR on the Effectiveness of the Brownfield Property Reuse Act. 1 October 2006. Statutory Authority: G.S. 130A-310.40. ***Agenda Item #8***

2. Annual Report by DENR on the Implementation of the Sedimentation and Pollution Control Act of 1973. 1 October 2006. Statutory Authority: G.S. 113-67. ***Agenda Item #9***

3. Annual Report by DENR on the implementation of the Ecosystem Enhancement Program and use of the Ecosystem Enhancement Fund. 1 November 2006. Statutory Authority: G.S. 143-214.13. ***Agenda Item #10***

Please contact George Givens, Jeff Hudson, Jennifer McGinnis, or Jennifer Mundt at (919) 733-2578 if you have any questions or comments.

EXHIBIT D-1

STATE OF NORTH CAROLINA

TITLE V AIR QUALITY PERMIT PROGRAM

ACCOUNTABILITY REPORT

PURSUANT TO

N.C.G.S. 143-215.3A(c)

15A NCAC 2Q .0206(f)

40 CFR 70.9

NOVEMBER - 2006

DIVISION OF AIR QUALITY

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

B. Keith Overcash, P.E.
Director

EXECUTIVE SUMMARY

The Clean Air Act Amendments of 1970, reviewed and amended by Congress in 1977 and 1990 formed the basis of the federal air pollution control currently in place. Health-based national ambient air quality standards are the strategic basis of the Clean Air Act. The standards were to be met through the application of control technology that would reduce emissions continuously and result in improved air quality. Costs of technological capability were to be subordinated to public health protection requirements. Also, all requirements were to be national, with no facility having a competitive edge by having to meet less stringent controls. The Environmental Protection Agency (EPA) is responsible for carrying out the program.

Prior to the 1990 Clean Air Amendments, EPA set two kinds of National Ambient Air Quality Standards (NAAQS) specifying maximum acceptable levels of pollutants for outdoor air. Primary standards set limits that protect human health; secondary standards provide welfare protection (i.e. plants, animals, aesthetics and materials). EPA set primary and secondary standards for six criteria pollutants: carbon monoxide, nitrogen dioxide, lead, sulfur dioxide, ozone and particulates. Eight substances were listed as hazardous air pollutants: asbestos, beryllium, mercury, vinyl chloride, radionuclides, inorganic arsenic, benzene, and coke oven emissions. National Emissions Standards for Hazardous Pollutants (NESHAPS) were promulgated for sources of seven of these pollutants.

Most air pollution comes from either stationary sources, such as factories, power plants and smelters, or mobile sources such as cars, trucks and airplanes. To limit mobile source pollution, controls were established for automobile emissions. EPA also set standards that applied to new industrial plants and existing ones that were substantially modified. Additionally, state governments were required to draw up State Implementation Plans (SIP's) that set out other measures to achieve acceptable air quality.

Under the Federal Clean Air Act Amendments of 1990 Congress mandated the Title V Permit Program primarily for regulating major air pollution sources; that is, sources with greater than 100 tons per year of the six criteria air pollutants and/or greater than 10 tons per year of any of the 189 Hazardous Air Pollutants (HAPs) or 25 tons per year of combined HAPs. The North Carolina Environmental Management Commission (EMC) established the state Title V Permit Program in 1994 in accordance with state and federal laws and with guidance from the N.C. Clean Air Act Advisory Council. The state Division of Air Quality (DAQ) carries out the program, which received interim approval from the U.S. Environmental Protection Agency (EPA) on December 15, 1995 and final approval in October 2001.

The DAQ in implementing the program was required to issue permits to existing major stationary facilities. The DAQ issued all permits to all existing facilities by the end of 2004. The DAQ is also required to issue permits to new sources.

A national Title V authority, D. R. van der Vaart (21 Va. Envtl. L.J. 1 (2002)), has succinctly described both the background and three fundamental purposes of the Title V program as follows:

"During the legislative debates preceding the passage of the CAA Amendments of 1990, Congress confronted the problem most facilities, state regulators, and concerned citizens had with the then existing state air quality permitting programs. The myriad of both federal and state requirements, including emission standards, monitoring standards, record keeping, and reporting requirements were difficult to reconcile, properly apply, and difficult to enforce. Congress looked to the existing federal permitting program authorized under the Clean Water Act ("CWA") when crafting a solution but added some fundamental changes. First, the permit would be a stand-alone comprehensive document to which all parties could look to determine a facility's CAA obligations. Second, the permit would be designed with compliance as its primary goal. To that end, Congress included sufficient authority to empower state agencies to include monitoring and record keeping sufficient to determine compliance with the emissions standards. Finally, the program would require Title V permit holders to certify compliance with the terms and conditions of the permit so their legal exposure would be sufficiently severe to motivate compliance with their requirements. Enforcement provisions were added to achieve this goal."

The Clean Air Act requires that permit fees cover the entire cost of the Title V Program. The fees consist of a base fee and a fee derived from the actual annual emissions of each Title V source in the state. Currently emission fees, last set in 2001, are $17.42 per ton. In North Carolina, the revenue raised from Title V permit fees is close to the estimated cost of the program. This is true even though the total fees collected are only about 67 percent of the minimum fees presumed necessary to run the program under the Federal Clean Air Act. Many other states charge the minimum presumptive fee, which is $41.02 per ton.

The last annual report (November 2005) indicated the DAQ would develop and research staffing levels and funding in a study of the DAQ Title V Permits Section and the entire Division's Title V program. The Executive Summary of the study may be found on page 4 of this report.

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INTRODUCTION

This Accountability Report describes the Title V Permit Program in North Carolina as carried out by the Division of Air Quality, Department of Environment and Natural Resources. The report focuses on funding and staffing issues. It does not cover Title V permit programs under the jurisdiction of local air pollution control programs in Buncombe, Forsyth, and Mecklenburg counties.

Congress established the Title V Permit Program under the Federal Clean Air Act (1990 Amendments), primarily as a way to regulate major air pollution sources. Under the Clean Air Act, Title V Permits are required for certain industry groups as designated by the EPA as well as facilities that emit at least:

- 100 tons per year of regulated pollutants; or
- 10 tons per year of any hazardous air pollutant; or
- 25 tons per year of any combination of hazardous air pollutants.

In North Carolina, the General Assembly enacted laws in 1991 and 1993 authorizing the Title V program. The legislature also established the North Carolina Clean Air Act Advisory Council to develop the programs needed to comply with the Clean Air Act, including the structure of the Title V permit fees. The Clean Air Act Advisory Council issued a final report in August 1992, and the Environmental Management Commission followed the council's recommendations in adopting rules for the state Title V Permit Program in 1994. The EPA gave interim approval to North Carolina's Title V Permit Program on December 15, 1995, with final approval pending certain rules changes, which have been submitted to EPA. EPA gave final approval, in October 2001.The Clean Air Act as well as the N.C. General Assembly, the EPA, the EMC and the Clean Air Act Advisory Council all required or recommended accountability measures for the state Title V program. This Accountability Report includes:

- A discussion of program accomplishments and goals;
- A detailed description of the Title V permit fee structure for calendar year 2005;
- A detailed, line-item budget for state fiscal year 2005;
- An organizational chart for total staff in the Division of Air Quality and Title V related positions; and
- An account of Title V receipts and expenditures from state fiscal years 1992 to 2006;

The Division of Air Quality started receiving Title V permit applications after EPA's interim approval of the program on December 15, 1995. Facilities were given until December 1996 to submit their applications or they would be considered in violation of the permitting rules. Applications received during the aforementioned timeframe were called "Initial Title V Applications" and all other Title V applications received after December 1996 were called "First Time Title V Applications." By January 1998, DAQ had 475 Title V applications under review. Since program approval, the DAQ has processed a total of 3755 applications to date. To date DAQ has issued 75 of the First Time Title V permits and is currently reviewing 237 applications. Currently, DAQ has 356 operating facilities classified as Title V facilities.

Questions about this Accountability Report or request for copies should be directed to Charles Valrie, Division of Air Quality, Department of Environment and Natural Resources, 1641 Mail Service Center, Raleigh, NC 27699-1641; telephone (919) 715-6281; email: Charles.Valrie@ncmail.net.

ACCOMPLISHMENTS AND GOALS

The Division of Air Quality (DAQ), the Department of Environment and Natural Resources (DENR), and the North Carolina Environmental Management Commission (EMC) have accomplished the following measures in developing and carrying out a Title V Permit Program in North Carolina. Goals are included where applicable.

1. The DAQ has established a Title V Permit Program based on rules adopted by the EMC (15A NCAC 2Q .0500). The program meets the requirements of state law (N.C.G.S. §§143-215.3 and 143-215.108) that authorized the program in North Carolina and set up the North Carolina Clean Air Act Advisory Council. The EPA gave interim approval to the program in 1995, and following the DAQ's revision to the Title V regulations; EPA gave final program approval in October of 2001.

2. In 2002 the DAQ revised the Title V application forms including the development of special forms for the renewal of Title V permits. These revised forms are intended to facilitate the application process, and they have been placed on the Division's website (http://daq.state.nc.us/).

3. The DAQ has developed a permit fee schedule that generates an appropriate amount of revenue to carry out the Title V permitting program. The Federal Clean Air Act requires that Title V permit holders pay fees sufficient to cover the cost to administer the permitting program. The DAQ will continue to evaluate the fee structure to ensure that the necessary fees are collected.

4. The DAQ has hired approximately 139 staff members to implement and maintain the Title V program since it started in 1992. The total staff size is still smaller than the projected size from the Final Report of the Clean Air Act Advisory Council and has remained constant for several years.

5. DENR has established a Small Business Assistance Program, hired a Small Business Ombudsman, and appointed a Compliance Advisory Panel to conduct citizen overview of small business activity.

6. The DAQ continues to hold meetings, including quarterly Outside Involvement Committee meetings, to provide citizens and the regulated community the opportunity for input into DAQ's permitting and planning procedures.

7. DAQ provided and continues to provide a range of options to qualify facilities as Non-Title V facilities. Many facilities have taken advantage of these options, which is one of the reasons why the number of Title V facilities is much less than initial estimates; that is, 356 operating Title V facilities now versus the 2000 estimated in the Clean Air Act Advisory Council's Final Report. For example, the DAQ established the synthetic minor program so facilities could avoid the Title V permitting program by taking permitted emission limits and/or

operating restrictions. Also, the EMC adopted and EPA approved exclusionary rules to allow reasonable potential emission calculations in cases where standard methods would produce unreasonably high potential emissions thus subjecting such facilities to Title V. **Goal:** The DAQ will continue to issue appropriate permits to qualified facilities that wish to remain non-Title V facilities.

8. In 1994 DAQ conducted its first comprehensive emissions inventory was facilities in North Carolina. This comprehensive inventory process has been repeated every three years for all non-Title V facilities until January 2003, when the inventory requirement was changed to every five years for non-Title V facilities.
   Title V facilities continue to be required to submit an inventory annually. This emission information is stored on a computer database that DAQ uses to calculate fees and for use in regulatory planning. The DAQ has developed an electronic on-line inventory reporting system. This system has been available to permittees since 2003.

9. There have been many unanticipated programmatic developments for the Title V permitting engineering staff including:

- Renewals of permits are much more complex and time consuming than anticipated requiring the permit engineer to devote a comparable amount of time as that required during the issuance of initial Title V permits.
- Additional programmatic requirements include: addressing of Maximum Available Control Technology (MACT) and Compliance Assurance Monitoring (CAM) regulations; permit appeals; and administrative requirements including the updating of the emission source modules for the database supporting the emissions inventory.
- Title V permit modifications continue to expand in breadth and complexity as other programmatic demands impede permit issuance (e.g., ozone and particulate matter Non-Attainment Area reviews, state zoning consistency requirements).
- Increased complexity leads to staff time devoted to projects being uneven and unpredictable requiring frequent conference with management and peers to determine the proper approach.
- Enforcement and compliance problems are frequently addressed by the efforts of the Title V permit engineering staff and management.
- EPA reviews are becoming more rigorous. EPA frequently comments on significant modifications and renewals of the permits.
- The implementation of the MACT permitting program including assuring compliance with the state air toxics program is largely a duty of the Title V permitting staff.

10. According to last year's report (2005), there appears to be a need to review the adequacy of permit engineer staffing in the Permits Section. The DAQ developed a study whereby staffing levels, reorganization and the time accounting system were evaluated. The following executive summary is extracted rom the draft report "DAQ Title V Program Study":

- The external study to determine if the Permits Section is adequately staffed will continue but may be inconclusive;

- The internal study to determine if the Permits Section is adequately staffed would indicate additional permits engineers are required. The division of the Section into two functional groups will yield improvements in supervision and permit quality. Other organizational changes should be investigated;

- The fee system is adequate and the overhaul of the time accounting system may yield additional benefits useful for future man-hour activity studies; and

- The evaluation of other functional groups, e. g., compliance and enforcement, regional permitting, planning, and outreach should be conducted on an "as-needed" basis similar to the Permits Section by management.

CALENDAR YEAR 2005 PERMIT FEES TABLE

NOTES AND EXPLANATION

The federal Clean Air Act requires that the entire cost of the Title V Permit Program, including both direct and related expenses, be funded by facilities' permit fees and that Title V permit fees be used only for this purpose. The Clean Air Act also set a presumptive minimum for total fees at $25 per ton of air pollutant emissions in 1990 dollars. The Title V permit fees schedule for North Carolina now yields only 78 percent of the presumptive minimum. However, DAQ considers this amount adequate to run the program as long as all other funding sources for DAQ remain unchanged. The Title V permit fees are required by federal statutes and DAQ rules to be adjusted each January 1st by an official cost-of-living factor (it should be noted that the cost-of-living factor adjustment in the Title V fees has not been made by DAQ since 2001) from the U.S. Environmental Protection Agency.

The Clean Air Act Advisory Council established by the General Assembly recommended in 1992 that the Title V permit fees should total $25 per ton of emission (adjusted annually for cost-of-living from the 1990 base), rather than the $36.45 per ton shown by the workload analysis in the council's final report. The council recommended this level so North Carolina could remain competitive with neighboring states — most of which were expected to use the $25/ton plus inflation presumptive minimum — and because of the many uncertainties in the program at that time.

The advisory council also considered the fairness of basing fees entirely on the amount of pollutants emitted, rather than on the amount of work required to administer Title V permits for various types of facilities. Because a certain amount of work is required to issue every Title V permit, regardless of the facility's emissions, the council recommended that half of the total Title V permit fees come from an applications fee (an annual flat fee for each permit) and the other half of the revenues come from annual per-ton charges.

A major uncertainty during the advisory council's work was the number of facilities that would be required to hold Title V permits and their emissions levels. This existed because a comprehensive emission inventory had never been required for all facilities. Since the council concluded its work, the EPA has issued many regulations, policies, clarifications, and changes to the Title V program, and the state has responded accordingly.

The state also has shown flexibility in the Title V program by using size exclusions for some industry groups (such as service stations, grain elevators, dry cleaners and emergency generators) and by allowing facilities to adopt permit limits that reduce their potential emissions below the Title V thresholds (known as synthetic minor sources). As a result, the number of Title V facilities has decreased from an estimated 2,000 in the Clean Air Act Advisory Council's Final Report, to 850 when the Title V permit fees schedule was adopted effective March 8, 1994, to about 356 operating facilities today. The total amount of emissions has changed little since the council's final report.

In Table I, "non-attainment" refers to permits issued under special rules applicable in areas that are in non-attainment with federal standards for criteria air pollutants such as ozone or particles. "PSD"

refers to permits issued under federal Prevention of Significant Deterioration rules. "NSR/NAA" refers to permits issued under special rules for New Source Review in Non-attainment Areas.

Another feature of the fee schedule that should be noted is that no permit application fee is charged for a simple renewal of a permit. In addition, no permit application fee is charged when the reason for the change is initiated by the director of the Division of Air Quality or the Environmental Management Commission, e.g., new control equipment required by a new rule or even the initial Title V permits for existing permitted sources.

CALENDAR YEAR 2007 PROJECTED TITLE V PERMIT FEES 11/17/20

TITLE V PRESUMPTIVE MINIMUM	310749 TONS *		$41.02	=	$12,746,924 IN FFY 2006 $
FEES PER NC RULE (TOTALS FROM BELOW)		TITLE V			$8,105,962 IN 2006 $
		AVERAGE TITLE V $/TON			$26.09 IN 2006 $
		AVERAGE TITLE V $/TON			$15.90 IN 2006 $
		% OF PRESUMPTIVE			63.59

		PERMITS	FEE RATE	FEE SUBTOTAL	
TITLE V	ANNUAL FEES				
	BASIC	356	$6,074	$2,162,344	IN 2001 $
	TONS/TONNAGE FACTOR	310749	$17.42	$5,413,248	
	NONATTAINMENT	0	$3,097	$0	
TITLE V	APPLICATION FEES				
	SIGNIFICANT MODIFICATION	29	$8,576	$248,704	
	MINOR MODIFICATION	148	$834	$123,432	
	OWNERSHIP CHANGE	13	$60	$780	
	NEW	14	$8,322	$116,508	
	PSD OR NSR/NAA	3	$12,982	$38,946	
	PSD & NSR/NAA	0	$25,250	$0	
	Construction Notices	10	$200	$2,000	

*The 2001 presumptive minimum fee was used in these caculations.

TITLE V EXPENDITURE BUDGET

STATE FISCAL YEAR 2006

June 29, 2006

ACCOUNT	ACCOUNT DESCRIPTION	Expenditure
531212	SPA-REG SALARIES-RECPT	$5,898,631
531462	EPA&SPA-LONGVTY PAY-REC	$75,269
531512	SOCIAL SEC CONTRIB-RECPT	$441,225
531522	REG RETIRE CONTRIB-RECPT	$403,446
531562	MED INS CONTRIB-RECPTS	$419,485
531628	ST DISABILITY PMT-RECEIP	$2,094
531631	WRKER COMP-MED PAYMENTS	$197
532110	LEGAL SERVICES	$205,327
532133	EMPLOYEE/EMPLOYMENT PHYSIC	$30,059
532140	OTH INFORMATION TECH SVC	$74,947
532160	ENGINEERING SERVICES	$275
532170	ADMIN SERVICES	$4,317
532185	WASTE REM/RECY SER AGREE	$24
532199	MISC CONTRACTUAL SERVICE	$20
532210	ENRG SER -ELECTRICAL	$1,311
532331	REPAIRS-MOTOR VEHICLES	$6,854
532430	MAINT AGREEMENT-EQUIP	$29,762
532441	MAINT AGRMT-OTHER SOFTWR	$2,270
532443	MAINT AGRMT-OTHER DP EQP	$2,539
532490	MAINT AGREEMENT-OTHER	$5,486
532512	RENT/LEASE-BLDINGS/OFFIC	$122,303
532513	RENT/LEASE-OTH FACILITIE	$243
532521	RENT/LEASE-MOTOR VEHICLE	$116,853
532712	TRANS AIR-OUT STATE,IN U	$11,852
532714	TRANSP-GRND - IN STATE	$16,444
532715	TRANS GRND-OUT STA,IN US	$3,171
532717	TRANSP OTHER - IN STATE	$669
532718	TRANS OTH-OUTSTATE, IN U	$506
532721	LODGING - IN STATE	$13,203
532722	LODGING-OUT STATE, IN US	$19,246
532724	MEALS - IN STATE	$7,130
532725	MEALS-OUT OF STATE,IN US	$6,987
532727	MISC - IN STATE	$43
532728	MISC - OUT STATE, IN US	$2,194
532811	TELEPHONE SERVICE	$2,074
532814	CELLULAR PHONE SERVICES	$12,480
532840	POSTAGE, FREIGHT & DELIV	$534
532840003	POST,FR&DEL-POSTAL METER	$527

TITLE V EXPENDITURE BUDGET

STATE FISCAL YEAR 2006

June 29, 2006

ACCOUNT	ACCOUNT DESCRIPTION	Expenditure
532850	PRINT,BIND,DUPLICATE	$2,676
532860	ADVERTISING	$38,516
532911	PROPERTY-INSURANCE	$5,200
532912	MOTOR VEHICLE INSURANCE	$13,960
532930	REGISTRATION FEES	$9,580
532942	OTHER EMP EDUCATIONAL EX	$4,638
533110	GENERAL OFFICE SUPPLIES	$9,141
533120	DATA PROCESSING SUPPLIES	$14,560
533150	SECURITY & SAFETY SUPP	$9,154
533240	CARPENTRY & HARDWARE SUP	$147
533250	AGRICULTURL/ANIMAL SUPPL	$10
533290	OTHER FACILITY & HARDWAR	$97
533310	GASOLINE	$1,328
533350	MOTOR VEH REPLCEMNT PART	$127
533640	OPTICAL SUPPLIES	$436
533710	SCIENTIFIC SUPPLIES	$9,297
533720	EDUCATIONAL SUPPLIES	$259
533900	OTHER MATERIALS & SUPP	$5,003
534511	FURN-OFFICE	$2,240
534521	OFFICE EQUIPMENT	$115
534523	EQUIP-SCIENTIFIC/MEDICAL	$11,541
534530	OTHER DP EQUIPMENT	$4,892
534534	PC/PRINTER EQUIPMENT	$38,209
534535	SERVER EQUIPMENT	$40,088
534539	OTHER EQUIPMENT	$1,565
534630	LBRRY&LRNING RESRCE COLL	$8,660
534711	OTHER COMPUTER SOFTWARE	$0
535830	MEMBERSHIP DUES&SUBSCRIP	$632
535890	OTHER ADMIN EXPENSES	$15
535900	OTHER EXPENSES	$11,340
536929	OTHER CONT/GRT-ED-INST	$50,224
536961	AID TO COUNTIES	$12,000
538010	DEPENDENT CARE-OP TFR	$8,530
538102	I 1615	$62,729
538111	TRANSFER TO CODE 14300	$674,287
538129	TFR TO REG FIELD OFFIC	$224,987
TOTAL		$9,216,180

HISTORY
TITLE V FEES/ASSESSMENTS AND EXPENDITURES
EXPLANATION

DENR collected Title V assessments until the Environmental Management Commission adopted rules setting the permit fees schedule in 1994, as specified by the General Assembly in House Bill 551(N.C.G.S. 143-215.3 and 143-215.108). The rule adoption process occurred after the North Carolina Clean Air Act Advisory Council issued its final report in 1992, as specified by the legislature. Assessments were collected in state fiscal years 1992 (starting July 1, 1991) 1993, and 1994. The Title V permit fees set by rule were collected beginning in state fiscal year 1995 (starting July 1, 1994).

In 1997, facilities received a partial refund of Title V fees. This was accomplished by sending the facility a check, valued at 21 percent of the permit fees paid in 1997. This refund was to reduce the budgeted carry forward as of July 1, 1998.

The Division of Air Quality, based on an analysis of variability in fuel tax revenue, decided that it is prudent to have a carry forward of about 35 percent. The 35 percent is well within the statutory limitation that allows a state's Title V program to carry forward 100 percent of the expected cost of the Title V program for the next year. By terms of the Federal Clean Air Act, the entire cost of the Title V program must be paid with Title V permit fees, and Title V permit fees can only be used for this purpose.

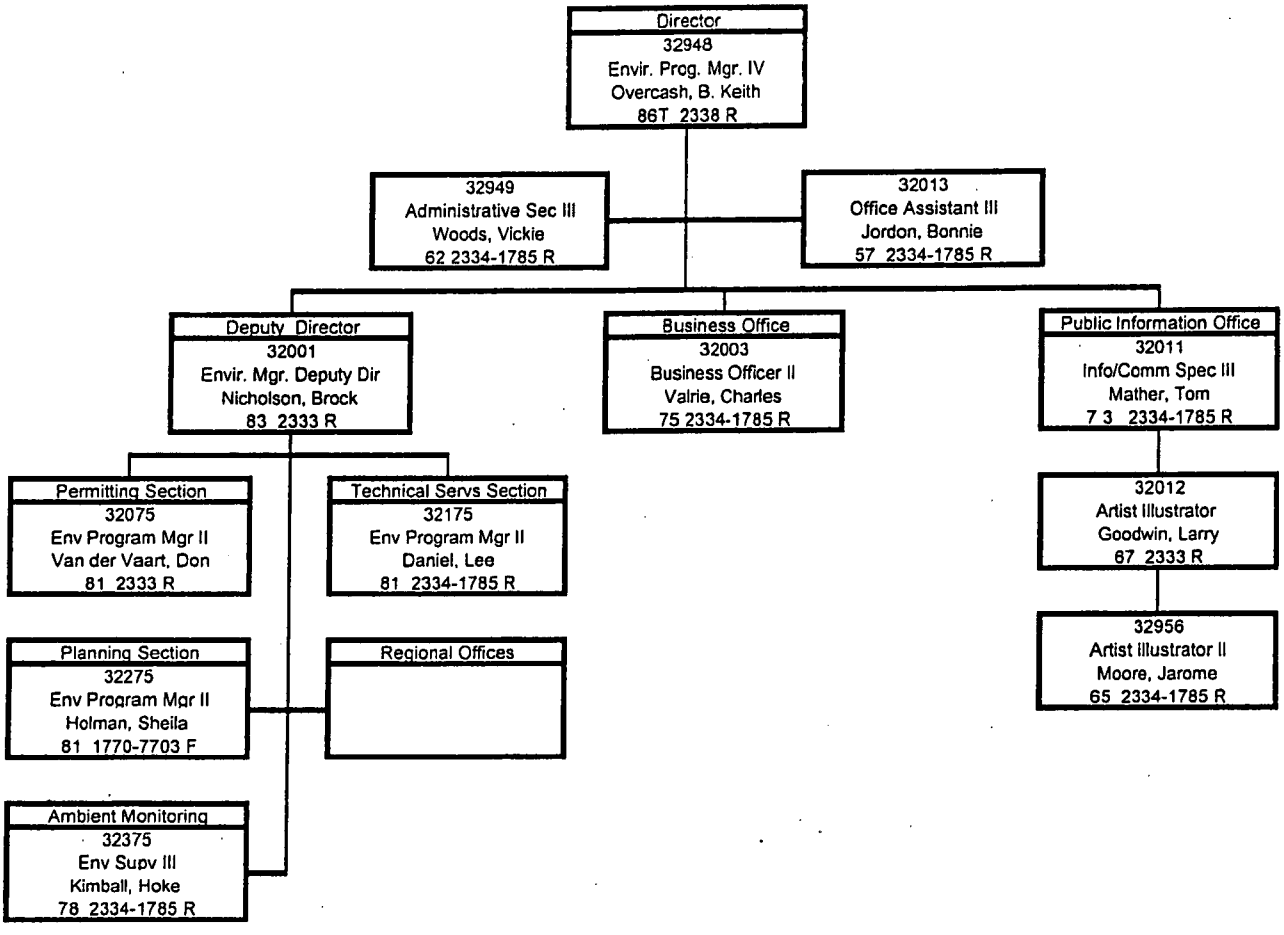
HISTORY
TITLE V FEES/ASSESSMENTS AND EXPENDITURES
(MILLIONS $)

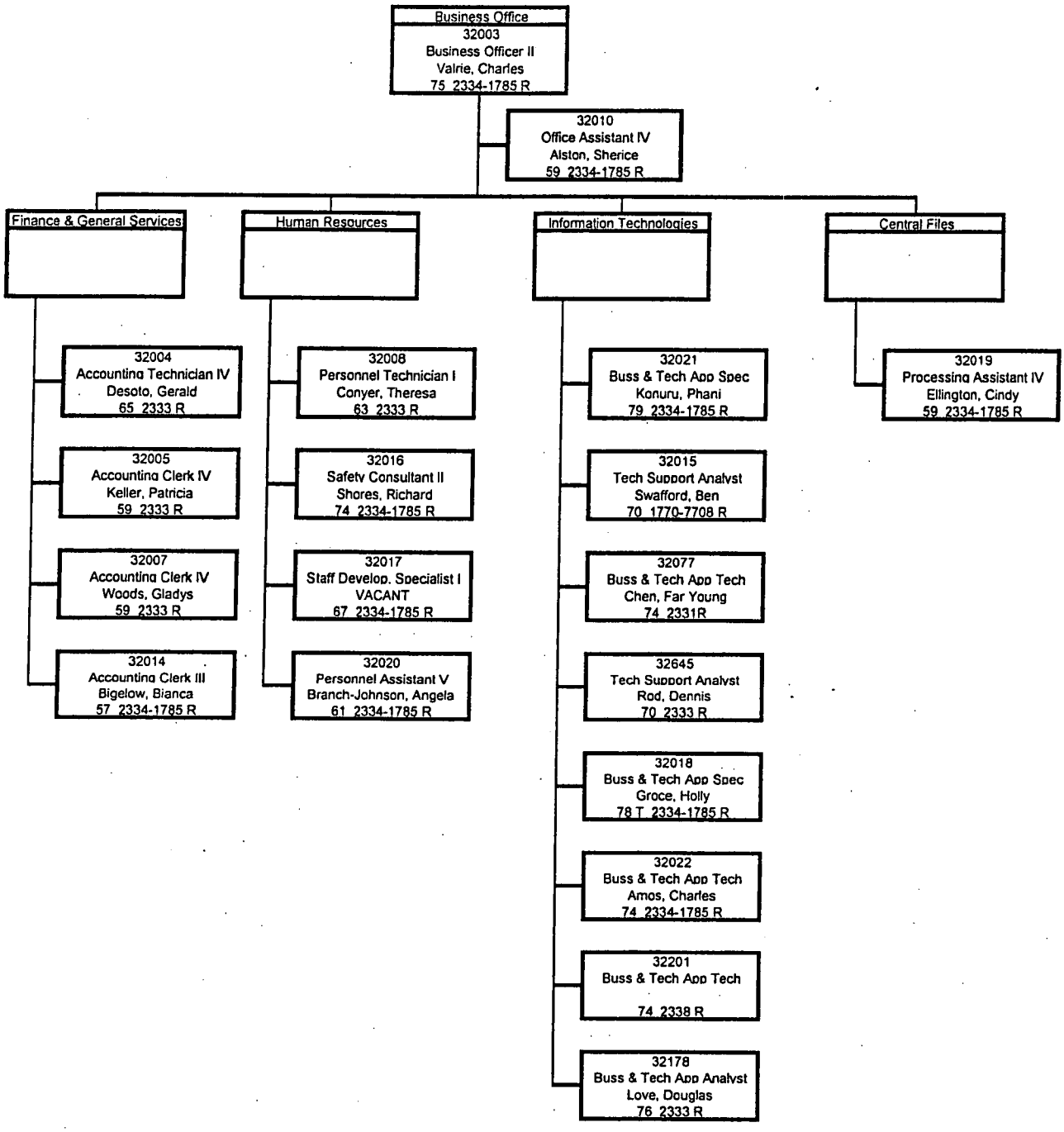
State Fiscal Year	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	*'07
Carried Forward	0.0	0.6	1.8	1.7	2.8	4.5	5.5	5.7	5.4	4.8	4.5	5.6	4.7	4.1	3.4	2.0
Fees Beginning '95/Assessments before	0.9	3.9	3.5	6.3	7.9	7.6	9.3	7.8	7.9	8.7	9.1	7.7	8.2	7.9	7.8	8.0
Salary	0.1	0.9	2.3	3.6	4.2	4.7	5.1	5.8	6.0	6.4	5.9	6.0	6.2	6.7	7.2	7.2
Travel		0.1	0.0	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Supplies	0.1	0.3	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.5	0.2	0.1	0.2
Equipment	0.1	1.1	0.3	0.5	0.3	0.2	0.4	0.3	0.4	0.2	0.1	0.3	0.1	0.1	0.1	0.1
Contracts		0.3	0.4	0.2	0.1	0.2	0.3	0.1	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.3
Other (Rent, Utilities, Reg Office fund, etc)			0.3	0.4	0.7	0.6	0.9	0.8	0.8	1.2	0.7	0.9	0.6	0.5	0.4	0.4
Small Business Ombudsman's			0.2	0.2	0.3	0.3	0.1	0.3	0.3	0.3	0.3	0.4	0.1	0.1	0.0	0.1
Transfer to DENR Agencies					0.2	0.3	0.4	0.6	0.4	0.4	0.4	0.3	0.8	0.7	1.0	0.8
Total Expenses	0.3	2.7	3.6	5.2	6.2	6.6	7.5	8.1	8.5	9.0	7.9	8.5	8.8	8.7	9.2	9.2
Refund to Sources							1.6									
TO BE CARRIED FORWARD	0.6	1.8	1.7	2.8	4.5	5.5	5.7	5.4	4.8	4.5	5.7	4.8	4.1	3.3	2.0	0.8

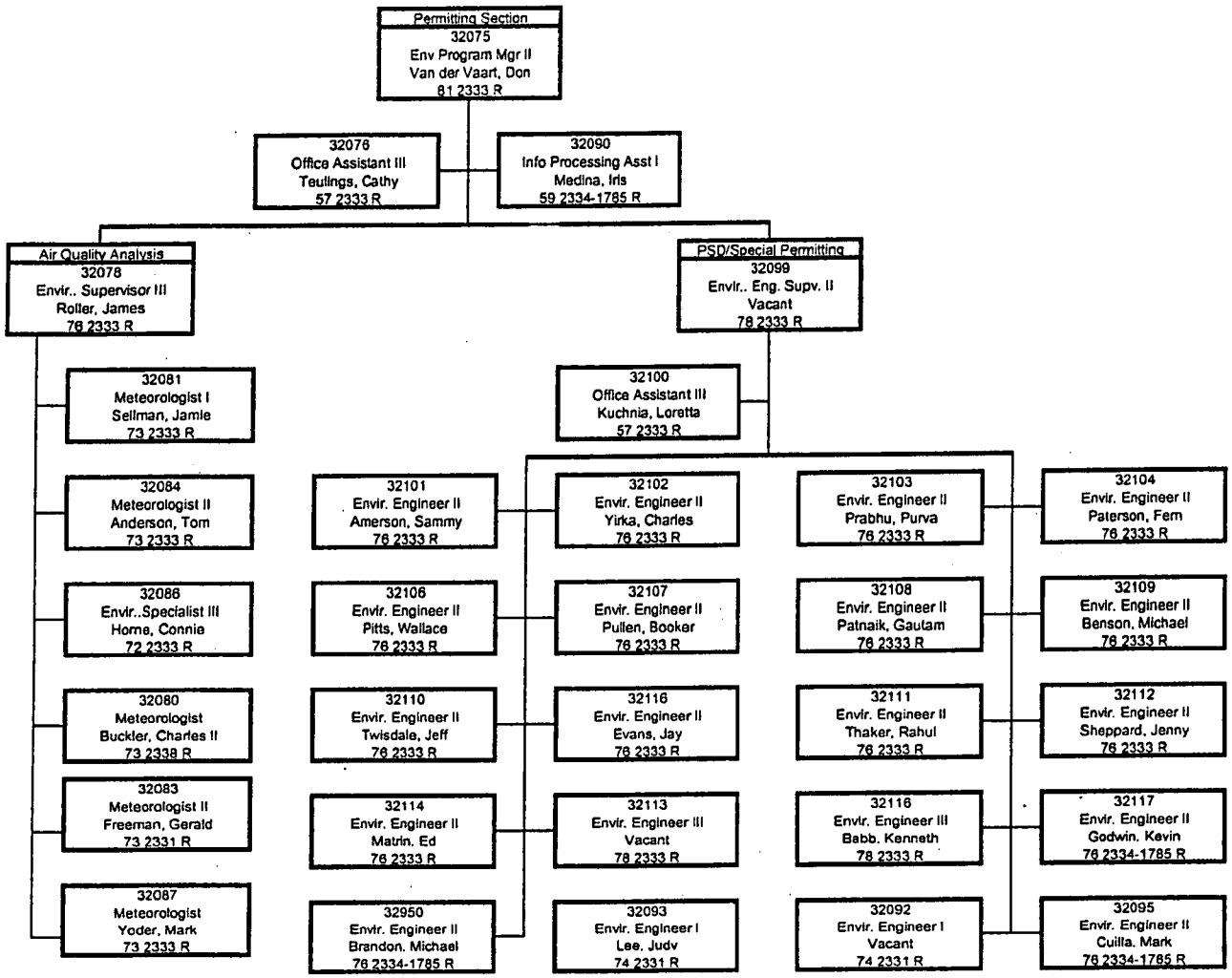
* Data listed for SFY 07 are projections based on SFY 06 expenditures

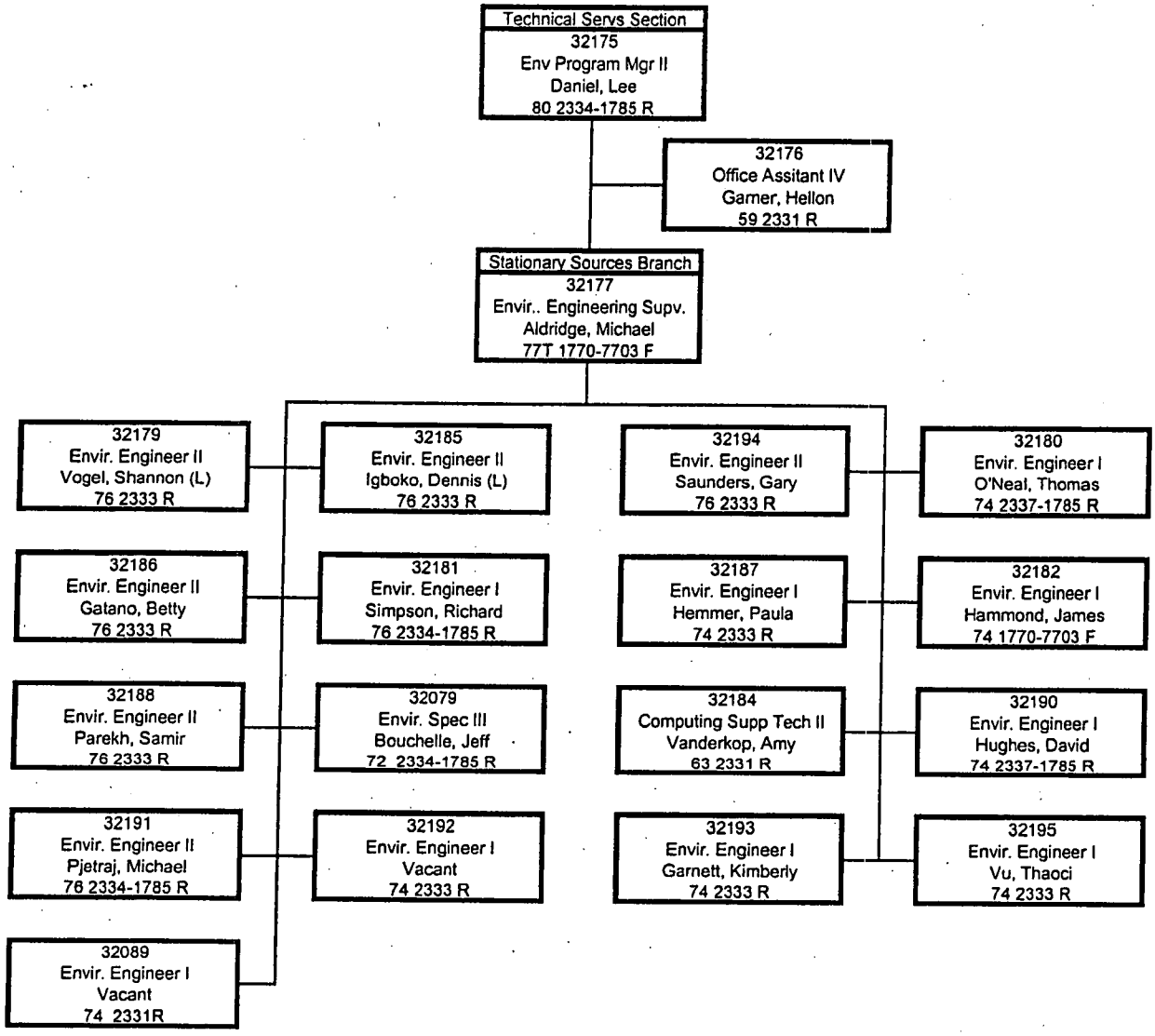
ORGANIZATION CHART EXPLANATION

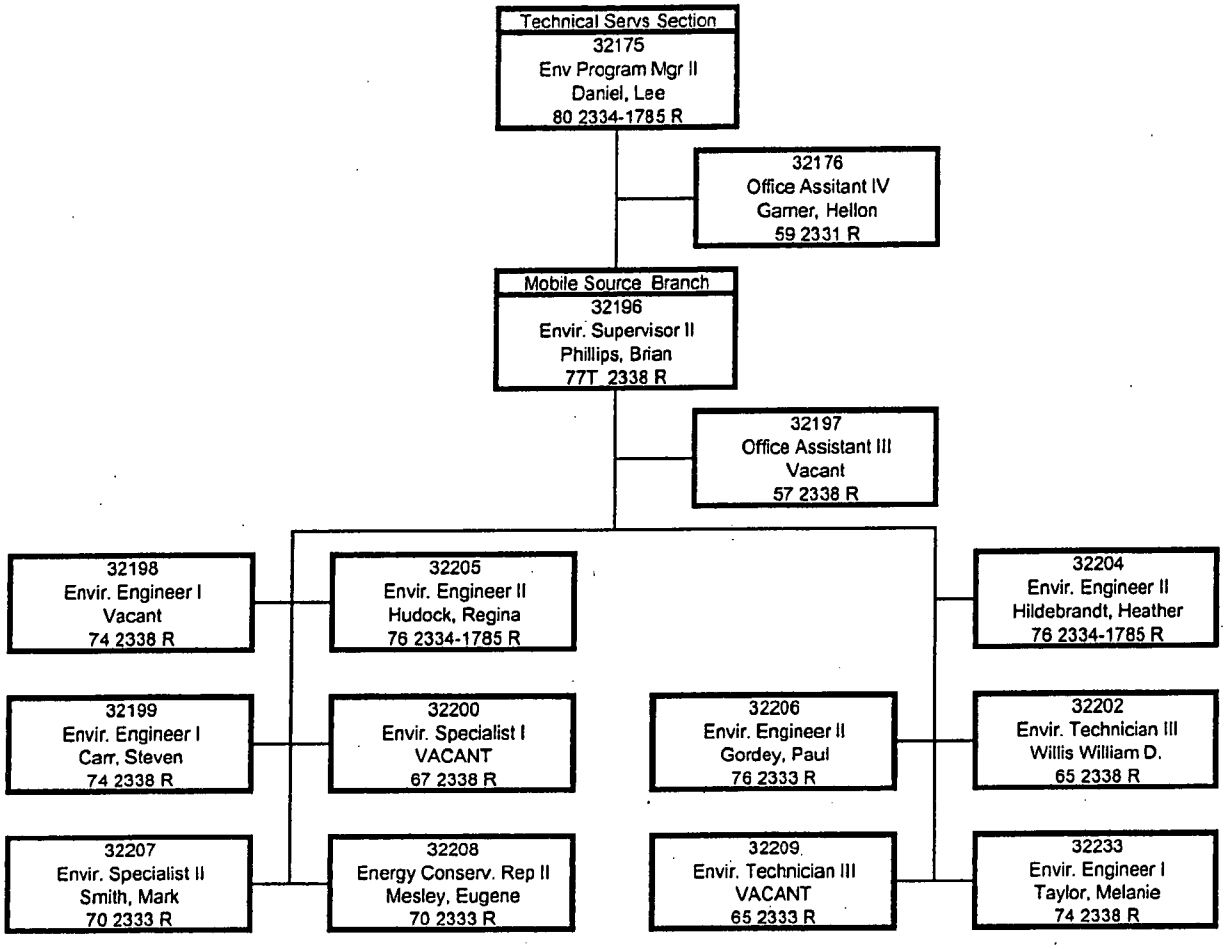
The organization chart shown in this document lists all the positions authorized by State Personnel for the Division of Air Quality. Positions that are funded using Title V fees are listed with a funding designation of 2333R. Additionally, positions outside the Division of Air Quality that are funded through the transfer of Title V funds are listed separately.

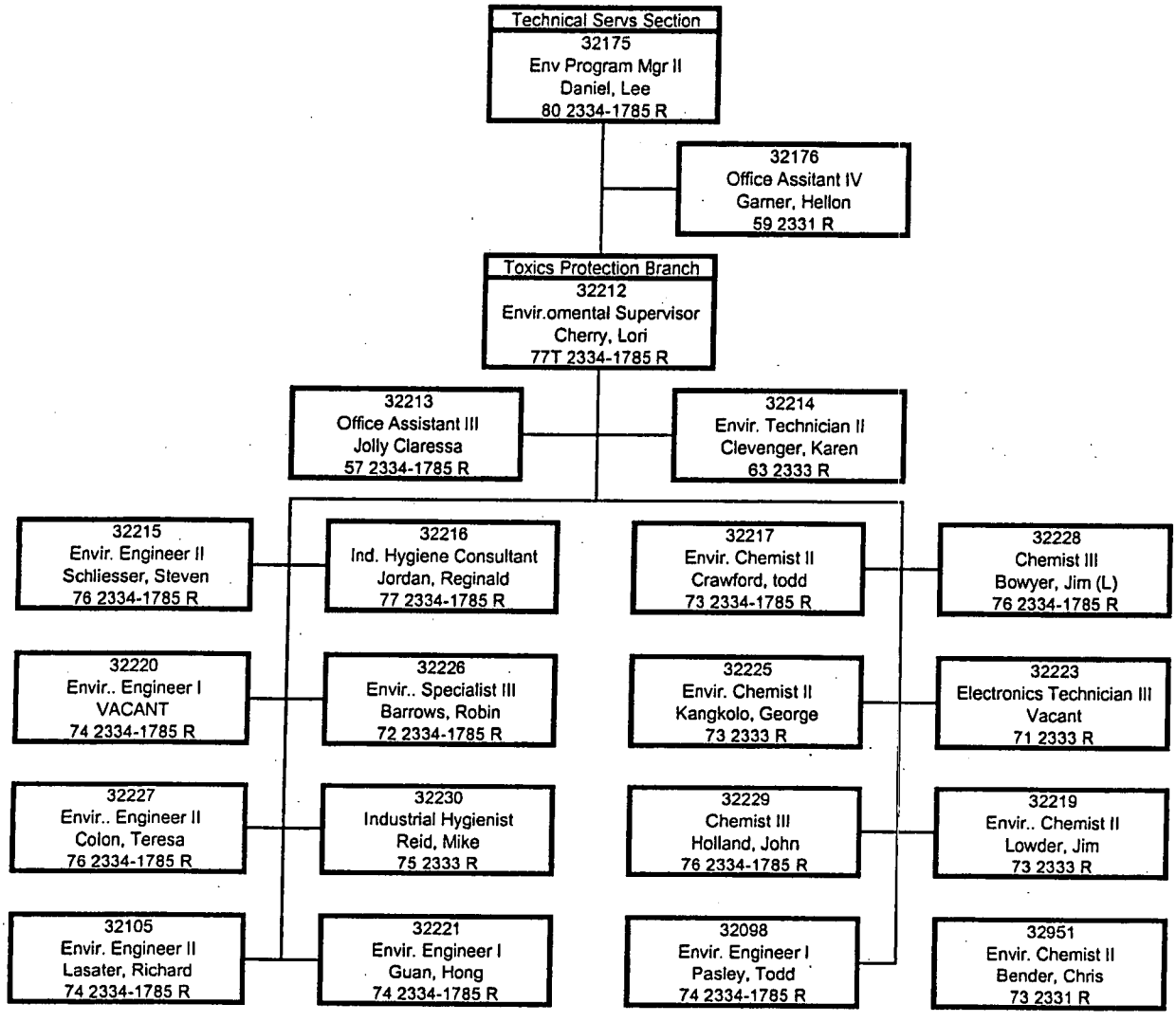

Director
32948
Envir. Prog. Mgr. IV
Overcash, B. Keith
86T 2338 R
32949
Administrative Sec III
Woods, Vickie
62 2334-1785 R
32013
Office Assistant III
Jordon, Bonnie
57 2334-1785 R
Deputy Director
32001
Envir. Mgr. Deputy Dir
Nicholson, Brock
83 2333 R
Business Office
32003
Business Officer II
Valrie, Charles
75 2334-1785 R
Public Information Office
32011
Info/Comm Spec III
Mather, Tom
7 3 2334-1785 R
Permitting Section
32075
Env Program Mgr II
Van der Vaart, Don
81 2333 R
Technical Servs Section
32175
Env Program Mgr II
Daniel, Lee
81 2334-1785 R
32012
Artist Illustrator
Goodwin, Larry
67 2333 R
Planning Section
32275
Env Program Mgr II
Holman, Sheila
81 1770-7703 F
Regional Offices
32956
Artist Illustrator II
Moore, Jarome
65 2334-1785 R
Ambient Monitoring
32375
Env Supv III
Kimball, Hoke
78 2334-1785 R

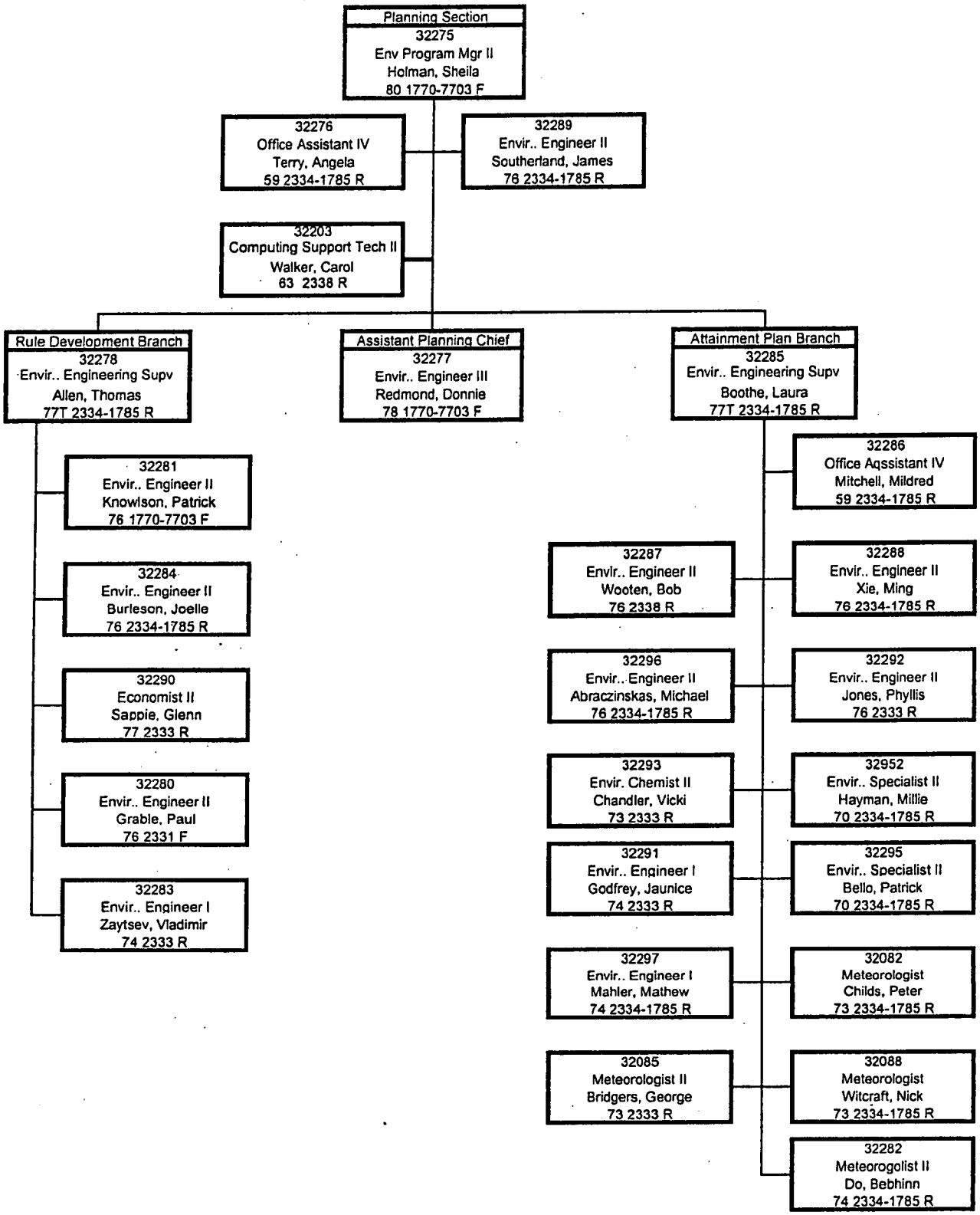

Business Office
32003
Business Officer II
Valrie, Charles
75 2334-1785 R
32010
Office Assistant IV
Alston, Sherice
59 2334-1785 R
Finance & General Services
Human Resources
Information Technologies
Central Files
32004
Accounting Technician IV
Desoto, Gerald
65 2333 R
32005
Accounting Clerk IV
Keller, Patricia
59 2333 R
32007
Accounting Clerk IV
Woods, Gladys
59 2333 R
32014
Accounting Clerk III
Bigelow, Bianca
57 2334-1785 R
32008
Personnel Technician I
Conyer, Theresa
63 2333 R
32016
Safety Consultant II
Shores, Richard
74 2334-1785 R
32017
Staff Develop. Specialist I
VACANT
67 2334-1785 R
32020
Personnel Assistant V
Branch-Johnson, Angela
61 2334-1785 R
32021
Buss & Tech App Spec
Konuru, Phani
79 2334-1785 R
32015
Tech Support Analyst
Swafford, Ben
70 1770-7708 R
32077
Buss & Tech App Tech
Chen, Far Young
74 2331R
32645
Tech Support Analyst
Rod, Dennis
70 2333 R
32018
Buss & Tech App Spec
Groce, Holly
78 T 2334-1785 R
32022
Buss & Tech App Tech
Amos, Charles
74 2334-1785 R
32201
Buss & Tech App Tech
74 2338 R
32178
Buss & Tech App Analyst
Love, Douglas
76 2333 R
32019
Processing Assistant IV
Ellington, Cindy
59 2334-1785 R

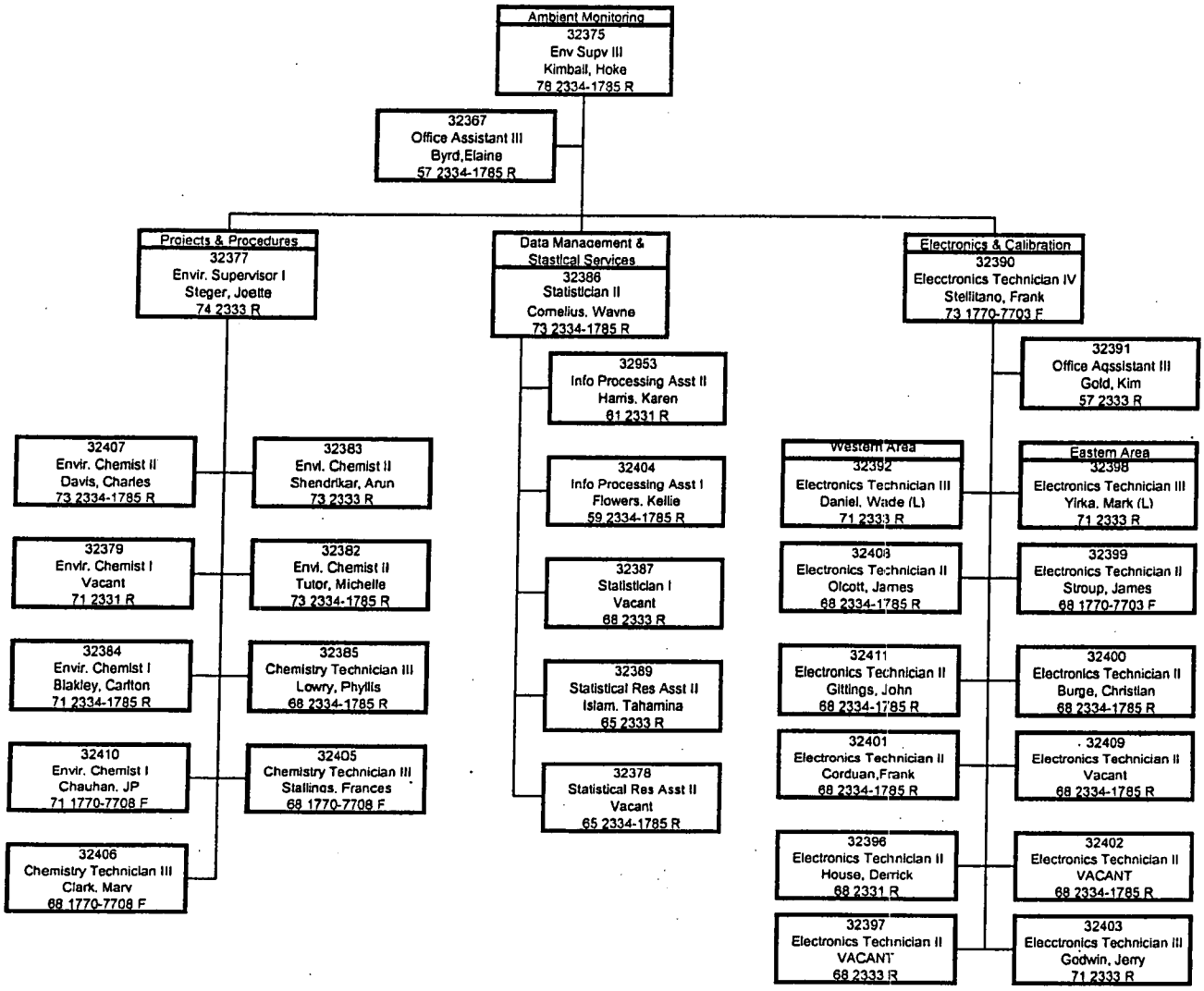

Permitting Section
32075
Env Program Mgr II
Van der Vaart, Don
81 2333 R
32076
Office Assistant III
Teulings, Cathy
57 2333 R
32090
Info Processing Asst I
Medina, Iris
59 2334-1785 R
Air Quality Analysis
32078
Envir.. Supervisor III
Roller, James
76 2333 R
PSD/Special Permitting
32099
Envir.. Eng. Supv. II
Vacant
76 2333 R
32081
Meteorologist I
Sellman, Jamie
73 2333 R
32100
Office Assistant III
Kuchnia, Loretta
57 2333 R
32084
Meteorologist II
Anderson, Tom
73 2333 R
32101
Envir. Engineer II
Amerson, Sammy
76 2333 R
32102
Envir. Engineer II
Yirka, Charles
76 2333 R
32103
Envir. Engineer II
Prabhu, Purva
76 2333 R
32104
Envir. Engineer II
Paterson, Fern
76 2333 R
32086
Envir..Specialist III
Horne, Connie
72 2333 R
32106
Envir. Engineer II
Pitts, Wallace
76 2333 R
32107
Envir. Engineer II
Pullen, Booker
76 2333 R
32108
Envir. Engineer II
Patnaik, Gautam
76 2333 R
32109
Envir. Engineer II
Benson, Michael
76 2333 R
32080
Meteorologist
Buckler, Charles II
73 2338 R
32110
Envir. Engineer II
Twisdale, Jeff
76 2333 R
32116
Envir. Engineer II
Evans, Jay
76 2333 R
32111
Envir. Engineer II
Thaker, Rahul
76 2333 R
32112
Envir. Engineer II
Sheppard, Jenny
76 2333 R
32083
Meteorologist II
Freeman, Gerald
73 2331 R
32114
Envir. Engineer II
Matrin, Ed
76 2333 R
32113
Envir. Engineer III
Vacant
76 2333 R
32116
Envir. Engineer III
Babb, Kenneth
76 2333 R
32117
Envir. Engineer II
Godwin, Kevin
76 2334-1785 R
32087
Meteorologist
Yoder, Mark
73 2333 R
32950
Envir. Engineer II
Brandon, Michael
76 2334-1785 R
32093
Envir. Engineer I
Lee, Judy
74 2331 R
32092
Envir. Engineer I
Vacant
74 2331 R
32095
Envir. Engineer II
Cuilla, Mark
76 2334-1785 R

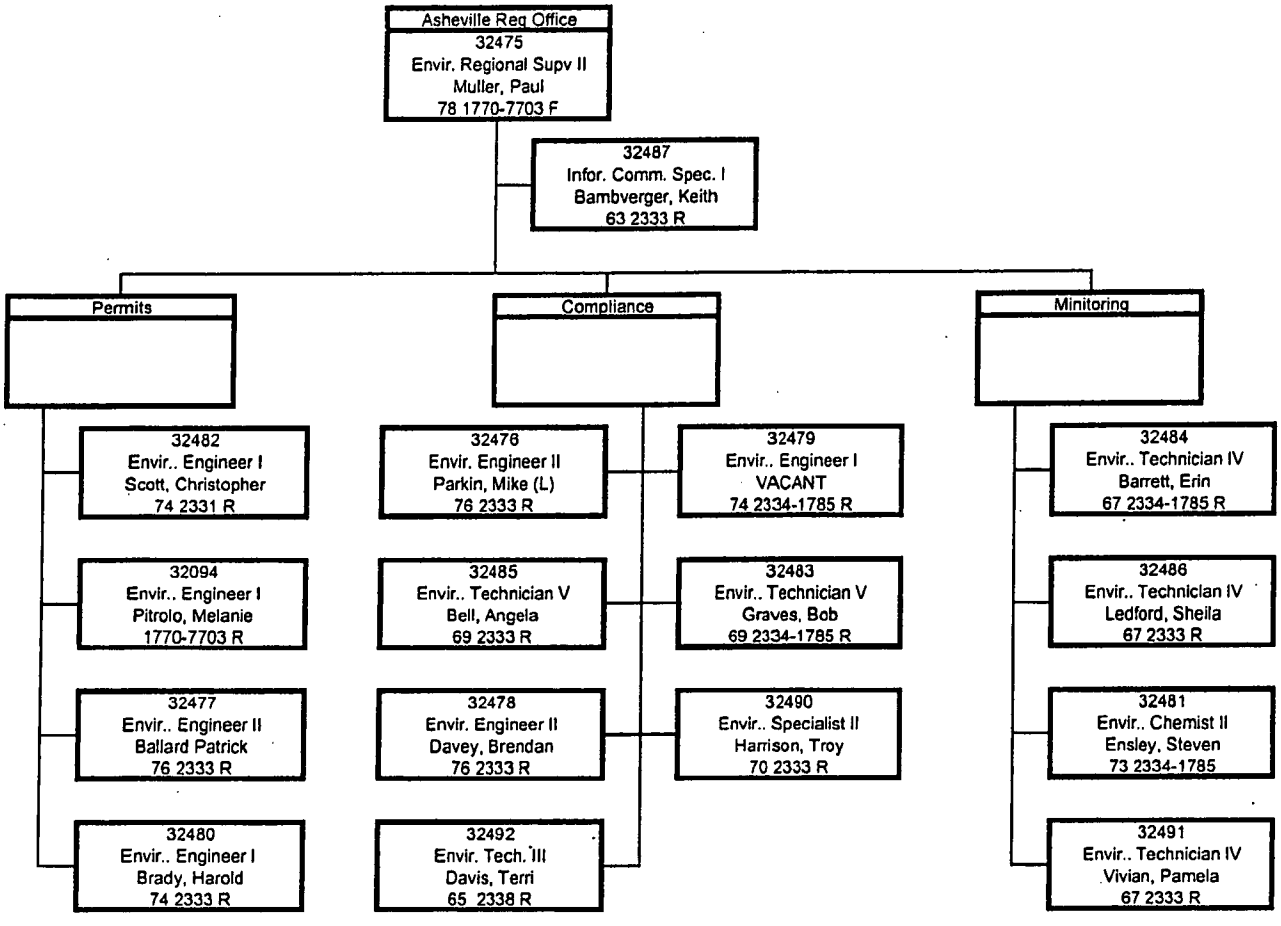

Technical Servs Section
32175
Env Program Mgr II
Daniel, Lee
80 2334-1785 R
32176
Office Assitant IV
Garner, Hellon
59 2331 R
Stationary Sources Branch
32177
Envir.. Engineering Supv.
Aldridge, Michael
77T 1770-7703 F
32179
Envir. Engineer II
Vogel, Shannon (L)
76 2333 R
32185
Envir. Engineer II
Igboko, Dennis (L)
76 2333 R
32194
Envir. Engineer II
Saunders, Gary
76 2333 R
32180
Envir. Engineer I
O'Neal, Thomas
74 2337-1785 R
32186
Envir. Engineer II
Gatano, Betty
76 2333 R
32181
Envir. Engineer I
Simpson, Richard
76 2334-1785 R
32187
Envir. Engineer I
Hemmer, Paula
74 2333 R
32182
Envir. Engineer I
Hammond, James
74 1770-7703 F
32188
Envir. Engineer II
Parekh, Samir
76 2333 R
32079
Envir. Spec III
Bouchelle, Jeff
72 2334-1785 R
32184
Computing Supp Tech II
Vanderkop, Amy
63 2331 R
32190
Envir. Engineer I
Hughes, David
74 2337-1785 R
32191
Envir. Engineer II
Pjetraj, Michael
76 2334-1785 R
32192
Envir. Engineer I
Vacant
74 2333 R
32193
Envir. Engineer I
Garnett, Kimberly
74 2333 R
32195
Envir. Engineer I
Vu, Thaoci
74 2333 R
32089
Envir. Engineer I
Vacant
74 2331R

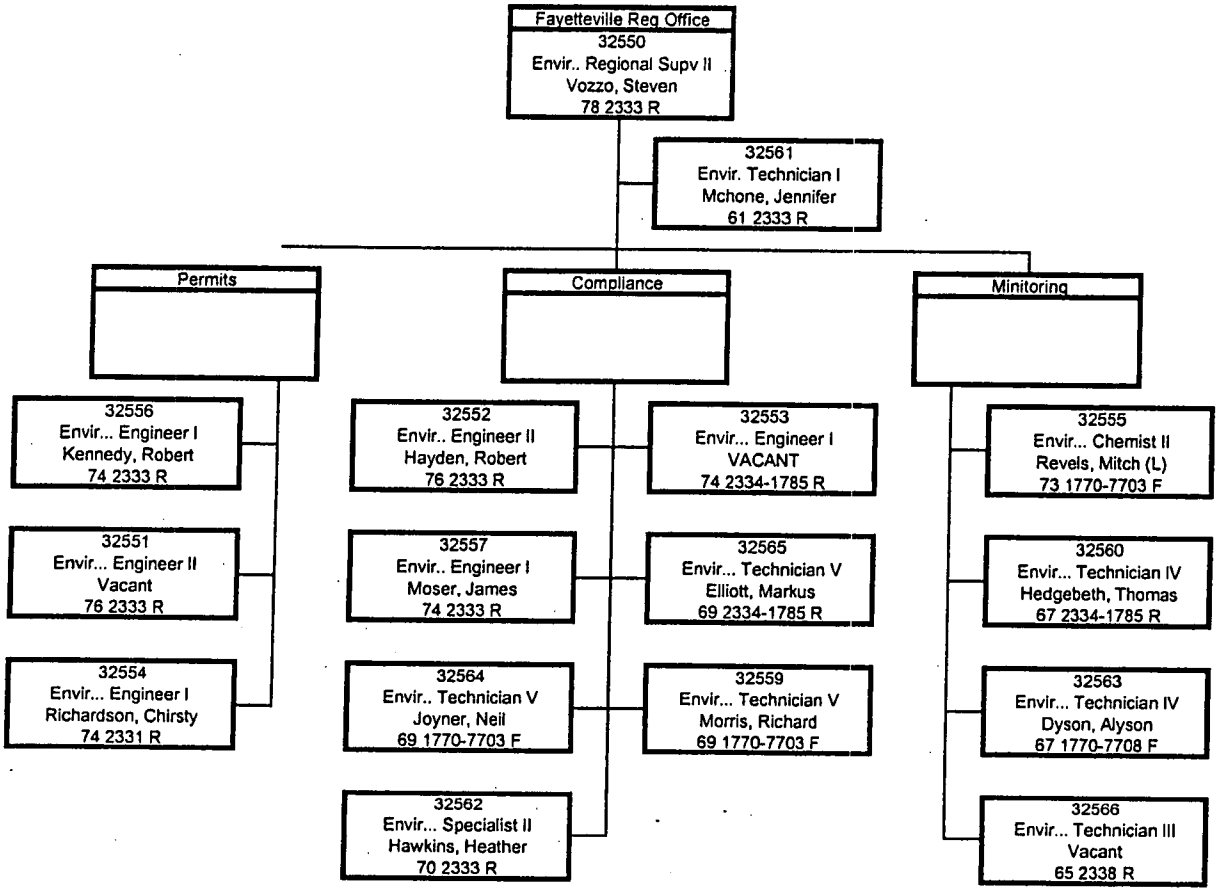

Technical Servs Section
32175
Env Program Mgr II
Daniel, Lee
80 2334-1785 R
32176
Office Assitant IV
Garner, Hellon
59 2331 R
Mobile Source Branch
32196
Envir. Supervisor II
Phillips, Brian
77T 2338 R
32197
Office Assistant III
Vacant
57 2338 R
32198
Envir. Engineer I
Vacant
74 2338 R
32205
Envir. Engineer II
Hudock, Regina
76 2334-1785 R
32204
Envir. Engineer II
Hildebrandt, Heather
76 2334-1785 R
32199
Envir. Engineer I
Carr, Steven
74 2338 R
32200
Envir. Specialist I
VACANT
67 2338 R
32206
Envir. Engineer II
Gordey, Paul
76 2333 R
32202
Envir. Technician III
Willis William D.
65 2338 R
32207
Envir. Specialist II
Smith, Mark
70 2333 R
32208
Energy Conserv. Rep II
Mesley, Eugene
70 2333 R
32209
Envir. Technician III
VACANT
65 2333 R
32233
Envir. Engineer I
Taylor, Melanie
74 2338 R

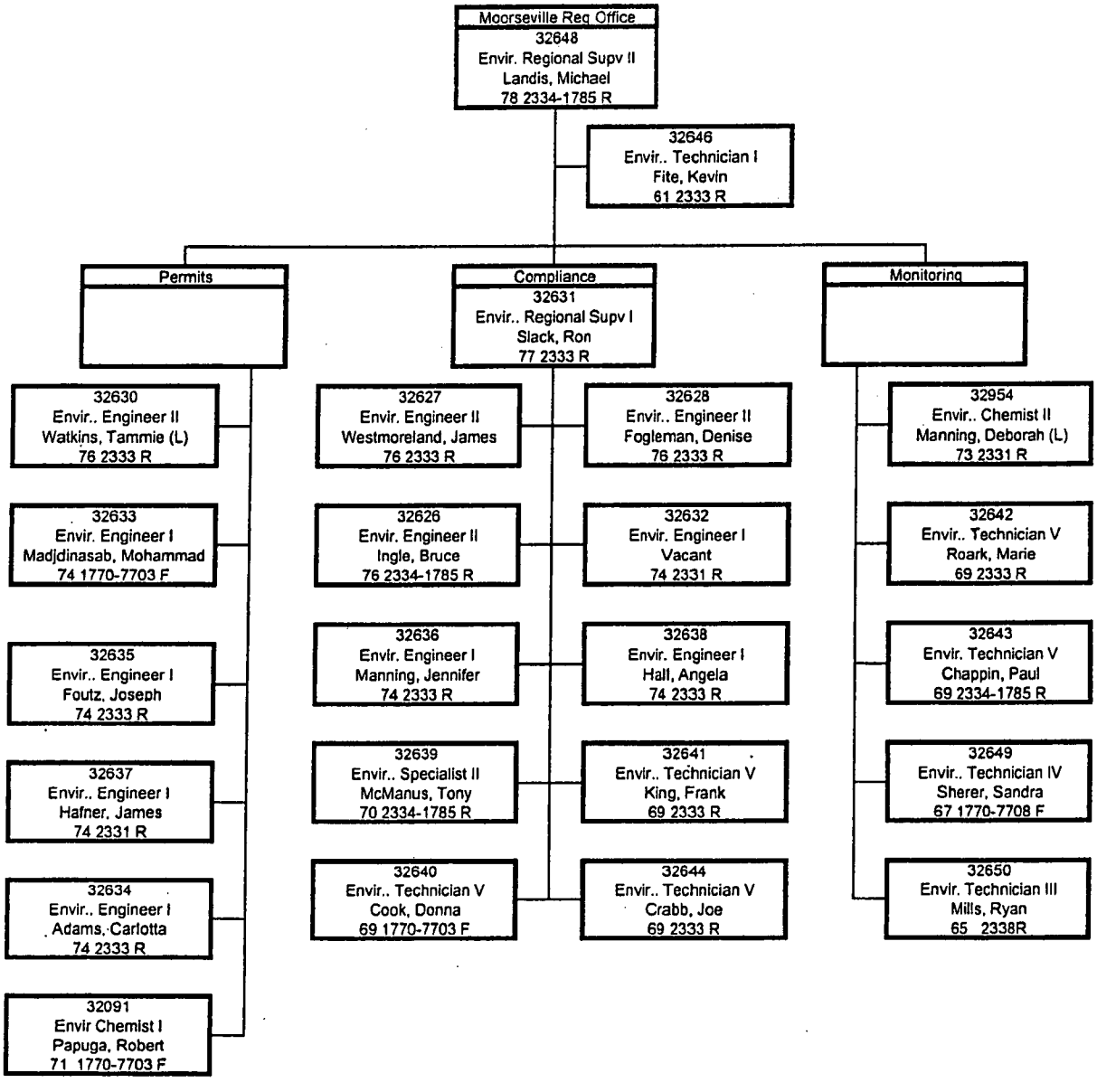

Technical Servs Section
32175
Env Program Mgr II
Daniel, Lee
80 2334-1785 R
32176
Office Assitant IV
Garner, Hellon
59 2331 R
Toxics Protection Branch
32212
Envir.omental Supervisor
Cherry, Lori
77T 2334-1785 R
32213
Office Assistant III
Jolly Claressa
57 2334-1785 R
32214
Envir. Technician II
Clevenger, Karen
63 2333 R
32215
Envir. Engineer II
Schliesser, Steven
76 2334-1785 R
32216
Ind. Hygiene Consultant
Jordan, Reginald
77 2334-1785 R
32217
Envir. Chemist II
Crawford, todd
73 2334-1785 R
32228
Chemist III
Bowyer, Jim (L)
76 2334-1785 R
32220
Envir.. Engineer I
VACANT
74 2334-1785 R
32226
Envir.. Specialist III
Barrows, Robin
72 2334-1785 R
32225
Envir. Chemist II
Kangkolo, George
73 2333 R
32223
Electronics Technician III
Vacant
71 2333 R
32227
Envir.. Engineer II
Colon, Teresa
76 2334-1785 R
32230
Industrial Hygienist
Reid, Mike
75 2333 R
32229
Chemist III
Holland, John
76 2334-1785 R
32219
Envir.. Chemist II
Lowder, Jim
73 2333 R
32105
Envir. Engineer II
Lasater, Richard
74 2334-1785 R
32221
Envir. Engineer I
Guan, Hong
74 2334-1785 R
32098
Envir. Engineer I
Pasley, Todd
74 2334-1785 R
32951
Envir. Chemist II
Bender, Chris
73 2331 R

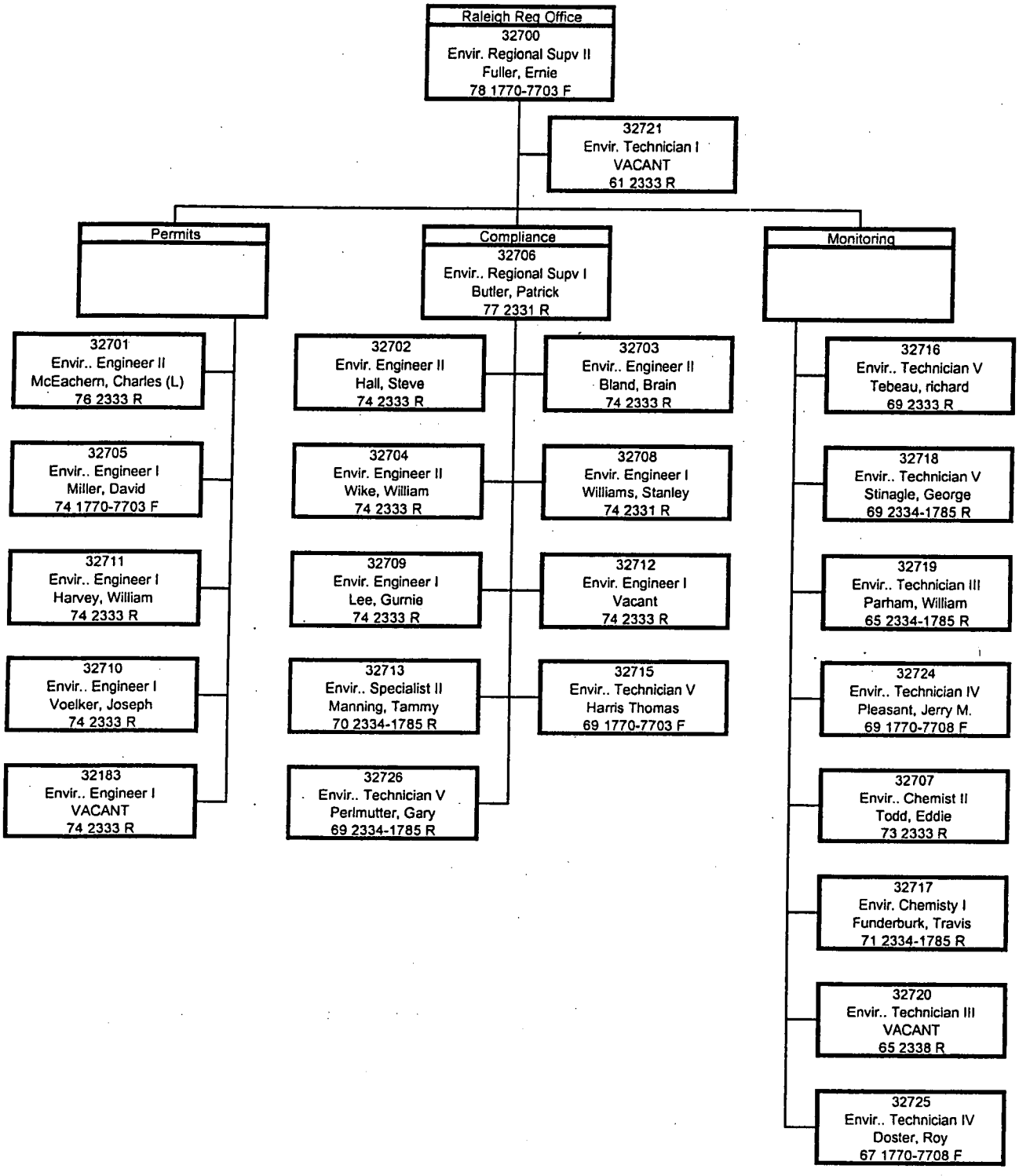

Planning Section
32275
Env Program Mgr II
Holman, Sheila
80 1770-7703 F
32276
Office Assistant IV
Terry, Angela
59 2334-1785 R
32289
Envir.. Engineer II
Southerland, James
76 2334-1785 R
32203
Computing Support Tech II
Walker, Carol
63 2338 R
Rule Development Branch
32278
Envir.. Engineering Supv
Allen, Thomas
77T 2334-1785 R
Assistant Planning Chief
32277
Envir.. Engineer III
Redmond, Donnie
78 1770-7703 F
Attainment Plan Branch
32285
Envir.. Engineering Supv
Boothe, Laura
77T 2334-1785 R
32281
Envir.. Engineer II
Knowlson, Patrick
76 1770-7703 F
32284
Envir.. Engineer II
Burleson, Joelle
76 2334-1785 R
32290
Economist II
Sappie, Glenn
77 2333 R
32280
Envir.. Engineer II
Grable, Paul
76 2331 F
32283
Envir.. Engineer I
Zaytsev, Vladimir
74 2333 R
32286
Office Aqssistant IV
Mitchell, Mildred
59 2334-1785 R
32287
Envir.. Engineer II
Wooten, Bob
76 2338 R
32288
Envir.. Engineer II
Xie, Ming
76 2334-1785 R
32296
Envir.. Engineer II
Abraczinskas, Michael
76 2334-1785 R
32292
Envir.. Engineer II
Jones, Phyllis
76 2333 R
32293
Envir. Chemist II
Chandler, Vicki
73 2333 R
32952
Envir.. Specialist II
Hayman, Millie
70 2334-1785 R
32291
Envir.. Engineer I
Godfrey, Jaunice
74 2333 R
32295
Envir.. Specialist II
Bello, Patrick
70 2334-1785 R
32297
Envir.. Engineer I
Mahler, Mathew
74 2334-1785 R
32082
Meteorologist
Childs, Peter
73 2334-1785 R
32085
Meteorologist II
Bridgers, George
73 2333 R
32088
Meteorologist
Witcraft, Nick
73 2334-1785 R
32282
Meteorogolist II
Do, Bebhinn
74 2334-1785 R

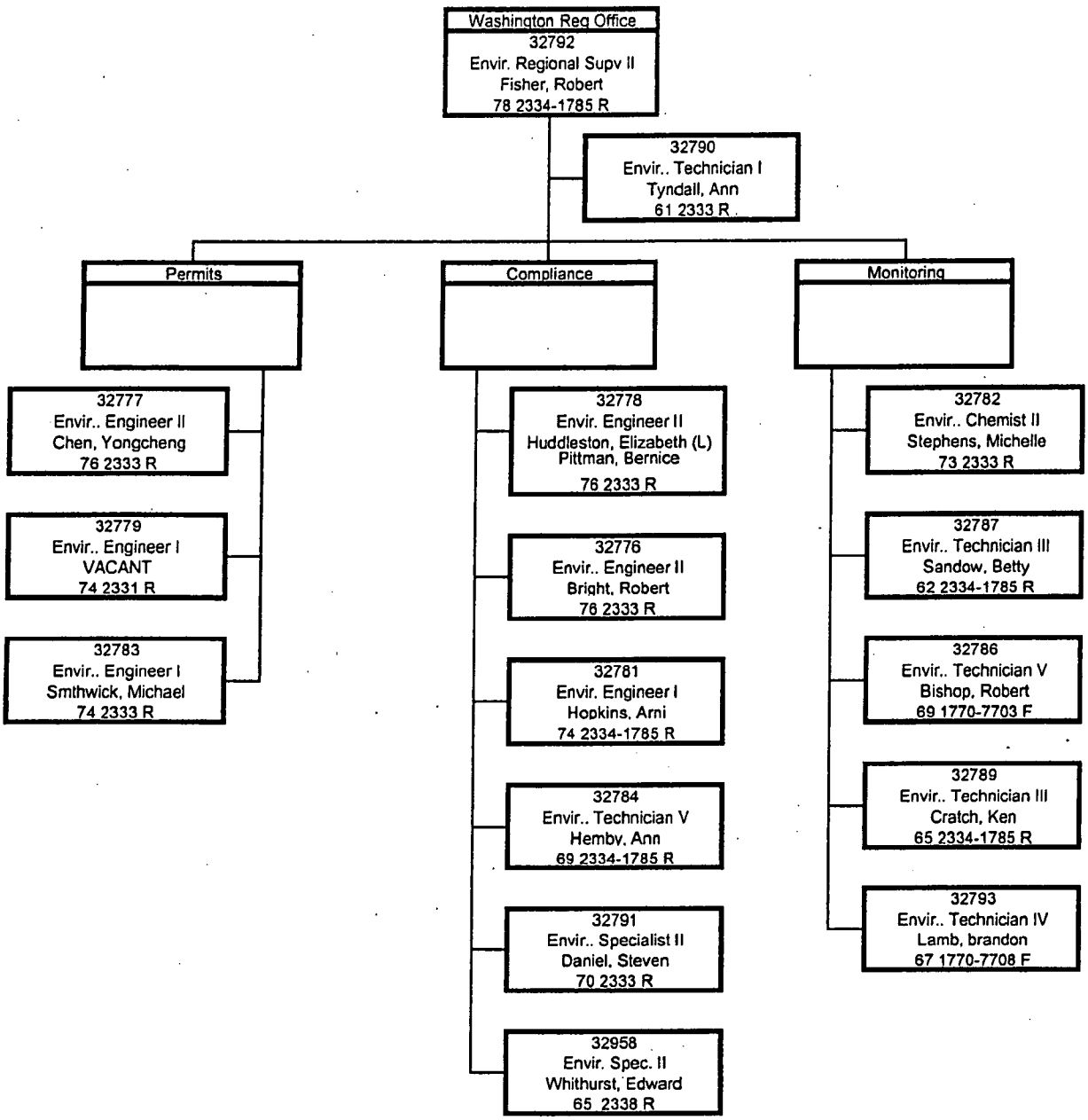

Ambient Monitoring
32375
Env Supv III
Kimball, Hoke
78 2334-1785 R
32367
Office Assistant III
Byrd,Elaine
57 2334-1785 R
Projects & Procedures
32377
Envir. Supervisor I
Steger, Joette
74 2333 R
Data Management & Stastical Services
32386
Statistician II
Cornelius, Wayne
73 2334-1785 R
Electronics & Calibration
32390
Elecctronics Technician IV
Stellitano, Frank
73 1770-7703 F
32407
Envir. Chemist II
Davis, Charles
73 2334-1785 R
32383
Envi. Chemist II
Shendrikar, Arun
73 2333 R
32379
Envir. Chemist I
Vacant
71 2331 R
32382
Envi. Chemist II
Tutor, Michelle
73 2334-1785 R
32384
Envir. Chemist I
Blakley, Carlton
71 2334-1785 R
32385
Chemistry Technician III
Lowry, Phyllis
68 2334-1785 R
32410
Envir. Chemist I
Chauhan, JP
71 1770-7708 F
32405
Chemistry Technician III
Stallings, Frances
68 1770-7708 F
32406
Chemistry Technician III
Clark, Mary
68 1770-7708 F
32953
Info Processing Asst II
Harris, Karen
61 2331 R
32404
Info Processing Asst I
Flowers, Kellie
59 2334-1785 R
32387
Statistician I
Vacant
68 2333 R
32389
Statistical Res Asst II
Islam, Tahamina
65 2333 R
32378
Statistical Res Asst II
Vacant
65 2334-1785 R
32391
Office Aqssistant III
Gold, Kim
57 2333 R
Western Area
32392
Electronics Technician III
Daniel, Wade (L)
71 2333 R
32408
Electronics Technician II
Olcott, James
68 2334-1785 R
32411
Electronics Technician II
Gittings, John
68 2334-1785 R
32401
Electronics Technician II
Corduan,Frank
68 2334-1785 R
32396
Electronics Technician II
House, Derrick
68 2331 R
32397
Electronics Technician II
VACANT
68 2333 R
Eastern Area
32398
Electronics Technician III
Yirka, Mark (L)
71 2333 R
32399
Electronics Technician II
Stroup, James
68 1770-7703 F
32400
Electronics Technician II
Burge, Christian
68 2334-1785 R
32409
Electronics Technician II
Vacant
68 2334-1785 R
32402
Electronics Technician II
VACANT
68 2334-1785 R
32403
Elecctronics Technician III
Godwin, Jerry
71 2333 R

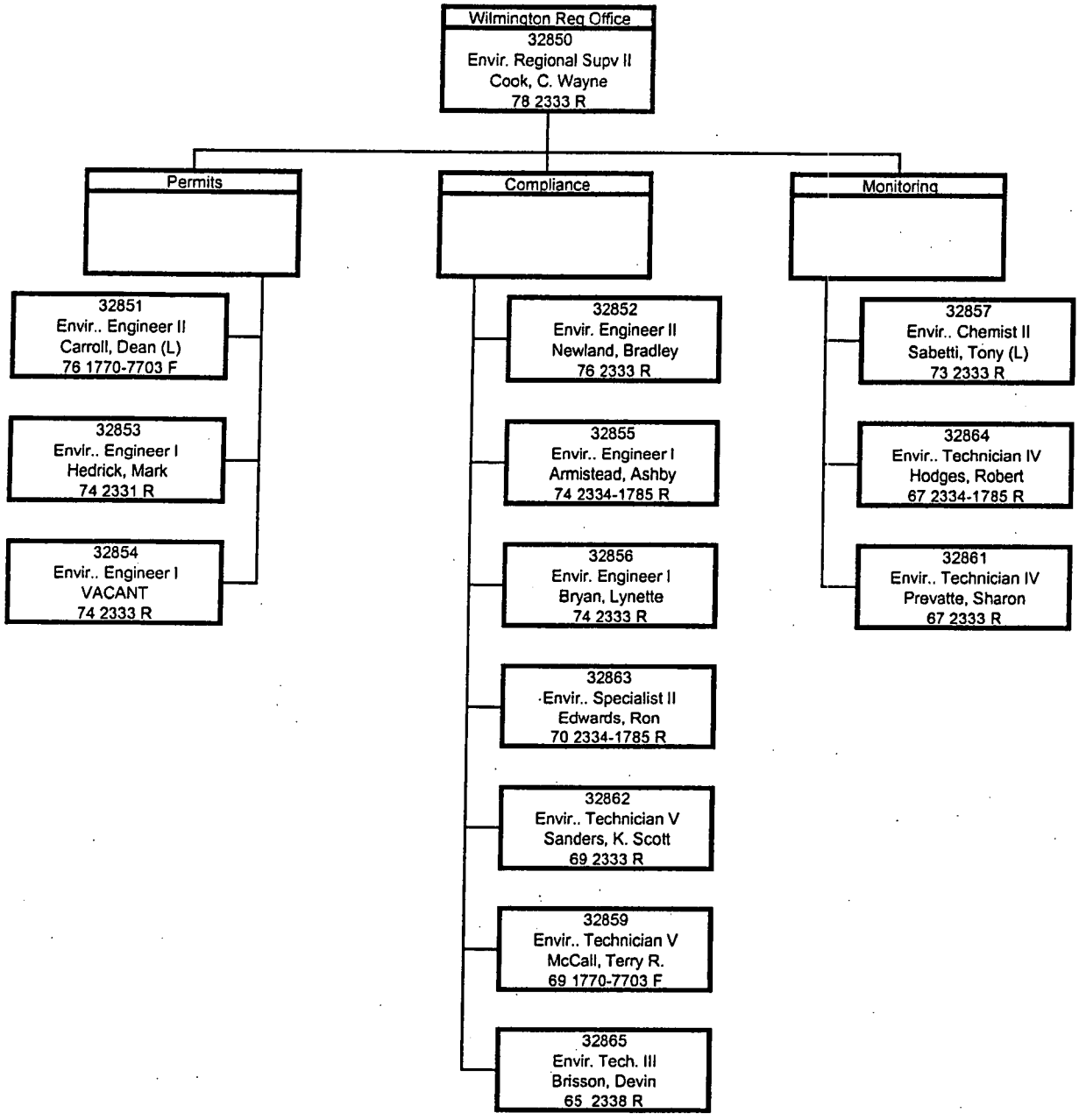

Asheville Reg Office
32475
Envir. Regional Supv II
Muller, Paul
78 1770-7703 F
32487
Infor. Comm. Spec. I
Bambverger, Keith
63 2333 R
Permits
Compliance
Minitoring
32482
Envir.. Engineer I
Scott, Christopher
74 2331 R
32094
Envir.. Engineer I
Pitrolo, Melanie
1770-7703 R
32477
Envir.. Engineer II
Ballard Patrick
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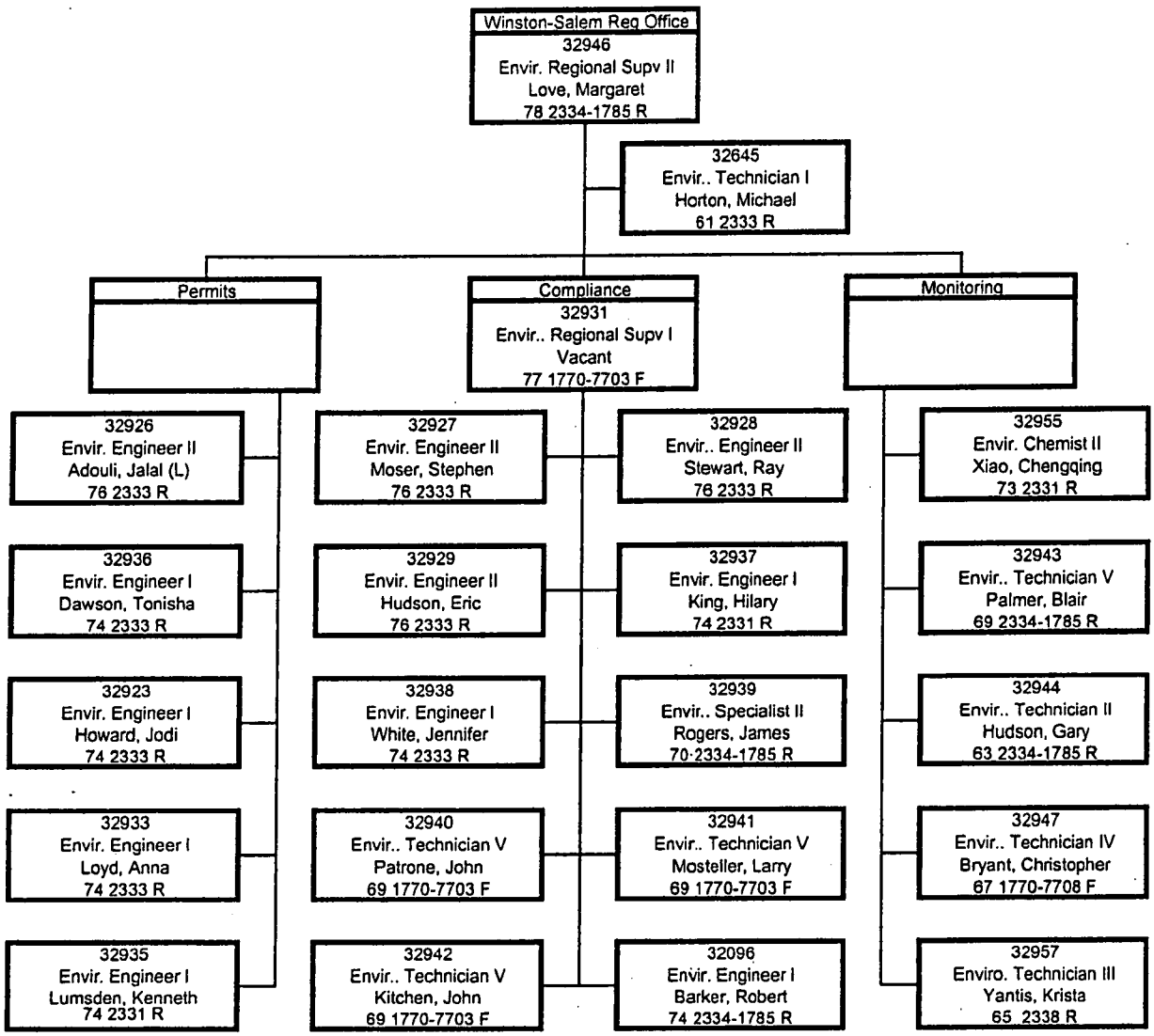

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Morris, Richard
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Dyson, Alyson
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Papuga, Robert
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Enviro. Technician III
Yantis, Krista
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POSITIONS OUTSIDE THE DIVISION OF AIR QUALITY FUNDED BY TITLE V DURING STATE FISCAL YEAR 2005

2 Positions
Regional Office Local Area Network Managers
Regional Offices: Raleigh and Winston-Salem
$101,060

1 Position
Division of Pollution Prevention and Environmental Assistance
$56,000

2.3 Positions
Department of Environment and Natural Resources
$126,299

4 Positions
Office of Small Business Ombudsman
$249,932

5 Positions (2 are half-time)
Regional Office, Office Assistants
Regional Offices: Fayetteville, Raleigh, Mooresville, Washington, and Winston-Salem
$117,185

0.5 Positions
Division of Waste Management
$10,112

2.3 Positions
Attorney General's Office
$296,817

Total $957,405

EXHIBIT D-2

NCDENR

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

December 5, 2006

MEMORANDUM

To: The Honorable Pryor Gibson, Co-Chair, Environmental Review Commission
The Honorable Daniel Clodfelter, Co-Chair, Environmental Review Commission
The Honorable Charles Albertson, Co-Chair, Environmental Review Commission

From: William G. Ross, Jr.

Subject: Annual Mining Permit Fee Use Report

G.S. 74-54.1 (c) of The Mining Act of 1971 requires the Department of Environment and Natural Resources to report annually to the Environmental Review Commission on the mining permit fees collected and use in implementing the state's mining program.

Attached is this year's report. If you have any questions, please contact Mell Nevils in the Division of Land Resources, 733-4574.

Cc. Ms. Elizabeth Self
Ms. Robin Smith

1601 Mail Service Center, Raleigh, North Carolina 27699-1601
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MINING PERMITTING PROGRAM

1. Monies Collected

Total fee monies of $64,596.00 were collected during fiscal year 2005-2006.

2. Monies Expended

Salaries and Benefits	$56,861.00	
Purchased Services	$21,987.00	
Supplies		$152.00
Intragovernmental Transfer	$24.00	
Total		$79,024.00

One position, an assistant mining specialist, was funded this year to assist in application review and permit issuance.

The number of permitted mines has increased 3.7 times (from 250 mines in 1971 to more than 930 mines in 2005) while the only increase to the original six appropriated positions has been this one fee-supported position. These seven positions are responsible for permitting, inspection and enforcement. The Mining Act of 1971 requires inspection of each mine at least annually to ensure compliance with public safety and environmental provisions in the mining permit. Statutory changes to the Mining Act of 1971 that increased interagency and public involvement in mine permitting and a more complex regulatory scheme within the state require the existing staff to spend more time in the permitting process. Consequently, only about a third of the permitted mines are inspected each year. The situation is expected to become even more critical in the future as the number of mines continues to increase. The current trend is that new mining permits issued each year exceed the number of mining permits released and mines closed.

EXHIBIT D-3

NCDENR

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

December 1, 2006

TO: Senator Dan Clodfelter
Senator Charlie Albertson
Representative Pryor Gibson

FROM: William G. Ross Jr., Secretary

RE: Fish Kills Report

G.S. 143B-279.7 (c) requires the Department of Environment and Natural Resources to report to the Environmental Review Commission each year a report on fish kills within the preceding year. Attached is this year's report. If you have any questions please contact Mark Hale at (919) 733-6946.

Attachment

cc: Alan W. Klimek, P.E.

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North Carolina Division of Water Quality
Annual Report of Fish Kill Events
2006

Division of Water Quality
Environmental Sciences Section
Raleigh, NC

December 2006

Introduction

The investigation of fish kill activity across North Carolina currently involves protocols established by the North Carolina Division of Water Quality (DWQ) in 1996. The protocols were developed with assistance from DWQ Regional Office staff, North Carolina Wildlife Resources Commission biologists, and Division of Marine Fisheries personnel as a means to improve the tracking and reporting of fish kill events throughout the state. Fish kill and fish health investigation data are recorded on a standardized form and sent to the Division's Environmental Sciences Section (ESS) where the data are reviewed and compiled. Data from fish kill investigation forms, laboratory test results and supplemental information sent to the ESS are entered into a central database where the information can be managed, queried and reported. The procedure also requires the notification of appropriate state officials and scientists associated with the investigation of such events. In addition, fish kill information is posted weekly from June to November on the ESS website: http://h2o.enr.state.nc.us/esb/Fishkill/fishkillmain.htm. The following report will also be available at this website after submittal.

This year marks a complete decade during which DWQ protocols have been in place for kill investigations. The protocols have proven successful in standardizing reporting methods and enhancing the quality and quantity of information reported from kill events. It is the intent of DWQ to generate accurate information regarding fish kill activity across the state through the current investigation process.

This document is a summary of fish kill events reported to the DWQ from January to early December, 2006. The report is mandated under Section 4 of Chapter 633 of the 1995 North Carolina General Assembly Session Laws.

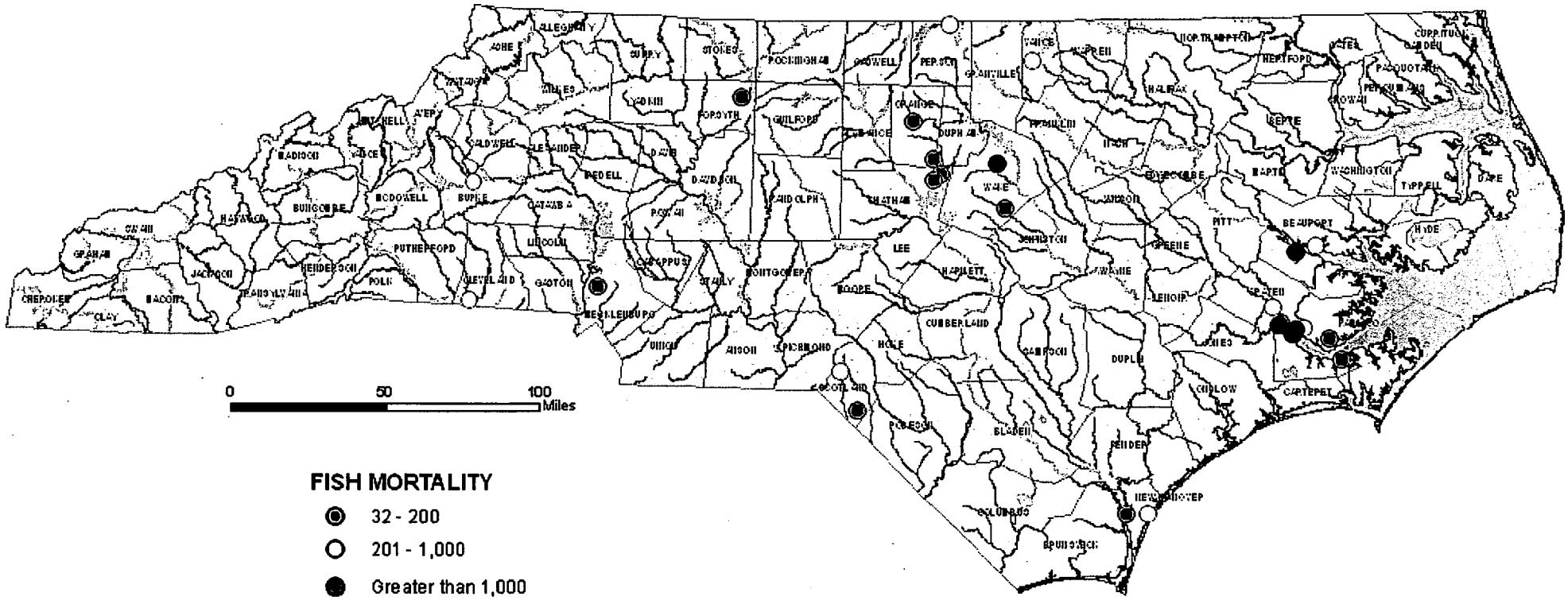
2006 Fish Kill Event Summary

Field investigators reported 25 fish kill events from January to December, 2006. Kill events were reported from coastal waters westward to the Piedmont as far as Burke County. Kill activity was documented during the year in 8 of the state's 17 major river basins. The ESS tracks fish kill events when at least 25 fish are affected and the event is confirmed by trained investigators.

The cumulative fish mortality for all 2006 reports was 35,395 individuals. This figure represents a continued downward trend in total annual fish mortality reported since 2003. Mortality counts for individual events ranged from 32 to 13,220 with a median mortality of 340. The majority of events were observed in fresh waterbodies, however, the three largest events for the year occurred in estuarine waters.

• **Total Kill Events for 2006**	**25**
• **Freshwater Kills**	**17**
• **Estuarine Kills**	**8**
• **Cumulative Mortality for 2005**	**35,395**
▪ *Estuarine*	*24,453*
▪ *Freshwater*	*10,942*
• **Report Mortality Range**	**32 to 13,220**
• **Report Median Mortality**	**340**
• **Basins with Activity**	**8 (of 17)**

Figure 1 : Fish Kill Events and Observed Mortality Reported to NCDWQ During 2006



Basin Activity

Investigators reported fish kill events in 8 of the state's 17 major river basins during 2006 (Figure 1, Table 1). Kill activity was most frequent in the Neuse Basin, especially in the river section below New Bern. This section of the Neuse, as well as the lower Pamlico estuary, have historically been plagued by adverse environmental factors such as low dissolved oxygen, high water temperatures, and fluctuating salinities. These factors have played a significant role in the frequency of events reported annually for the two areas. Activity in other river basins across the state remained light or absent throughout the 2006 season. Since 1996, annual totals of statewide events peaked in 2001 with 77 reports, but have since decreased and remained relatively low over the last five years (Table1).

Table 1: Fish kill reports by basin, 1996 – 2006

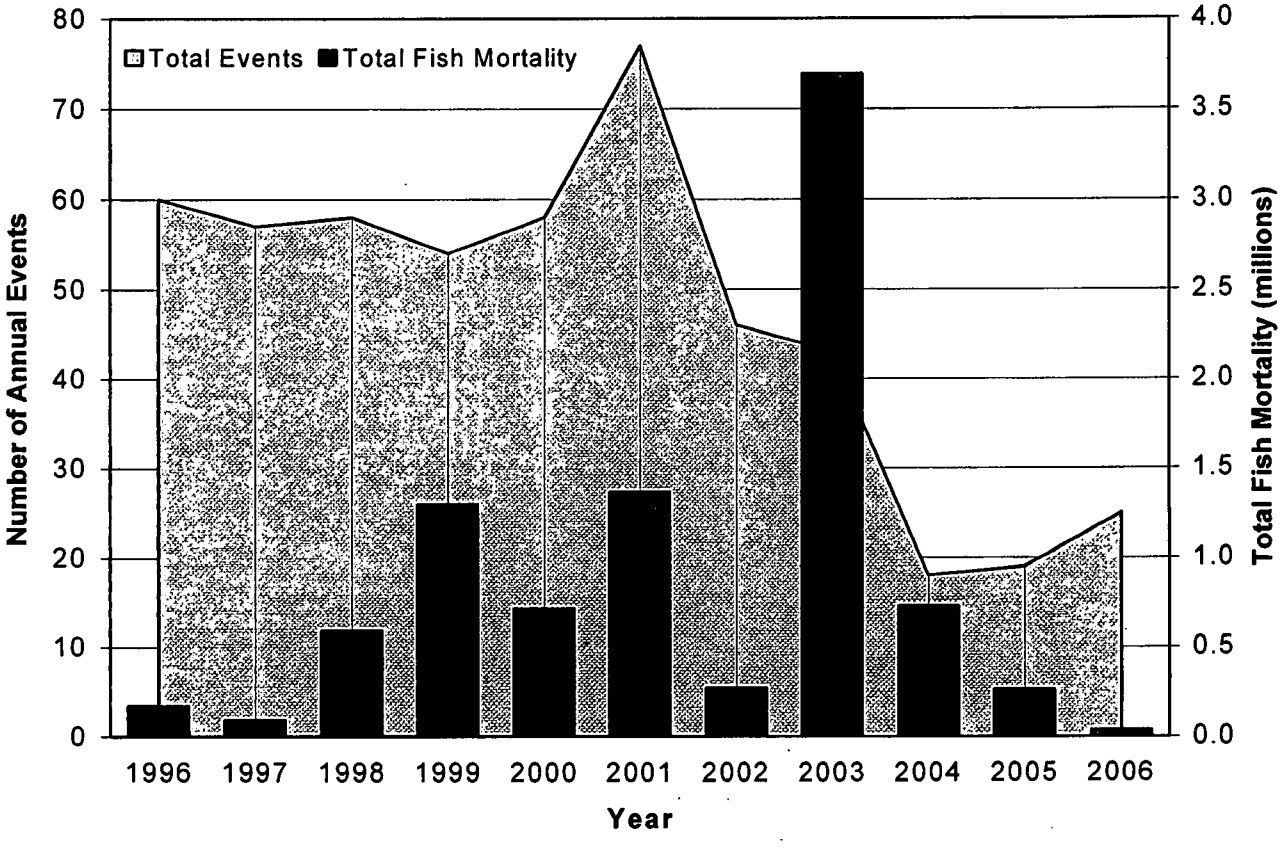
	YEAR											
River Basin	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	Basin Total
Broad	None	None	None	1	None	None	None	None	None	None	1	2
Cape Fear	21	16	23	14	12	5	8	3	1	2	5	110
Catawba	None	3	1	3	2	4	1	None	None	None	2	16
Chowan	2	2	1	1	None	1	2	2	1	1	None	13
French Broad	None	2	3	1	None	None	1	1	None	None	None	8
Neuse	14	12	8	16	23	37	9	21	8	9	10	167
Lumber	4	3	5	None	2	None	None	2	1	1	2	20
Pasquotank	10	2	8	2	None	1	6	2	None	2	None	33
Roanoke	2	None	1	None	None	None	None	2	1	1	2	9
Tar/Pamlico	3	6	5	11	14	23	8	6	2	1	2	81
New/Watauga	None	None	None	1	None	None	None	2	None	None	None	3
White Oak	3	3	1	3	3	3	3	None	None	1	None	20
Yadkin	1	10	2	1	2	3	8	2	3	1	1	34
Yearly Totals	60	59	58	54	58	77	46	43	17	19	25	516

** No fish kill reports have been received from the Hiwassee, Little Tennessee., and Savannah basins since 1996.*

Fish Mortality

The 2006 season produced a fish mortality total of over 35,000 individuals reported in 25 events. (Figure 2). Although there was a slight increase in reported events from 2005, the total mortality figure is the lowest since DWQ protocols were implemented in 1996. Over one half of those fish reported killed in 2006 were observed in just two events on the Pamlico and Neuse rivers. Fish mortality figures on all 2006 reports ranged from 32 to 13,220 with a median mortality of 340 fish.

Figure 2: Reported annual fish kill events and mortality, 1996 to 2006

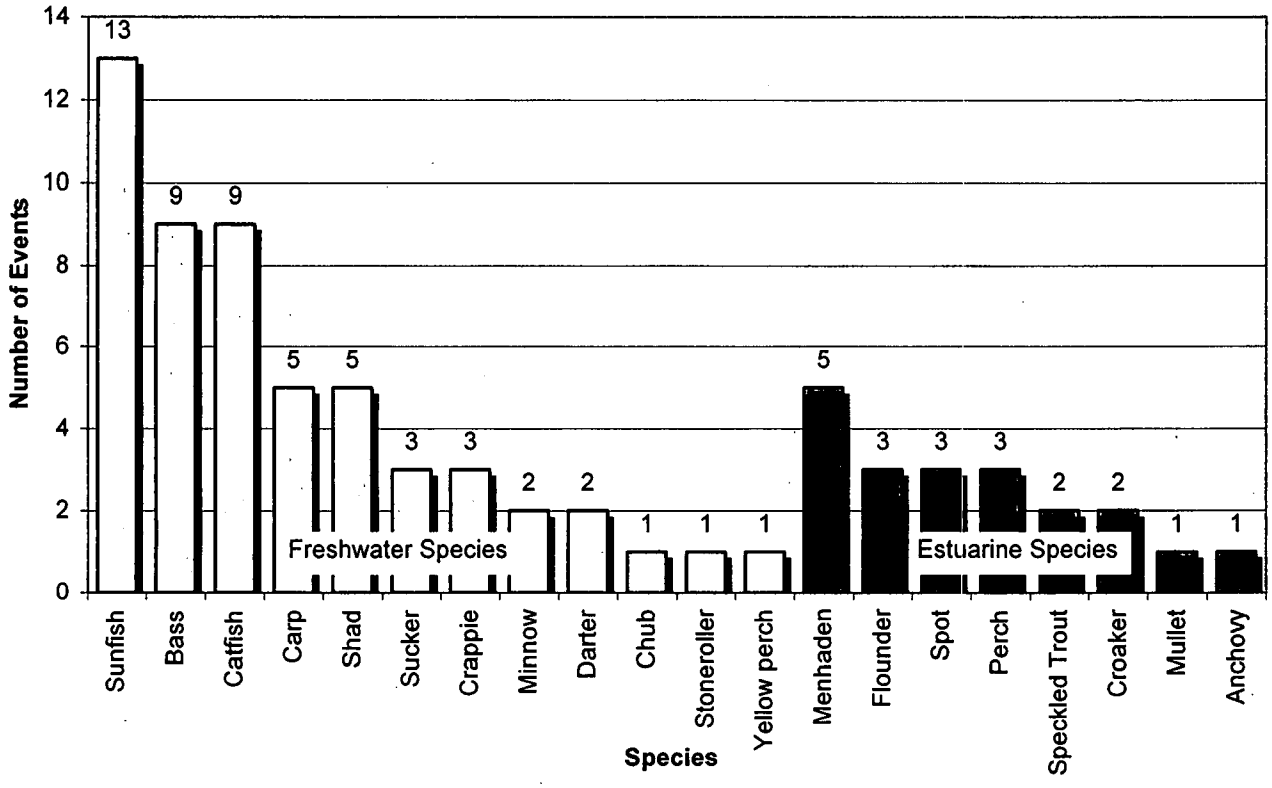


Finfish and Other Species Reported

Fish kill events in 2006 involved over 20 different species of fish in both estuarine and fresh waters (Figure 3). Freshwater species most commonly identified during investigations included sunfishes, largemouth bass, and catfish. Estuarine species most frequently reported included Atlantic menhaden and flounder. Menhaden have historically been the most common species reported in estuarine kill events and have exhibited various stages of stress and disease in conjunction with the events.

Reports of non-finfish species involved in fish kills were infrequent during 2006 (only five events). A gasoline spill into Paw Creek (Mecklenburg County) affected frogs, snakes, salamanders and crayfish. Species appearing on other reports included crayfish, salamanders, and blue crab.

Figure 3: Finfish observed during 2006 fish kill events



Suspected Causes of 2006 Events

Specific causes of fish kill events may or may not be obvious to investigators depending on a number of factors. Causes are often identified, but others remain unconfirmed or unclear due to an investigation occurring hours or days after the actual event. Kill events often result from many environmental factors, and sorting out the major reason(s) why a fish kill occurs is frequently a difficult and often subjective task. Investigators generally monitor environmental conditions surrounding an event and are encouraged to submit this information on reports along with observations regarding a suspected cause. This information aids in evaluating potential water quality trends and problems, and assists scientists and decision-makers with formulating future courses of action. Reported causes should not be viewed as a definitive label for a particular event.

Reported causes of 2006 kill events are listed in Table 2 in order of frequency. Those events where no specific causes could be determined were reported as "unknown".

Table 2: Major causes reported for 2006 fish kill events

Reported Cause	Number of Events
Dissolved Oxygen Depletion	7
Spills	6
Harmful Algal Blooms	5
Unknown	4
Temperature	2
Bycatch	1

Dissolved Oxygen Depletion: Low dissolved oxygen (DO) was cited as a factor in seven kill events during 2006. DO depletion was reported as a likely cause in the year's two largest fish kills observed during early August in the Pamlico and Neuse estuaries (see Notable Events). Estuarine fish kills have historically been associated with upwelling of hypoxic water from the river bottom or a depletion of DO in warm shallow areas, especially during the season's warmest months. .

Spills: Toxic spills may deplete DO levels in receiving streams or induce kills outright through physical or chemical toxicity. During 2006 investigators reported six events where the release of toxic substances induced a fish kill. These substances included concrete sealer, gasoline, runoff from facility fires, and sewage. Spill induced kills were limited to the Piedmont and western regions of the state.

Harmful Algae: Harmful algae was cited as a factor in five freshwater events during 2006. The most significant event (3800 fish killed) occurred in Pembroke Lake, New Bern as a result of an assemblage of euglenoid algae and diatoms. Additional phytoplankton species associated with kills in 2006 included non-filamentous and filamentous green algae, blue-green algae, diatoms, and cryptomonads. It should be noted that the presence of these species alone does not infer toxicity or environmental concerns. Algae and other phytoplankton begin to negatively affect water quality when excessive growths impair aquatic systems through physical and chemical means.

ESS staff routinely examine water samples associated with kills for the presence of harmful species. Samples that contain significant amounts potentially harmful algae are often sent to research laboratories throughout the state. The Center for Applied Aquatic Ecology in Raleigh has the ability to examine samples under scanning electron microscopy. Laboratories at the University of North Carolina at Greensboro and the National Oceanic and Atmospheric Administration laboratory in Beaufort can examine samples with molecular probes. Laboratories at UNC-Chapel Hill and UNC-Wilmington provide valuable taxonomic expertise. Algal samples and results are collected, exchanged, and discussed between DWQ and research laboratories as a professional courtesy.

Temperature: Two relatively minor freshwater fish kills were attributed to extremes in water temperature. A winter kill of shad was reported on Greenfield Lake, Wilmington during February, and high temperatures in the Broad River (Cleveland Co.) were reported as a cause for a kill of suckers and catfish during August.

Bycatch: Discarded fish from nearby fishing operations was reported as a cause in one event during the year. A small event involving menhaden in Long Creek (Craven County) was determined to be bycatch due to the presence of net marks on the carcasses. Water quality measurements were reported as normal and active fish were observed in the area during the investigation.

Unknown Causes: Causes for kill events are reported as unknown when investigators fail to cite specific reasons for an event. Investigations may not provide definitive causes when they are conducted too long after an event and no clear factors are determined, or when causes are suspected but not confirmed. Investigators failed to cite or confirm causes for four of the year's events. Events with unknown causes were all reported from estuarine waters during 2006. Investigations for such events yielded few clues and environmental conditions or water quality measurements were often reported as normal by the time personnel arrived on scene.

Notable Events

Pamlico River at Blounts Bay (Beaufort Co.), August: A multi-species kill consisting primarily of juvenille spot and croaker was reported over a half mile section of shoreline near the mouth of Blounts Creek in western Blounts Bay. Investigators also observed dead menhaden and blue crab. They estimated over 13,000 dead fish including 11,000 spot and over 1,000 croaker. At the time of the investigation the fish appeared to be less than 24 hours old. Measurements from the real time monitoring platform a few miles downstream revealed a sudden drop in dissolved oxygen the previous night. Water quality measurements during the investigation indicated dissolved oxygen had rebounded in the area and subsequently fish mortality appeared to cease. Recent heat and calm weather resulted in surface water temperatures exceeding 90 degrees Farenheit. Deeper waters throughout the river were reported as hypoxic (less than 1.0 mg/L).

Neuse River, Johnson Point (Craven Co.), August: The kill, reported by the Neuse River Response Team, involved primarily silver perch and other species including croaker, menhaden, flounder, spot and blue crab. Most of the observed fish were juvenile, had no lesions, and appeared to be 24 hours old. The fish kill covered approximately 2 miles of shoreline from Johnson Point downstream and included approximately 5000 fish. The event coincided with a drop in dissolved oxygen levels measured at Channel Marker 11 located 3.5 miles downstream. Real-time monitoring equipment recorded hypoxic conditions near the area for almost 4 hours on the previous morning.

Bent and Mine Creeks (Wake Co.), April: Fish were killed after the release of concrete sealer via a storm drain from adjacent dwellings upstream of Bent Creek. Fish species included sunfish, catfish, suckers, darters, and minnows. Over 2000 fish were observed dead along a 1.2 mile stretch downstream of the storm drain.

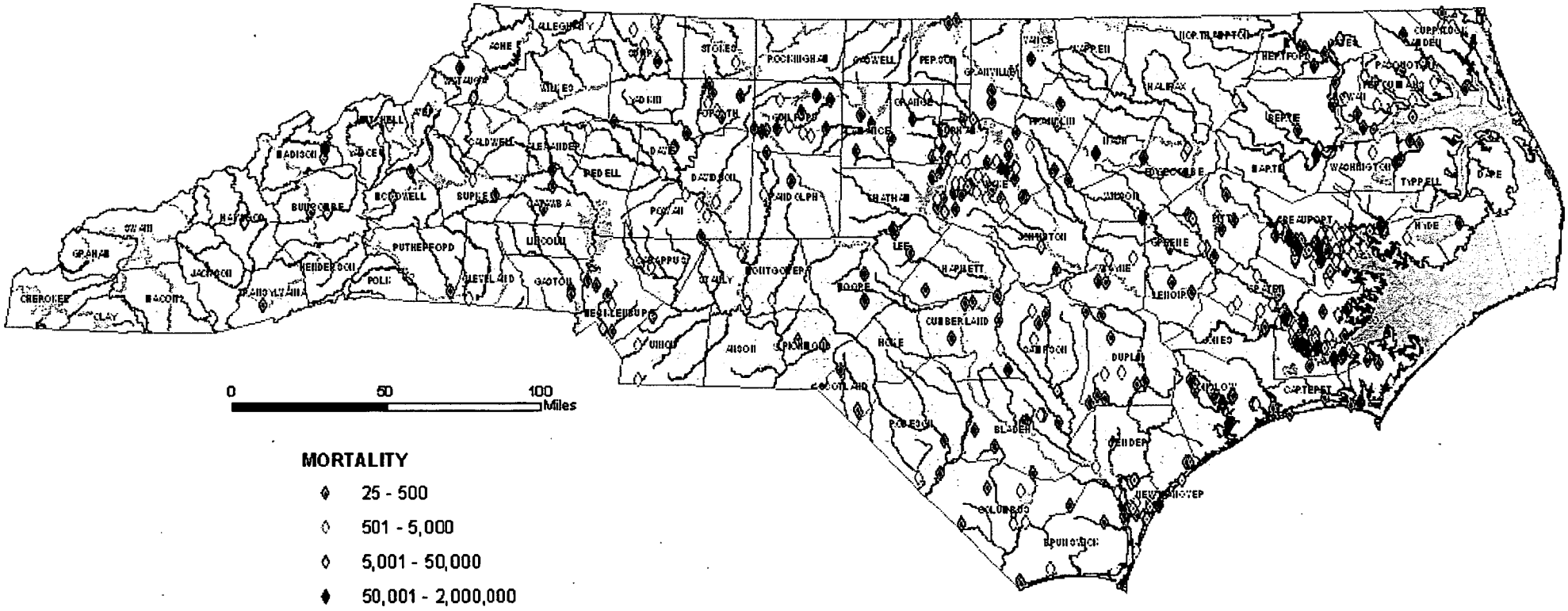
Hunting Creek (Burke Co.), February: The event was the result of runoff from an explosion and fire at the Synthron chemical manufacturing facility in Morganton, NC and was investigated by both Catawba River Keeper Foundation and North Carolina Wildlife Resources staff. The fish kill began at site of Synthron explosion downstream to the confluence of Hunting Creek and Catawba River. The Catawba River Keeper Foundation estimated over 1,000 fish were killed along a 2 mile stretch of Hunting Creek. Catawba Foundation staff identified dead creek chubs, suckers, and sunfish species.

2006 Summary

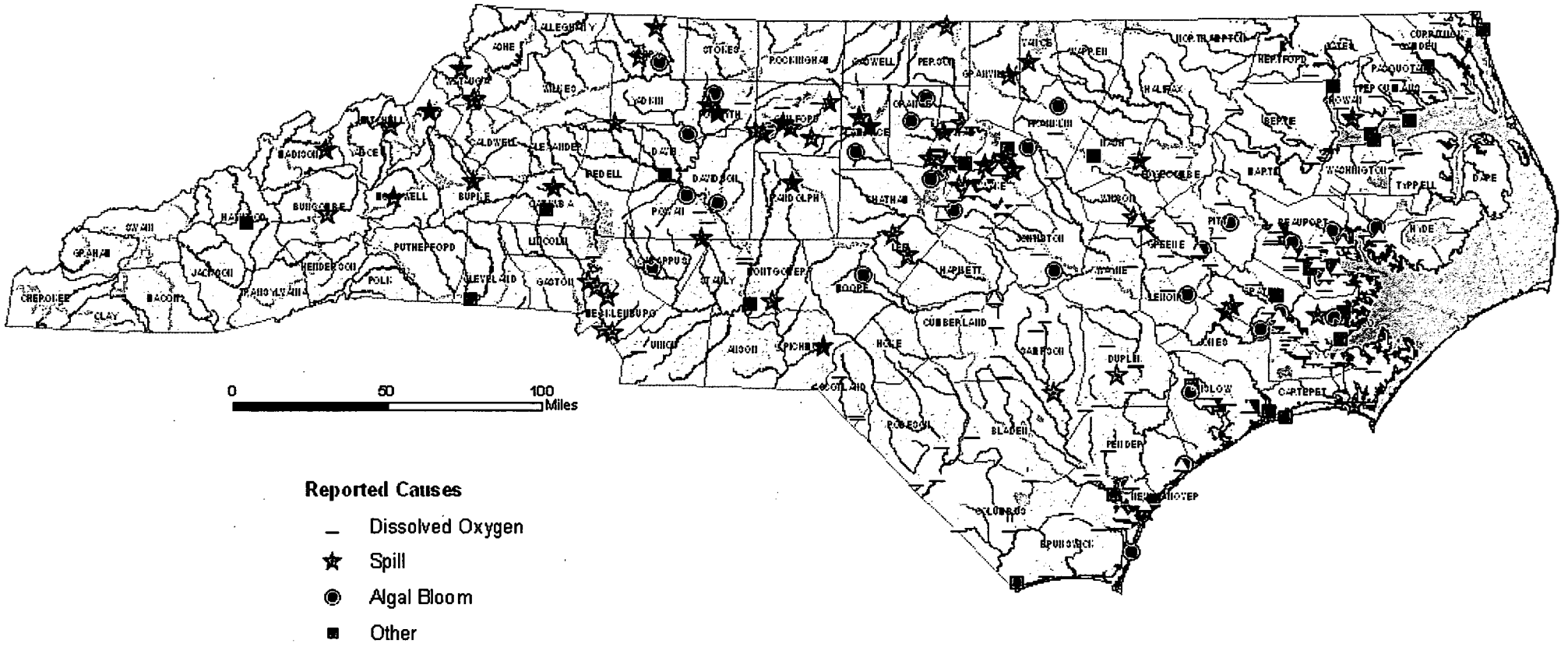
Investigators reported fish kill events in 8 of the state's major river basins during 2006. In general, kill activity in basins across the state was light when compared to yearly activity reported since 1996. The number of fish kills reported during the year totaled 25, a slight increase from 2005 but a figure consistent with low totals reported for the last five years. Total fish mortality was reported near 35,000 individuals. This count represents the lowest since DWQ protocols were implemented in 1996.

A decrease in the reported frequency and intensity of fish kill activity over recent years remains unclear based on report data. Empirically, reports suggest that a majority of North Carolina's annual kill activity (or lack thereof) may depend on environmental conditions in certain key areas of the state, namely, the coastal basins and estuaries. Since 1996, these areas have produced the majority of reported activity statewide (see Appendix 1). Reports indicate that DO depletion, while occurring statewide in any given year, is more common in coastal waters and plays a significant role in kill activity in the region (Appendix 2). Conversely, favorable environmental conditions (ie: DO, weather, hydrology, water chemistry) have been documented in the states coastal waters during the current period of low fish kill activity. Determining if a decrease in fish kill reports reflects natural changes or is the result of improved water quality requires continued long term monitoring and research.

Appendix 1 : Fish Kill Events and Observed Mortality Reported to NCDWQ, 1996 to 2006



Appendix 2: Reported Causes for Fish Kill Events, 1996 to 2006



Note: Events with unknown causes are not shown.

Appendix 3: 2006 Fish Kill Event Summaries (by County)

Total 2006 Fish Kills: 25

Total 2006 Fish Mortality: 35395

Date	Kill Number	Waterbody	Location	Fish Species	Mortality	Comments
Beaufort						
7/19/2006	WA06005	Duck Creek	near Bath	Perch, Catfish	210	The kill involved about 100 silver perch about 3-6 inches in length and 10 catfish from 5-9" long. Dissolved Oxygen at middaywas above 130% saturation, and the pH was 7.6 suggesting an algal bloomwas present. Water temperature was about 91degrees F. Algal sampleswere collected and forwarded to DWQ/ESS. The fishwere fresh and likely died the previous night or early morning. No lesions were observed. ESS staff identified a dense bloom of the filamentous bluegreen alga Pseudanabaena (previously identified as Oscillatoria limnetica). This is a harmless algawhich frequently blooms in the state's coastal rivers during summer.
8/2/2006	WA06003	Pamlico River	Blounts Bay	Spot, Croaker, Menhaden, Pumpkinseed	13220	A citizen reported the kill at about 9:30am. It was a multi-species kill made up primarily of juveniile spot and croaker about 3-4" in length. Investigators also saw Blue Crab and Menhaden. They estimated over 13,000 dead fish over about a 1/2 mile section of shoreline near the mouth of Blounts Creek in Western Blounts Bay. This included about 11,000 spot and over 1,000 croaker. The fish appeared to be less than 24 hours old. Measurements from the real time monitoring platform at marker number 5 (a few miles downstream) revealed a sudden drop in dissolved oxygen the previous night between midnight and 3:AM. Water quality measurements during the investigation indicated dissolved oxygen had rebounded in the area and fish ceased to die. The recent heat and calm weather resulted in threatening conditions for fish in the area. Surface water temperatures approaching and exceeding 90 degrees Farenheit were measured. The deeperwaters throughout the riverwere reported as hypoxic.
					Total Kills for County: 2	Total Mortality for County: 13430
Burke						
2/2/2006	AS06001	Hunting Creek	near Morganton	Suckers,Chub,Sunfish,Darter, Stoneroller	1000	The eventwas the result of an explosion and fire at the Synthron chemical manufacturing facility in Morganton NC and was investigated by both Catawba River Keeper Foundation and NCWRC staff. The fish kill began at site of Synthron explosion (intersection of Kirksey and Amherst Roads) downstream to the confluence of Hunting Creek and Catawba River. The Catawba Riverkeeper Foundation estimated over 1,000 fishwere killed in approximately 2 miles of Hunting Creek. Catawba Foundation observed large fish, some as long as 14 inches during the assessment. They identified dead creek chubs, suckers, and sunfish species. On February 2, NCWRC staff examined Hunting Creek to determine the extent of the fish kill and the feasibility of executing a formal investigation. NCWRC staffwere able to inspect two sites along the approximately 3-km reach of the fish kill. NCWRC staffwalked the streambank which consisted of approximately 775 m of stream below the input source (Synthron, Inc). Evaluation of this reach resulted in the visual location of approximately 130 dead sucker species; no live fishwere observed within this reach. NCWRC staff also visually examined the confluence of Hunting Creek and Catawba River. No dead or moribund fishwere observed, but one live fish (unidentified species) was observed surfacing approximately 70 m below the culvert on Hunting Creek. NCWRC staffwere forced to halt further examination due to the development of physical ailments (headache and nausea) thatwere probably caused by exposure to fumes from ongoing chemical fires at the Synthron facility.
					Total Kills for County: 1	Total Mortality for County: 1000

Date	Kill Number	Waterbody	Location	Fish Species	Mortality	Comments
Chatham						
3/20/2006	RA06001	Jordan Lake	New Hope Creek Arm	Catfish,shad	50	Samples examined by ESS staff showed phytoplankton density at 45,000 units/ml which is considered a severe bloom (>30,000 units/ml). The assemblage was diverse and comprised of blue greens, greens, diatoms, and cryptomonads. The dominant taxon (>30% of total density) was the filamentous blue green Pseudanabaena at 17,000 units/ml. RRO staff received reports of more dead fish at Farrington Point on the same arm. Fisherman reported crappie piping for air.
3/25/2006	RA06002	Jordan Lake	Farrington Point	Catfish	60	Surface water readings taken at Farrington Point boat ramp showed high dissolved oxygen and ph. Fisherman stated seeing ~ 200 other fish washed up on rip rap area that was not accessible by foot. They stated they were primarily catfish with a few crappie. Water appeared to have greenish brown color and very thick.
					Total Kills for County: 2	Total Mortality for County: 110
Cleveland						
8/4/2006	MO06001	Broad River	NC 150 S. of Boiling Springs	Sucker, Catfish	700	Fish began dying on 8/2/06 High water temperatures recorded at time of investigation. Dissolved oxygen levels within acceptable range. Investigators suspected heat stress as cause for event.
					Total Kills for County: 1	Total Mortality for County: 700
Craven						
3/23/2006	WA06001	Batchelor Creek	near Bellair	Menhaden	700	The kill was approximately 2 days old and extended for 1.8 miles. It affected menhaden from 6-10 inches in length and no lesions were observed. Physical water quality data showed no obvious reason for the event. Cause unknown.
6/7/2006	WA06002	Pembroke Lake	New Bern	Shad, Carp, Sunfish, Largemouth Bass, Catfish	3850	Investigators suspected an algal bloom as a factor in kill event. ESS staff examined water samples and identified a bloom of euglenoid algae and diatoms. Green cloudy water and a dissolved oxygen level of < 2mg/L was observed during the investigation.
8/2/2006	WA06004	Neuse River	Johnson Point	Silver Perch, Croaker, Flounder	5000	The Neuse River Response Team investigated a fish kill in the Neuse River n the Johnson Pt. area along the south side of the river. The fish kill was reported by a local resident. The kill involved primarily silver perch, and other species including croaker, menhaden, flounder, blue crab, and spot. Most of the fish observed were juvenile from 3-8" in length, had no lesions, and appeared to be 24 hours old. The fish kill covered approximately 2 miles of shoreline from Johnson Pt. downstream and included approximately 5000 fish. The event coincided with a drop in dissolved oxygen levels measured at Channel Marker 11 located 3.5 miles downstream. Real-time monitoring equipment recorded hypoxic (less than 1.0 mg/L) conditions near the area for almost 4 hours on the morning of 8/2/06.
10/24/2006	WA06007	Upper Broad Creek		Speckled Trout, S. Flounder, Atlantic menhaden, Spot, Largemouth Bass, Pumpkinseed	502	The reporting source contacted NRRT to report a multi species fish kill in Broad Creek. They noted that fish were gulping at the surface on 10-23-06. Cause was not determined. Additional decomposed fish reported in Fairfield Harbor on 11/1/06. Investigators suspected Fairfield Harbor fish originated from this event and WA06008.

Date	Kill Number	Waterbody	Location	Fish Species	Mortality	Comments
10/25/2006	WA06008	Northwest Creek		Spot, Gizzard shad, S. Flounder, Atlantic menhaden, Pumpkinseed, Largemouth bass, Crappie, Yellow perch, Mullet, Anchovy, Speckled trout	4720	While NRRT members were responding to a fish kill in Broad Creek, a citizen reported a similar event occuring in neighboring, Northwest Creek. Upon investigation the following morning, team members found dead fish the entire stretch of the creek (2.17 miles) and estimated a total of 726 fish that included multiple species. Additional decomposed fish reported in Fairfield Harbor on 11/1/06. Investigators suspected Fairfield Harbor fish originated from this event and WA06007.
11/9/2006	WA06009	Long Creek	near Batchelor	Menhaden	50	The Neuse River Response Team investigated a fish kill in Long Creek after a call from a resident from the area. Long Creek is located 1.5 miles east of Clubfoot Creek off the Neuse River. Approximately 50 Atlantic Menhaden were found along the eastern shoreline of the creek. The fish were 8-9 inches in length and had no lesions. They appeared to be 3-4 days old, and had what appeared to be net marks on them. Water quality measurements did not indicate anything unusual at the time of investigation, and healthy fish were observed swimming in the area. No exact cause could be determined due to the age of the fish, although bycatch is the most likely culprit.
					Total Kills for County: 6	Total Mortality for County: 14822
Forsyth						
5/9/2006	WS06001	Spurgeon Creek	Unnamed Tributary	Crappie	200	Investigators suspected pond turnover. Rain and wind observed before event. No obvious contamination at the site or upstream during investigation.
					Total Kills for County: 1	Total Mortality for County: 200
Mecklenburg						
11/29/2006	MO06002	Paw Creek	Charlotte	Bass, Sunfish, Sucker, Minnow	180	Fish kill due to gasoline release from the BP Delivery Line (7401 Old Mt. Holly Rd) owned by Plantation Pipeline in Paw Creek, Mecklenburg County. State Incident No. 20080415S, EPA Incident # 819250. A site investigation was conducted along the impacted stream segment on 11/29/2006 and 12/4/2006 by CH2M Hill consultants.
					Total Kills for County: 1	Total Mortality for County: 180
New Hanover						
2/10/2006	WL06002	Greenfield Lake	Wilmington	Shad	200	Die-off of shad suspected as a result of low water temperatures or "winter kill". Water temperatures around the time of the investigation were recorded near 40 degrees F. No visible health problem seen on fish.
9/8/2006	WL06001	Bradley Creek	Airlee Gardens	Largemouth Bass, Perch	900	Investigators observe fish from various size ranges. Suspected runoff from Hurricane Ernesto rains caused low dissolved oxygen and subsequent fish kill.
					Total Kills for County: 2	Total Mortality for County: 1100
Orange						
4/7/2006	RA06003	Eno River	Lake Ben Johnson dam	Sunfish	32	Investigators observed a layer of scum impounded by some fallen trees (immediately upstream of the dam). Investigators suspected kill occurred in the impoundment and later flowed into the river. Because the kill was reported late, no samples were taken.

Date	Kill Number	Waterbody	Location	Fish Species	Mortality	Comments
8/3/2006	RA06006	Morgan Creek	Chapel Hill	Carp, Sunfish, Catfish	60	Plant bypass occurred putting 450,000 gallons of primary treated wastewater into Morgan Creek. Water samples were taken by OWASA staff.
					Total Kills for County: 2	Total Mortality for County: 92
Pamlico						
7/9/2006	WA06006	Dawson Creek	near Janeiro	Gizzard Shad	51	NRRT & PRRT team members responded to a fish kill in Dawson Creek. The kill was approximately 2-3 days old and extended for .725 miles. It affectected gizzard shad of 254-304 mm in length and no lesions were observed. Physical water quality data showed no obvious reason for the event. Cause of event is unknown to due to the old age of the fish. An oily surface film was observed at the same time.
					Total Kills for County: 1	Total Mortality for County: 51
Person						
6/15/2006	RA06007	Bowes Branch	Fire pond at La Pacific Corporation	Largemouth Bass, Sunfish, Carp,	340	The La. Pacific Corporation plant near Roxboro experienced a serious fire within the production facility. A subsequent fish kill occurred in the company's fire pond. During the fire, large quantities of water were pulled from the pond to spray on the fire. Runoff was at times about 3 to 4" deep running from the building to the stormwater system, thereby returning to the pond. The fire began at 2:41 AM on 6/13, and the use of water ended about 4:30 PM, a period of just under 14 hours. Production units experiencing fire included mixers in which the chemicals Methyl Diisocyanate, Paraformaldehyde, and Paraffin Wax were being applied to wood. Some undetermined quantity of these materials returned to the pond with the recycling firewater. There was heavy rain from the remnants of tropical depression Alberto most of the day of 6/14, as well. Dead fish were observed and reported at about 7:35 AM on 6/15. The pond was also observed at that time to have a reddish material floating along one edge where the wind had moved it. A total of 290 fish were observed killed the first day: 113 bass, 50 carp, and 127 sunfish. None was observed to be diseased, malformed, or otherwise abnormal. The next day, another 50 were gathered, 20 bass and 30 sunfish. About half were "fresh" enough to have expired overnight.
					Total Kills for County: 1	Total Mortality for County: 340
Scotland						
8/4/2006	FA06001	Private Pond	near Johns	Largemouth bass, Catfish, Sunfish, Crappie	100	Investigators suspected low dissolved oxygen resulting from pond turnover as a cause for the event. The event occurred after a heavy rainstorm.
9/5/2006	FA06002	Gattis Pond	near Laurel Hill	Largemouth bass, Sunfish, Carp	360	Investigators suspected low dissolved oxygen resulting from pond turnover as a cause for the event. Fish seen gasping at surface and acting lethargic. Some fish had been removed from the pond by owner at time of investigation.
					Total Kills for County: 2	Total Mortality for County: 460
Vance						
8/24/2006	RA06008	Private Pond	UT to Crooked Creek	Bass, Sunfish, Catfish	500	Pond is located on a spring fed tributary to Nutbush creek. An upstream neighbor had failing septic system and it had been piped into tributary for undetermined length of time. Low D.O. and Nitrates noted in water samples taken by private pond management company prior to calling DWQ. Aerators had been put in the pond by the time DWQ was contacted so D.O. Levels were acceptable upon investigation. DWQ followed the progression of the pond for several weeks. Correcting the upstream problem appeared to solve the problems in the pond.

Date	Kill Number	Waterbody	Location	Fish Species	Mortality	Comments
					Total Kills for County: 1	Total Mortality for County: 500
Wake						
4/1/2006	RA06004	Mine Creek	above Shelly Lake, Raleigh	Sunfish, Minnows, Darters, Bullhead Catfish	2260	Fish were killed after the release of concrete sealer via a storm drain from adjacent dwellings upstream of Bent Creek, including sunfish, catfish, suckers, darters, and minnows. The sealant release most likely occurred on March 29, 2006. NCWRC staff was contacted on March 31 and arrived at the accident site on April 1, 2006 to observe a consistent number of dead fish within a 1.2 mile stretch downstream of the storm drain. The NCWRC costs associated with the fish kill investigation, associated fish loss, and report preparation were $1,420.60. The NCWRC requested a total reimbursement of $1,420.60.
8/7/2006	RA06005	Swift Creek	below Lake Benson Dam	Carp	150	No water observed flowing over spillway at Lake Benson. Water below dam was stagnant and Swift Creek was very low below spillway. Some fish were traped in pools of water isolated from the creek. Dead fish were noted in shallow pools.
					Total Kills for County: 2	Total Mortality for County: 2410

Public Schools of North Carolina
State Board of Education
Department of Public Instruction

EXHIBIT D-4

2006 Report to the Joint Legislative Education Oversight Committee

Strengthening Littering Laws

SL2001-512, sec. 11

Senate Bill 1014

Due Date: December 15, 2006
Report #: 23
DPI Chronological Schedule, 2006-2007

2006 RECYCLING SURVEY

In September and October, 2006, the Department of Public Instruction, in conjunction with School Planning Section of the School Support Division conducted a survey to assess the recycling efforts of each school system in North Carolina. This survey is in response to Senate Bill 1014, which directs the State Board of Education to report on the recycling efforts on a yearly basis. Out of the 115 individual school systems in NC (LEAs), all 115 systems responded to the survey, for a response rate of 100%.

Survey results will be sent to, and used by the Joint Legislative Oversight Committee and The Environmental Review Commission to determine recycling status and trends from year to year. Results will be tabulated annually through the year 2007, for an accurate longitudinal assessment of the recycling program in North Carolina Public Schools.

Results

Does your LEA have a recycling program?

	# Recycle (2006)	% 2006	% 2005	% 2004
Yes	108	93.9	93.0	85.2
No	7	6.1[1]	7.0	14.8
Total	115	100.0	100.0	100.0

Is the recycling program organized at the school or LEA level?

	# Recycle (2006)	% 2006	% 2005	% 2004
LEA	34	29.6	34.8	27.8
School	36	31.3	32.2	25.2
Both	38	33.0	26.1	32.2
None	7	6.1	7.0	14.8
Total	115	100.0	100.0	100.0

When asked if a recycling program is in place within the 115 school systems the response was overwhelmingly positive, with almost all (93.9%) of LEAs having a program in all or at least some of the schools in their system. This resulted in a percent increase of 0.9% from 2005/2006. Additionally, the vast majority of *individual schools* in the North Carolina School System (88.7% or 2,051 schools)[2] report they recycle at least one item.

[1] This figure represents counties with no recycling programs, and refer to Anson, Bertie, Bladen, Hyde, Jackson, Northampton, and Sampson

[2] Please note: This percentage may be greater because not all school systems reported the exact number of participating schools.

Summary of Recycled Items

What items does your school system recycle?

	# Recycle (2006)	% 2006	% 2005	% 2004
Cans	88	76.5	72.2	74.8
Cardboard	87	75.7	73.9	73.9
Motor oil	83	72.2	71.3	68.7
Newspapers	77	67.0	67.0	61.7
Paper	76	66.1	67.8	61.7
Tires	71	67.0	65.2	60.9
Computer hard drives	67	58.3	49.6	56.5
Cooking oil	67	58.3	53.9	53.9
Computer keyboards	63	54.8	47.0	47.8
Printers	63	54.8	44.4	36.5
CRT monitors	59	51.3	40.9	40.0
Plastic bottles	53	46.1	44.4	43.5
Fax/printer ink cartridges	42	36.5	38.3	36.0
Glass bottles	30	26.1	23.5	25.2
Other glass containers	19	16.5	14.8	17.4
Plastic cafeteria plates and cups	18	15.7	11.3	10.4
Plastic cafeteria utensils	15	13.0	9.6	4.3
Other[3]	40	34.8	41.7	47.8

Slightly more than three-fourths (76.5%) of LEAs recycle cans, making it the most recycled item. Cardboard and motor oil are second and third on the list, with 75.7% and 72.2% of school systems recycling these items. The least recycled items reported are plastic cafeteria utensils (13.0%) and plastic cafeteria plates and cups (15.7%).

Although plastic cafeteria utensils ranked lowest, the recycling of these items more than tripled — from 4% in 2004 to 13% in 2006. The largest increases since 2005 were with computer equipment. There were 10.4% more LEAs that recycled printers and CRT monitors in 2006 compared to 2005. Computer hard drives and keyboards also saw significant increases of 8.7% and 7.7% respectively.

Only seven school systems have no organized recycling program intact. These are Anson, Bertie, Bladen, Hyde, Jackson, Northampton, and Sampson Counties. These school systems are all smaller than average and list cost, reliance on other counties, reliance on recycling companies, and manpower as huge factors and for the lack of a recycling system in their county. However most of these systems are currently in the process of trying to implement a recycling program.[4]

[3] Examples include: Cell phones, antifreeze, oil filters, and batteries. For a complete listing, see Appendix

[4] For complete listing, see Appendix

Appendix A– Written Comments

PLEASE LIST ANY OTHER ITEMS RECYCLED BY THE LEA (in order by LEA #)

- 030 Alleghany County Schools - Aluminum
- 080 Bertie County Schools - Batteries, metal
- 100 Brunswick County Schools - Old brake drums, radiators, brake shoes, discarded metal, batteries, computer equipment
- 110 Buncombe County Schools - Cell phones, books, digital cameras, magazines, laptop batteries
- 132 Kannapolis City Schools - Fluorescent light bulbs
- 180 Catawba County Schools – Mixed paper
- 181 Hickory Public Schools - Catalogs (1), library books (10), text books (10)
- 190 Chatham County Schools - Vehicle batteries, scrap metal (steel & copper), aluminum soda can tabs
- 200 Cherokee County Schools - Phones (1)
- 230 Cleveland County Schools - Computer towers, televisions, overhead projectors
- 250 Craven County Schools - Antifreeze
- 280 Dare County Schools - Antifreeze, Styrofoam, misc. metals, used kitchen equipment, used lawn/power equipment, used audio visual equipment, used furniture/student desks, used plumbing/electrical fixtures
- 300 Davie County Schools - Cell phones (1)
- 330 Edgecombe County Public Schools – Batteries
- 390 Granville County Schools – Batteries, pull tabs (2), tool cleanser
- 440 Haywood County Schools - Phones
- 470 Hoke County Schools - Bus batteries
- 480 Hyde County Schools - Textbooks
- 490 Iredell-Statesville Schools - Cell phones, textbooks
- 491 Mooresville Graded Schools - Cell phones
- 510 Johnston County Schools - Magazines (5)
- 540 Lenoir County Public Schools - Cell phones
- 590 McDowell County Schools - Cell phones, magazines, PDAs
- 600 Charlotte-Mecklenburg School System - Phonebooks, magazines, catalogs, brochures, Post-It Notes, file folders, colored paper, stapled paper, junk mail, blue prints, legal pads
- 630 Moore County Schools - Engine fluids, paints, vehicle parts, paint thinner, Freon, metal, phone books, batteries
- 650 New Hanover County Schools - Batteries (6), aluminum (1), phone directories (1), scrap metal (1), cell phones (3), plastic bags (2), antifreeze (1)
- 740 Pitt County Schools – Desks, lockers, water coolers
- 760 Randolph County Schools - Antifreeze, oil filters
- 761 Asheboro City Schools - Magazines (1), plastic grocery bags (1), catalogs (1)
- 780 Robeson County Public Schools - Cell phones, tin, aluminum steel, cast iron, general metals, stainless steel, copper, drink tabs
- 790 Rockingham County Schools - Antifreeze (1)
- 830 Scotland County Schools - Batteries, Styrofoam plates and cups
- 850 Stokes County Schools - Cell phones, textbooks
- 860 Surry County Schools - Batteries, cell phones, magazines, telephone directories, textbooks, workbooks
- 861 Elkin City Schools - Scrap metal, wood pallets, appliances, batteries
- 870 Swain County Schools - Oil filters, vehicle batteries, UPS batteries
- 900 Union County Public Schools - Cell phones (7), metal/steel (1)
- 920 Wake County Schools - Antifreeze (148), ballasts (148), batteries (148), bricks (148), carpet (148), cell phones (4), compressors (148), contaminated refrigerant (148), curb & paving materials (148), fluorescent tubes (148), gypsum (148), light bulbs (148), metal (148), phone books (148), polystyrene (148), sheet rock (148), stone (148), textbooks (148)
- 930 Warren County Schools - Batteries, scrap metal
- 970 Wilkes County Schools - Antifreeze (1)

( ) represents the # of schools that recycling the item listed

EXPLAIN PROBLEMS WITH RECYCLING PROGRAM (in order by LEA #)

- 040 Anson County Schools - We do not have an organized program. The schools collect and recycle some items.
- 050 Ashe County Schools - Computers are reused for parts in some cases
- 080 Bertie County Schools - The Child Nutrition Department found it to be an too much of an added expense. They are charged to have the cooking oil picked up.
- 090 Bladen County Schools - Program has not yet been implemented
- 120 Burke County Schools - All schools send computer type items to a central department for recycling; tires and motor oil also.
- 130 Currently, gathering information on recycling glass and plastic bottles. Computer hard drives, keyboards, and monitors are sold at auctions.
- 180 Catawba County Schools – Hopefully light bulbs in the future.
- 181 Hickory Public Schools - Computer hard drives, keyboards, printers, and monitors are sold through state surplus auctions. Test materials, student data, and finance records are shredded for recycling at least once during the fiscal year.
- 270 Currituck County Schools - Any aluminum parts from bus repairs are also recycled.
- 300 Davie County Schools - We changed our recycling program and a lot of items are no longer accepted. Cost is another reason for not recycling some items.
- 370 Edgecombe County Public Schools - Main reason for entire LEA not participating is the cost factor. It would require renting additional receptacles for separate pick-up; estimated cost of $300 per month for each school.
- 370 Gates County Schools - We are working on a plan to start recycling plastics, cans, and cardboard milk cartons.
- 480 Hyde County Schools - This program is being looked into. We are looking at recycling programs at other LEAs to gain more info.
- 490 Iredell-Statesville Schools - Inadequate transportation; Recycling company doesn't pick up for a couple of schools; Bi-weekly pick up not successful; Time, space, and money; No curbside recycling pickup.
- 491 Mooresville Grade Schools - We are working to expand our program.
- 500 Jackson County Schools - Currently, we do not have the personnel to handle taking the recyclables to the recycling centers.
- 590 McDowell County Schools - There has been no specific decision at the system level not to promote a recycling program. The survey results from the schools indicate someone has promoted and encouraged the schools to conduct recycling efforts. Our system has numerous new staff in key positions. As a system we will reassess our central efforts for recycling.
- 610 Mitchell County Schools - This is left to the discretion of each local school in Mitchell County. Our schools do a good job with individual school recycling plans.
- 650 New Hanover County Schools - A few schools do not know how to organize recycling programs. Lack of storage space and funding for bins and pickup are issues at several schools. A recycling company removed an outdoor dumpster from one school because the public used it for trash. Two schools have committees that have not met yet to consider a recycling program.
- 660 Northampton County Schools - Waste providers are limited in our area. When checking on why recycling program was avoided, found that it was too costly for the school system.
- 700 Elizabeth City-Pasquotank County Schools - Most paper, aluminum, and plastic items are handled by the Pasquotank County Recycling Coordinator.
- 720 Perquimans County Schools - All four schools were involved at one time. The school that is not organized now will be in the near future.
- 740 Pitt County Schools – Our Facilities Services Department recycles used equipment. Auctions are held throughout the year.
- 820 Sampson County Schools - While we do not have a recycling program, we do purchase items that have been recycled.
- 840 Stanly County Schools - Schools are encouraged to participate in beautification and recycling efforts as often as possible.
- 861 Elkin City Schools - We do this because it saves the system money.
- 890 Tyrrell County Schools - Pickup for recycled products is not available to us. We do all we can and we purchase recycled items often.
- 910 Vance County Schools - All computer equipment is handled throughout the LEA. All other items are handled by the individual schools.

Status of Reports to the ERC Required by Law

Organized by topics: air quality, coastal issues, env. health, fishing, general, hazardous substances, land resources, parks and conservation, solid waste, water quality, water quantity, wetlands

air quality

DAQ	Report To/ Authority	Report Due	Status*
Study issues related to monitoring emissions of mercury and the development and implementation of standards and plans to implement programs to evaluate available control technologies; shall estimate the benefits and costs of alternative strategies to	EMC, ERC S.L. 2002-4, Section 12	Annually (Interim 1 Sep 2003) (Findings 1 Sep 2005)	Sep 03 distrib 2/24/04 Sep 04 oral 11/19/04 Oct 05 oral 11/22/05
Study issues related to the development and implementation of standards and plans to implement programs to control emissions of carbon dioxide (CO2) from coal-fired generating units and other stationary sources; evaluate available control technologies and	EMC, ERC S.L. 2002-4, Section 13	Annually (Interim 1 Sep 2003) (Findings 1 Sep 2005)	Sep 03 distrib 2/24/04 Sep 04 oral 11/19/04 Oct 05 oral 11/22/05

DAQ (DENR)	Report To/ Authority	Report Due	Status*
Shall study the costs and benefits of reducing emissions of oxides of nitrogen, particulate matter, and greenhouse gases from motor vehicles in this State. Shall also consider standards adopted in other states.	ERC, LCGCC S.L. 2006-248, Sec. 43	Interim : 15 Jan 2007 Final; 1 April 2007	

DENR	Report To/ Authority	Report Due	Status*
Cost of the Title V program	ERC, Fiscal Research GS 143-215.3A(c)	Annually (1 Nov)	Mar 00 mail 3/29/00 May 02 oral 5/21/02 Jan 04 distrib 2/24/04 Nov 04 oral 11/19/04 Nov 05 distrib 3/8/06 Dec 06 distrib 12/13/06

DENR, Utilities Commission	Report To/ Authority	Report Due	Status*
Implementation of SL 2002-4 (Clean Smokestacks)	ERC, Joint Legislative Utility Review Committee S.L. 2002-4, Section 14	Annually (1 Jun 2003)	28 Jan 03 30 May 03 distrib 2/24/04 June 04 oral 11/19/04 June 05 distrib 11/05 June 06 distrib 10/09/06

Department of Transportation (DOT)	Report To/ Authority	Report Due	Status*
Evaluation/ adjustment of region served by each Metropolitan Planning Organization	ERC, Joint Legislative Transportation Oversight Committee GS 136-202(d)	Nov 1 of each year regions evaluated and adjusted (every 5 years, including year following federal census)	Oct 04 oral 11/19/04
Plan developed with DOA, Commerce, DENR to reduce VMT & vehicle emissions from private sector employee travel.	ERC, Joint Legislative Transportation Oversight Committee GS 143-215.107C(e)	Annually (Oct 1)	02/02/04 distrib 3/25/04 Included in TDM Program Oral 1/13/05 Jan 06 distrib 2/14/06 Nov 06 oral 11/15/06

* "oral" indicates oral report was given to ERC or S+A; "mail" indicates the report was mailed to members; "in" indicates that the report has been received but not yet distributed.

EXHIBIT D-5

DOT	Report To/ Authority	Report Due	Status*
Plan developed with DOA, DOT, DENR to reduce VMT & vehicle emissions from State employee travel.	ERC, Joint Legislative Transportation Oversight Committee SL 1999-328(4.6) G.S. 143-215.107C(d)	Annually (Oct 1)	Mar 02 Distrib 5/21/02 Letter distrib 02/24/04 Oral 1/13/05 Jan 06 distrib 2/14/06 Nov 06 oral 11/15/06

EMC	Report To/ Authority	Report Due	Status*
Desirability of requiring and the feasibility of obtaining reductions in emissions of oxides of nitrogen (Nox) and sulfur dioxide (SO2) beyond those required by G.S. 143-215.107D.	ERC, General Assembly SL 2002-4, Section 11; S.L. 2006-79	Annually, starting 2007 (Sep 1)	Mar 06 distrib 4/11/06

climate change

Joint Legislative Commission on Climate Change	Report To/ Authority	Report Due	Status*
Report of findings and recommendations by the Commission	General Assembly and ERC S.L. 2005-442, Sec. 11; S.L. 2006- 73, Sec. 1	Interim: 15 Jan 2007 Final: 15 April 2008	

coastal issues

CRC	Report To/ Authority	Report Due	Status*
Evaluate the impacts on water quality and other environmental impacts from the new urban waterfront area development authorized by this act and evaluate the costs and benefits from the development to the area in which the development is located.	ERC S.L. 2004-117, Sec. 4	Annually (beginning 1 Oct 05). Final report due 1 Oct 2010.	

fishing

CRC, EMC, and MFC	Report To/ Authority	Report Due	Status*
Progress in developing and implementing Coastal Habitat Protection Plans	ERC, S&A GS 143B-279.8(e)	Annually (Sep 1)	Sep 01 distrib 01/30/02 Sep 03 distrib 2/06/04 Sep 04 distrib 11/18/04 Feb 06 distrib 3/8/06 Oct 06 distrib 11/15/06

DENR	Report To/ Authority	Report Due	Status*
Fish kills within the preceding year	ERC GS 143B-279.7(c)	Annually (Dec 1)	Feb 02 oral 2/21/02 Jan 04 distrib 2/24/04 Jan 05 distrib 1/13/05 Jan 06 distirb 2/14/06 Dec 06 distrib 12/13/06

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DENR (Secretary)	Report To/ Authority	Report Due	Status*
Individual Coastal Habitat Protection Plans	ERC, S&A GS 143B-279.8(f)	30 days after complete or substantially revise draft plan	Aug 04 distrib 11/05

General

Community Conservation Assistance Program Advisory Committ	Report To/ Authority	Report Due	Status*
Findings of its program review	Speaker, President Pro Tem, Appropriations chairs, ERC, FRD S.L. 2006-78, Sec. 5	31 March 2007	

DENR	Report To/ Authority	Report Due	Status*
Findings on the success of the Express Review Program	Fiscal Research and ERC 143B-279.13(c)	Annually (1 March)	April 06 oral 4/11/06
Cost of State's environmental permitting program	ERC, Fiscal Research GS 143-215.3A(c)	Annually (Nov 1)	April 00 distrib
Cost of implementing the Mining Act of 1971	ERC GS 74-54.1(c)	Annually (Sep 1)	Jan 02 distrib 01/30/02 Aug 03 distrib 02/06/04 Oct 04 distrib 10/21/04 Sep 05 distrib 11/22/05 Dec 06 distrib 12/13/06
One-Stop Permit Assistance Program - # of environmental permits subject to this section that took more than 90 days to issue or deny, the types of permits those were, the reasons for the extended processing time of those permits, ...	ERC, NER subcommittees, Fiscal Research S.L. 2000-67(13.7) S.L. 2001-424 (19.6) S.L. 2004-124, Sec. 12.12	Annually (beginning 1 March 07)	29 July 2003 oral 5/05/04 Oct 04 oral 10/21/04 Dec 05 oral 12/20/05

DENR (Secretary)	Report To/ Authority	Report Due	Status*
State of the Environment Report	General Assembly,ERC GS 143B-279.5(a)	Feb 15 of each odd-numbered year	Feb 1, 2000

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EMC	Report To/ Authority	Report Due	Status*
EMC operation, activities, programs, and progress (see also other reports with "EMC Quarterly Report" noted at the end of the topic line)	ERC GS 143B-282(b)	Quarterly (Jan 15, Apr 15, Jul 15, Oct 15); upon request	Apr 03 distrib 2/6/04 Jan 04 oral 2/6/04 July 04 distrib 10/21/04 Oct 04 oral 10/21/04 Jan 05 distrib 1/13/05 Apr 05 oral 11/22/05 Jul 05 oral 11/22/05 Oct 05 oral 11/22/05 Jan, April 06 oral 4/11/06 June, Oct 06 oral 10/9/06

Soil and Water Conservation Commission (DENR)	Report To/ Authority	Report Due	Status*
Report on the Community Conservation Assistance Program, including asummary of projects that received State funding pursuant to the Program, the results of the evaluation conducted pursuant to, and a summary of the effectiveness of the Program.	ERC, FRD G.S. 143-215.74M(e)	Annually (beginning 31 January 2007)	

State Water Infrastructure Commission	Report To/ Authority	Report Due	Status*
Recommendations by the Commission	General Assembly and ERC G.S. 159G-67	Annually (1 November)	Nov 06 oral 11/15/06

Study Commission on Beneficial Uses of Industrial Hemp	Report To/ Authority	Report Due	Status*
Shall study the many beneficial industrial uses of industrial hemp, including the use of industrial hemp oil as an alternative fuel and the use of industrial hemp fiber in construction and paper products.	2007 General Assembly and ERC S.L. 2006-248, Sec. 55	1 December 2006	

hazardous substances

DENR	Report To/ Authority	Report Due	Status*
Implementation of the Resident Inspectors Program at commercial hazardous waste facilities	ERC GS 130A-295.02(m); SL 2006-79	Annually (Oct 1)	Oct 2002 (distrib 1/16/03) Sep 03 distrib 02/24/04 Sep 04 distrib 10/21/04 Jan 06 distrib 1/24/06 Nov 06 distrib 11/15/06
Evaluation of effectiveness of Brownfields Property Reuse Act	ERC GS 130A-310.40	Annually (Oct 1)	Feb 02 oral 2/21/02 Jan 03 oral 1/28/03 Jan 04 oral 2/24/04 Oct 04 distrib 10/21/04 Jan 06 oral 1/24/06 Dec 06 oral 12/13/06

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DENR (Division of Waste Management)	Report To/ Authority	Report Due	Status*
Implementation of comprehensive hazardous waste management plan; implementation of the comprehensive hazardous waste plan, including an evaluation of how well the State and private parties are managing and cleaning up hazardous waste.	ERC GS 130A-294(i) SL 2002-148, Sec. 4	Annually (1 Oct)	5 Oct 03 distrib 02/24/04 July 04 distrib 10/21/04 Jan 06 distrib 1/24/06 Nov 06 oral 11/15/06

DENR (Secretary)	Report To/ Authority	Report Due	Status*
Inactive Hazardous Waste Sites Program	ERC GS 130A-310.10	Annually (Oct 1)	Jan 03 oral 1/28/03 Sep 03 oral 2/24/04 Oct 04 distrib 10/21/04 Jan 06 oral 1/24/06 Nov 06 distrib 11/15/06

DENR, Office of State Budget and Management	Report To/ Authority	Report Due	Status*
Amount and source of available funds used for 10% cost share required for Superfund cleanup of NPL sites, the o&m costs associated w/ these cleanups, and the cleanup of priority inactive hazardous substance or waste sites	ERC, Gov Ops SL 1999-237(15.6)(b)	30 days after spend Superfund/ Inactive Haz Sites funds	Sep 03 distrib 2/24/04 June 04 distrib 10/21/04 May 05 distrib 11/22/05 Aug 05 distrib 11/22/05 Jan 06 oral 1/24/06

land resources

DENR	Report To/ Authority	Report Due	Status*
Annual report and analysis of how the implementation of SPCA is affecting activities that contribute to the sedimentation of streams, rivers, lakes, and other waters of the State; shall also review effectiveness of local programs	ERC G.S. 113A-67; S.L. 2004-195, Sec. 2.1	Annually (beginning 1 Oct 05)	Dec 05 oral 12/20/05 Dec 06 oral 12/13/06

Onsite wastewater

DENR	Report To/ Authority	Report Due	Status*
Shall evaluate whether: (i) the program resulted in a reduction in the length of time improvement permits or authorizations to construct are pending in the participating counties	ERC S.L. 2006-136, Sec. 3	Annually (beginning 1 October 2007)	

parks and conservation

DENR	Report To/ Authority	Report Due	Status*
Report on the conservation easement program + inventory of all conservation easements held by DENR	ERC GS 113A-235(c) SL 2004-195, Sec. 2.2	Annually (Oct 1)	Jan 03 oral 1/16/03 Dec 03 oral 4/22/04 Oct 04 oral 1/13/05 Mar 06 oral 3/14/06
Shall study vehicle use at Fort Fisher State Recreation Area, including consideration of: the demand for vehicle access to the beach during different times of the year; the impact of vehicles on sea turtles and nesting birds;...	ERC S.L. 2004-124, Secs. 12.3.(b) and 12.3.(c)	1 Feb 2005	Mar 05 distrib 3/8/06

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DENR (North Carolina Parks and Recreation Authority)	Report To/ Authority	Report Due	Status*
Activities and allocations from the Parks and Recreation Trust Fund from the prior fiscal year	ERC, Gov Ops, NER, Fiscal Research GS 113-44.15(c)	Annually (Oct 1) + progress (March 15)	Mar 03 distrib 03/20/03 Oct 03 oral 4/22/04 Oct 04 oral 1/13/05 Mar 05 distrib 4/22/05 Mar 06 oral 3/14/06 Oct 06

DENR (Secretary)	Report To/ Authority	Report Due	Status*
Acquisitions made with funds from the Natural Heritage Trust Fund	ERC, NHTF Trustees, Gov Ops, NER, Fiscal Research GS 113-77.9(e)	Semiannually, within 30 days of each revision	Nov 03 oral 4/22/04 Sep 04 oral 1/13/05 Sep 05 distrib 3/14/06
Progress towards attaining the State's goal of protecting one million acres of farmland, open space, and conservation lands	ERC, Governor GS 113A-241(c) S.L. 2004-195, Sec. 2.3	Annually (Oct 1)	Jan 03 oral 1/16/03 Dec 03 oral 4/22/04 Sep 04 oral 1/13/05 Mar 06 oral 3/14/06

Division of Parks and Recreation of DENR	Report To/ Authority	Report Due	Status*
Study the feasibility and the desirability of acquiring land and establishing a State Recreation Area at Blewett Falls Lake. The study shall include estimates of the cost of developing the proposed recreation area.	ERC S.L. 2004-24, Sec. 2	1 December 2005	Dec 05 distrib 3/8/06

Parks and open space

Land and Water Conservation Study Committee	Report To/ Authority	Report Due	Status*
Shall report its findings and recommendations	ERC S.L. 2006-223, Sec. 11	1 Feb 2007	

Parks and Recreation

DPR (DENR)	Report To/ Authority	Report Due	Status*
shall study the feasibility and the desirability of acquiring land and establishing a State Park at Cabin Lake.	ERC S.L. 2006-138, Sec. 3	On or before 15 January 2007	

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Renewable Energy

Biofuels Energy Strategic Plan Work Group	Report To/ Authority	Report Due	Status*
Shall report on the development of the strategic plan, including any preliminary findings, recommendations, and legislative proposals	ERC S.L. 2006-206, Sec. 3.2	Interim: 15 Jan 2007 Final: 1 April 2007	

solid waste

DENR	Report To/ Authority	Report Due	Status*
Solid Waste Management Annual Report (see also other reports with "SWM Annual Report" noted at the end of the topic line)	Governor, ERC GS 130A-309.06(c)	Annually (Jan 15)	Jan 02 oral 1/30/02 Jan 03 oral 1/28/03 Jan 04 oral 3/25/04 Jan 05 oral 1/13/05 Jan 06 oral 1/24/06
Assessment of the recycling industry and recyclable materials market (SWM Annual Report)	ERC GS 130A-309.06(c)(6)	Annually (Jan 15)	Jan 02 oral 1/30/02 Jan 03 oral 1/28/03 Jan 04 oral 3/25/04 Jan 05 oral 1/13/05 Jan 06 oral 1/24/06
Condition and use of funds in the Solid Waste Management Trust Fund (SWM Annual Report)	ERC GS 130A-309.12(c) GS 130A-309.06(c)(8)	Annually (Jan 15)	Jan 04 oral 3/25/04 Jan 05 oral 1/13/05 Jan 06 oral 1/24/06
Scrap Tire Disposal Account (SWM Annual Report)	ERC GS 130A-309.63(e) GS 130A-309.06(c)(10)	Annually (Jan 15)	Jan 02 oral 1/30/02 Jan 03 oral 1/28/03 Jan 04 oral 3/25/04 Jan 05 oral 1/13/05 Jan 06 oral 1/24/06
Management of white goods (SWM Annual Report)	ERC, Revenue Laws Study Committee GS 130A-309.85 GS 130-309.06(c)(11)	Annually (Jan 15)	Jan 03 oral 1/28/03 Jan 04 oral 3/25/04 Jan 05 oral 1/13/05 Jan 06 oral 1/24/06
Recycled materials specified or used in DOT contracts (SWM Annual Report) (DPPEA portion)	ERC, Gov Ops, Trans Oversight GS 136-28.8(g) GS 130A-309.06(c)(12)	Annually (Jan 15)	Jan 03 oral 1/28/03 Jan 04 oral 3/25/04 Jan 05 oral 1/13/05 Jan 06 oral 1/24/06
Purchase of materials and supplies with recycled content by State institutions (SWM Annual Report) (DPPEA portion)	ERC, Gov Ops GS 143-58.2(f) GS 130A-309.06(c)(13)	Annually (Jan 15)	Jan 02 oral 1/30/02 Jan 03 oral 1/28/03 Jan 04 oral 3/25/04 Jan 05 oral 1/13/05

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DOT and DOA	Report To/ Authority	Report Due	Status*
Bid procedures and the purchase and use of reusable, refillable, repairable, more durable, and less toxic supplies and products (SWM Annual Report)	ERC GS 130A-309.14(a1)(3) GS 130A-309.06(c)(9) S.L. 2003-340, Sec. 1.6	Annually (Jan 15)	Jan 02 oral 1/30/02 Jan 03 oral 1/28/03 Jan 05 oral 1/13/05

Governor	Report To/ Authority	Report Due	Status*
Litter enforcement, prevention, and removal efforts.	ERC, JLTOC, NER Subcommittees SL 2001-512, Sec. 9 and 10 GS 147-12(b); SL 2006-79, Sec. 15	Annually (March 1)	Mar 02 oral 3/21/02 Dec 03 oral 4/20/04 Oct 04 distrib 10/21/04 Mar 06 oral 5/3/06

State Board of Education	Report To/ Authority	Report Due	Status*
Recycling efforts of public schools in the State	ERC, Joint Legislative Education Oversight Committee SL 2001-512, Sec. 11	Annually by Dec 15 (2003-2007)	Dec 03 distrib 04/20/04 Dec 04 distrib 1/13/05 Dec 05 distrib 3/8/06 Dec 06 distrib 12/13/06

Water Quality

DENR	Report To/ Authority	Report Due	Status*
Shall evaluate the training and qualification requirements for approval as an animal waste management systems technical specialist pursuant to G.S. 139 4(d)(11)	ERC S.L. 2006-38, Sec. 2	15 November 2006	Rec'd Nov 7 06 Distributed + Oral 11/15/06

water quality - general

Catawba/Wateree River Basin Advisory Commission	Report To/ Authority	Report Due	Status*
Annual report, including any recommendations.	Governor of NC, ERC, Governor of SC, SC General Assembly G.S. 77-117	Annually (1 Oct)	

Clean Water Management Trust Fund (Chair, Board of Trustees)	Report To/ Authority	Report Due	Status*
Implementation of the Clean Water Management Trust Fund; Projects awarded grants	ERC, Gov Ops, NER Subcommittees, Fiscal Research GS 113-145.6A(a) SL 2002-148 (Sec. 3)	Annually (Dec 1)	Jan 03 oral 1/16/03 Dec 03 oral 4/22/04 Jan 05 oral 1/13/05 Mar 06 oral 3/14/06

Commission for Health Services	Report To/ Authority	Report Due	Status*
Shall evaluate the desirability and feasibility of developing and implementing a pilot program whereby any individual seeking to use an innovative wastewater system that employs peat based technology, at the individual's residence must meet certain reqs.	NER Committees, Fiscal Research, ERC S.L. 2004-161, sec. 8.1	15 Jan 05	

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DENR	Report To/ Authority	Report Due	Status*
Status of permitting and inspecting animal waste management systems/ Animal Waste Compliance Report	ERC, Fiscal Research GS 143-215.10M SL 2002-148 (Sec. 6)	Annually (Oct 1)	Oct 03 oral 3/25/04 Oct 04 oral 10/21/04 Dec 05 oral 3/8/06 Nov 05 oral 11/15/06
Shall evaluate the need for and availability of information that identifies poultry facilities that may be subject to regulation under G.S. 143-215.10C, or options for obtaining this information.	ERC S.L. 2004-176, sec. 7	1 Jan 05	1/20/05
Wastewater Discharge Elimination System program	ERC, Fiscal SL 2001-452(2.9)	Annually (15 Oct)	Dec 03 distrib 02/06/04 19 Nov 04 oral Dec 05 oral 12/20/05
Whether to continue pilot program for inspection of animal waste management systems.	ERC, General Assembly SL 2005-276, Sec. 12.7(c)	Oct 15, 2005	Dec 05 distrib 3/8/06

DENR (Division of Water Quality)	Report To/ Authority	Report Due	Status*
Compliance/ enforcement of water quality laws for facilities that discharge into surface waters	ERC, Fiscal Research GS 143-215.9A SL 2002-148(Sec. 5)	Annually (Oct 1)	Dec 03 oral 3/25/04 Oct 04 distrib 11/19/04 Sep 05 distrib 3/8/06 Nov 06 distrib 11/15/06

DENR (Divisions of Water Quality, Soil & Water Conservation)	Report To/ Authority	Report Due	Status*
Pilot program for inspection of animal waste management systems, including a comparison of the costs of conducting operations reviews and inspections under the pilot program with the costs of conductng ors and insps pursuant to 143-215.10D and 143-215.10F	ERC, Fiscal Research,NER SL 1999-329(3.3) SL 2001-254(6) SL 2002-176 (1.2)	Semiannual: 15 April and 15 Oct	Oct 03 oral 3/25/04 Oct 04 distrib 11/18/04 Dec 05 distrib 3/8/06 Oct 06 distrib 11/15/06

DENR (Soil and Water Conservation Commission)	Report To/ Authority	Report Due	Status*
Effectiveness of projects funded under the Agriculture Cost-Share Program for Nonpoint Source Pollution Control	ERC, Fiscal Research GS 143-215.74(c)	Annually (Jan 31)	21 March 2002 Dec 03 distrib 2/24/04 Mar 06 distrib 3/8/06

DENR, EMC	Report To/ Authority	Report Due	Status*
Basinwide Water Quality Management Plans	ERC GS 143-215.8B(d)	Annually (Oct 1)	Oct 03 oral 2/6/04 Oct 04 oral 10/21/04 Feb 06 distrib 2/14/04 Nov 06 distrib 11/15/06

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EMC	Report To/ Authority	Report Due	Status*
Progress in developing and implementing wastewater collection system permit program (EMC Quarterly Report)	ERC 143-215.9B	Quarterly (Jan 15, Apr 15, Jul 15, Oct 15)	Apr 03 distrib 2/6/04 Apr 03 oral 2/24/04 April 04 oral 3/25/04 July 04 distrib 10/21/04 Oct 04 oral 10/21/04 Apr 05 oral 11/22/05 Jul 05 oral 11/22/05 Oct 05 oral 11/22/05 Jan, April 06 oral 4/11/06 June, Oct 06 oral 10/9/06
Implementation of stormwater runoff rules and programs	ERC GS 143-214.7(e)	Annually (Oct 1)	Dec 03 oral 2/6/04 Update 3/25/04 Oct 04 oral 10/21/04 Oct 05 oral 11/22/05 Nov 06 distrib 11/15/06
Extent to which facilities seeking new or modified discharge permits are funded with public funds; their impact on water quality; whether there are cost-effective alt. technologies that would achieve greater water quality benefit (EMC Quarterly Report)	ERC GS 143-215.1(h)	Quarterly (Jan 15, Apr 15, Jul 15, Oct 15)	Apr 03 distrib 2/6/04 Apr 03 oral 2/24/04 April 04 oral 3/25/04 July 04 distrib 10/21/04 Oct 04 oral 10/21/04 Apr 05 oral 11/22/05 Jul 05 oral 11/22/05 Oct 05 oral 11/22/05 June, Oct 06 oral 10/9/06
Study water quality in drinking water supply reservoirs in the State to determine whether the reservoirs meet current water quality standards	ERC S.L. 2005-190, Sec. 2.(a)	1 May 06	Mar 06 oral 4/11/06
Findings on identification and adoption of control criteria necessary to prevent excess nutrient loading in drinking water supply reservoirs; adoption of nutrient management strategy and permanent rules; (EMC Quarterly Rpt)	ERC S.L. 2005-190, Sec. 2.(b), Sec. 3.(e) and (f)		Jan, April 06 oral 4/11/06 June, Oct 06 oral 10/9/06
Progress in developing and implementing nutrient management strategies for water supply reservoirs identified in Sec. 3 of act.	ERC S.L. 2005-190, Sec. 4	Annually beginning 1 April 2006	April 06 oral 4/11/06
Progress in developing engineering standards to allow regional interconnection of municipal and domestic wastewater collection systems (EMC Quarterly Report)	ERC SL 1999-329(11.1)	Quarterly (Jan 15, Apr 15, Jul 15, Oct 15)	Apr 03 oral 2/24/04 April 04 oral 3/25/04 July 04 distrib 10/21/04 Oct 04 oral 10/21/04 Apr 05 oral 11/22/05 Jul 05 oral 11/22/05 Oct 05 oral 11/22/05 Jan, April 06 oral 4/11/06 June, Oct 06 oral 10/9/06

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Roanoke River Basin Bi-State Commission	Report To/ Authority	Report Due	Status*
Annual report, including any recommendations.	Governor of NC, ERC, Governor of VA, General Assembly of VA G.S. 77-98	Annually	

Upper Neuse River Basin Association	Report To/ Authority	Report Due	Status*
Activities and programs to develop cooperative, comprehensive, integrated State-local watershed management plan for the Upper Neuse Rier Basin to serve as a model watershed management approach	ERC, Gov Ops, Fiscal Research SL 1998-212(14.15)	Mar 1 each year until plan is complete (begin 1999)	Oct 03 distrib 02/06/04

Water Quality Workgroup (DENR & NCSU)	Report To/ Authority	Report Due	Status*
Status of tasks: Synth current science on water quality;Identify knowledge gaps, fill with projects;Maintain water quality data website; Org & eval existing water quality databases; Prioritize knowledge gaps for $; Develop Rivernet mon syst.	ERC, NER Chairs, Chancellor of NCSU G.S. 143-215.8D	Annually (Jan 30)	Jan 02 oral 2/21/02 Present to SAENR 6/04

Water Resources Research Institute	Report To/ Authority	Report Due	Status*
Modeling and Monitoring of the Neuse River - Final report	ERC S.L. 2005-386, Sec. 2.3	1 November 2005	

Yadkin/Pee-Dee River Basin Advisory Commission	Report To/ Authority	Report Due	Status*
Annual report, including any recommendations.	Governor of NC, ERC, Governor of SC, SC General Assembly G.S. 77-117	Annually (1 Oct)	

water quality - ground

DENR	Report To/ Authority	Report Due	Status*
impiementation of Pay for Performance Program (in UST report)	ERC SL 2001-442, SL 2003-340, Sec. 2	Annually 1 Sept (ending Oct 1, 2006)	21 Mar 2002 16 Jan 2003 Mar 04 oral 5/05/04 Jan 05 1/13/05 Oct 06 oral 10/9/06

DENR (Secretary)	Report To/ Authority	Report Due	Status*
Contamination, site, and fiscal information related to the Dry-Cleaning Solvent Cleanup Act of 1997	ERC GS 143-215.104U	Annually (Oct 1)	Jan 02 oral 2/21/02 Dec 03 distrib 3/25/04 Sep 04 distrib 10/25/04 Jan 06 oral 4/11/06 Nov 06 distrib 11/15/06

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Leaking Petroleum Underground Storage Tank Cleanup Program	ERC GS 143-215.94M SL 2002-148(Sec. 7)	Annually (1 Sept)	Jan 03 oral 1/16/03 Jan 04 oral 4/22/04 Oct 04 oral 10/21/04 (no written) Oct 06 oral 10/9/06 (no written)

DENR (Secretary) and Commissioner of Agriculture	Report To/ Authority	Report Due	Status*
Results of study and progress in developing a coordinated regional approach to the phaseout of MTBE as an additive to motor fuel	ERC S.L. 2005-93, Sec. 4	Interim 1 March 06 Final 1 March 07	Mar 06 distrib 3/8/06

water quantity

DENR	Report To/ Authority	Report Due	Status*
Evaluate water conservation measures being implemented in the State and identify incentive programs and other voluntary programs that can help foster water conservation and reuse.	ERC, EMC SL 2002-167, Sec. 5; SL 2004-195, Sec. 4	Interim 15 Mar 03 Final 15 Feb 04	25 Aug 03 oral 3/25/04

DENR (Division of Water Resources)	Report To/ Authority	Report Due	Status*
Implementation of State Water Supply Plan	ERC, Gov Ops GS 143-355(n)	Annually (Sep 1)	Sep 03 oral 2/24/04 Nov 04 oral 11/19/04 Nov 05 oral 11/22/05 Oct 06 oral 10/9/06

Drought Management Advisory Council	Report To/ Authority	Report Due	Status*
Shall report on implementation of act; include review of drought advisories issued by the Council and any recommendations to improve coordination among local, State, and federal agencies; public water systems; and water users	Secretary of ENR, Governor, and ERC G.S. 143 355.1(g); S.L. 2004-195, Sec. 2.5	Annually (beginning 1 Oct 05)	Oct 05 oral 11/22/05 Oct 2006 oral 10/9/06

wetlands

DENR	Report To/ Authority	Report Due	Status*
Implementation of Ecosystem Enhancement Program and use of Ecosystem Enhancement Fund, including inventory of property and easements	ERC GS 143-214.13	Annually (Nov 1)	Dec 01 oral 01/30/02 Jan 03 oral 1/28/03 Dec 03 oral 5/5/04 Jan 04 oral 01/20/05 Dec 05 oral 12/20/05 Dec 06 oral 12/13/06

* "oral" indicates oral report was given to ERC or S+A; "mail" indicates the report was mailed to members; "in" indicates that the report has been received but not yet distributed.

EXHIBIT E

NORTH CAROLINA GENERAL ASSEMBLY

Report on the study of the merger of the Ecological Enhancement Program and the Clean Water Management Trust Fund

REQUEST FOR PROPOSALS

November 21, 2006

Proposals subject to the conditions made a part hereof will be received until **5:00 p.m. EST December 22, 2006** for furnishing services described herein. Send all proposals to the following:

Lisa Hollowell
Fiscal Research Division
General Assembly of North Carolina
Room 619 Legislative Office Building
300 N. Salisbury St.
Raleigh, NC, 27603
Phone: 919-733-4910

Email: lisah@ncleg.net

Questions about the RFP should be sent by email to Ms. Hollowell.

NOTE: Indicate firm name on the front of each sealed proposal envelope or package.

Introduction

The Joint Legislative Transportation Oversight Committee (JLTOC) of the North Carolina General Assembly and the Environmental Review Commission (ERC) of the North Carolina General Assembly are seeking a consultant to study the merger of the organization and functions of the Ecological Enhancement Program (EEP) and the Clean Water Management Trust Fund (CWMTF).

Section 16 of Part XVI of Session Law 2006-248, House Bill 1723, directs the ERC and JLTOC to jointly study the merger of the organization and functions of the two programs.

> **PART XVI. MERGER OF ECOLOGICAL ENHANCEMENT PROGRAM AND THE CLEAN WATER MANAGEMENT TRUST FUND (Jenkins)**
>
> **SECTION 16.** The Environmental Review Commission and the Joint Legislative Transportation Oversight Committee shall jointly study the merger of the organization and functions of the Ecological Enhancement Program with the Clean Water Management Trust Fund. The Commission and the Committee may hire consultants to assist with the study. The final report shall be made to the 2007 General Assembly.

Ecosystem Enhancement Program

In 2003, the United States Army Corps of Engineers (USACE), North Carolina Department of Transportation (NCDOT) and North Carolina Department of Environment and Natural Resources (NCDENR) signed a memorandum of agreement (MOA) that created the Ecosystem Enhancement Program (EEP). The agreement created procedures and guidelines for providing the compensatory mitigation to offset impacts to waters and wetlands due to transportation activities and construction. The MOA provided for the incorporation of the Wetlands Restoration Program (WRP), which had been established by State law in 1996 to provide the compensatory mitigation required by the section 404 permit issued by the USACE for land development impacting wetlands, into the EEP. The MOA also provided that the WRP would be renamed as the EEP, which was confirmed by the enactment of conforming legislation in 2005.

Clean Water Management Trust Fund

The Clean Water Management Trust Fund (CWMTF) is a non-regulatory agency that administers a water quality grants program. The grant funds are awarded to local governments, State agencies, nonprofit conservation organizations, and other subdivisions of the State and may be used to acquire conservation easements or fee simple ownership of land in order to "preserve riparian buffers, wetlands, floodplains, and greenways; to restore riparian buffers, streams and wetlands; to repair failing wastewater collection and

treatment systems; to eliminate failing septic tanks and straight pipes, to prevent, reduce, collect and treat stormwater pollution and to plan water quality projects". (*Annual Report 2005, The North Carolina Clean Water Management Trust Fund*)

A brief history of the CWMFT follows:
In 1996 the General Assembly created the Clean Water Management Trust Fund with a prescribed mission to "clean up pollution in the State's surface waters and to protect and conserve those waters that are not yet polluted" (GS 113A-251). The General Assembly provided a dedicated and recurring funding source and required a Board of Trustees, Executive Director and staff. The Board of Trustees was empowered to establish a grant funding program to advance the mission. Since 1996, the CWMTF Board has approved over $595.8 million in grants for projects which have leveraged significant additional funds in private and other public funding.

During the 2005-2006 biennium the General Assembly appropriated recurring funding of $100 million for each year of the biennium for the grant program. During 2005, the CWMFT Board of Trustees approved funding for 159 projects for a total amount of $112.7 million and approved an administrative budget of $1.663 million for fiscal year 2006.

Scope of Study

1. The study will fully analyze, describe, and compare the organizational structures, missions, and budgets (both administrative and programmatic) of the EEP and the CWMTF. The comparison will identify whether there have been land purchases that may be utilized in both mitigation for North Carolina Department of Transportation projects and aid in cleaning up pollution in waters or preventing waters from becoming polluted. The consultant will analyze and may recommend whether to combine some or all of the activities of the two programs into one organization.

The Consultant shall provide the following detailed information on the EEP:

- Full description of the mitigation process including: selection of target areas, acquisition of land, crediting of land, use of the land, banking of surplus or unused credits. Describe how the EEP approach differs from the past approach when NCDOT handled mitigation within the agency. Describe the guidelines and requirements of the USACE and relate how these guidelines impact the policies established within EEP.
- Inventory the acquisitions and credits and restored or preserved lands accrued to date and describe how these acquisitions and credits have been assigned to projects and the process by which they may be reassigned or re-categorized for future projects. Include in a separate inventory the NCDOT transferred land credits and assigned projects.
- Detail the process for valuing the credits and restored acres assigned to projects in the near future and the surplus credits. Calculate the value of the credits currently in inventory with EEP. Identify options for the State

regarding the surplus land acquisitions that is not needed in the near future for mitigation purposes.

- The consultant shall identify best practices for mitigation processes and provide examples from other states.

II. The consultant will conduct a mitigation banking analysis that compares the relative effectiveness, efficiency, and total cost of the State's mitigation program to that of private mitigation banks. The consultant shall identify the State's processes and private sector processes of mitigation including Design, Bid, Build (EDP) and Full Delivery Procurement (EDP). The consultant will review current State policies with respect to the activities that private mitigation banks may undertake with respect to the services that private mitigation banks provide. The consultant will make recommendations for future mitigation banking policies as a result of the analysis.

III. The consultant will provide (1) alternative options to the merger of the programs into one entity, and (2) detail other collaborative arrangements that could exist in lieu of a complete merger and (3) identify other ways in which to provide mitigation in a more cost-effective way.

IV. The consultant will review and analyze pending and likely changes at the Federal level that may impact the State's programs.

V. The consultant will create an implementation schedule with timeline on any consultant-recommended options including projected budgets.

Qualifications

Potential vendors submitting proposals must demonstrate their knowledge of states' environmental preservation and mitigation processes, federal government environmental regulations related to highway/road building and construction, and demonstrated capability to produce clear, well-written reports by providing examples of completed projects.

Project Timeframe

The schedule is listed below:

Activity	Date
RFP Distributed	November 21, 2006
Proposals from Vendors Due	December 22, 2006
Award Contract	January 10, 2007
Sign Contract/Begin Work	January 22, 2007
Final Report	The consultant will propose a delivery date not to exceed 20 weeks.

Reports

The consultant will deliver up to four legislative presentations. The consultant will provide interim written reports and the final report will include an electronic version and 100 hardcopy reports.

Required Contents for Proposal

The response to this request for proposals shall consist of the following sections:

a) Executive Summary
   The executive summary shall consist of a brief summary of the contents of the proposal.

b) Corporate Background and Experience
   This section shall include:
   1) Background information on the organization and details of experiences with similar projects.
   2) A list of at least three references, including contacts and telephone numbers, for whom similar work has been performed.
   3) Samples of work products.

c) Financial Statement
   The vendor's most recent financial statement or similar evidence of financial stability.

d) Project Staffing and Organization
   This section shall include:
   1) Proposed staffing, deployment and organization of personnel to be assigned to this project.
   2) The vendor shall include resumes of key personnel who will actually be assigned to the project, describing experience with similar projects and the responsibilities to be assigned to each person.
   3) How the study will be planned, organized and conducted.

e) Technical Proposal
   This section shall include, in narrative, outline or graph form, the vendor's approach to accomplishing the tasks outlined in the project description section of this RFP. A description of each task and the schedule for accomplishing each shall be included.

f) Cost Proposal
   The cost proposal must contain the following information:
   1) Personnel costs (including hourly rates and total hours)
   2) Travel and subsistence expenses
   3) Office space, telephone, and other support needs, if any, anticipated from the General Assembly
   4) Subvendor costs (if any)
   5) Other costs
   6) Total cost for completing the project
   7) Rates for additional analyses requested during the project period

Proposal Submittal Process

a) Two original and 10 copies of the proposal plus electronic copy, PDF preferred.
b) Each original shall be signed and dated by an official authorized to bind the firm.

Vendor Selection Process

The selection of the vendor will be determined by a "Best Value" methodology, with key factors to be considered to include experience of the vendor and its consultants with related projects and price.

General Conditions Related to Submittal of Proposals

Right to Reject

The Joint Legislative Transportation Oversight Committee (hereinafter "Committee") reserves the unqualified right to reject any and all proposals when such rejection is deemed to be in the best interest of the State of North Carolina.

Right to Accept Part of Proposal, Negotiate Content and Cost

The Committee reserves the right to accept part of any proposal, and to divide any proposal into parts deliverable in stages over an extended time period. The Committee reserves the right to negotiate and alter the content, form, schedule, and deliverables of any proposal or portion of a proposal accepted. The Committee reserves the right to negotiate the cost of any proposal or portion of a proposal accepted.

Time for Acceptance

Each proposal shall state that it is a firm offer that may be accepted within a period of 30 days from the date of submission.

Unsolicited Proposal Changes

Any unsolicited change to a proposal that is received after the closing date of this RFP will be rejected.

Responsibility to Make Timely Submission

The vendor is responsible for assuring the timely delivery of a proposal. Late proposals will be rejected without review.

Cost for Proposal Preparation

Any costs incurred by vendors in preparing or submitting offers are the vendor's sole responsibility; the Committee will not reimburse any vendor for any costs incurred prior to award.

Elaborate Proposals

Elaborate proposals in the form of brochures or other presentations beyond that necessary to present a complete and effective proposal are not desired. Vendors are encouraged to limit proposals to approximately 10 pages or less (not including examples of work products).

Oral Explanations

The Committee shall not be bound by oral explanations or instructions given at any time during the competitive process or after award.

Confidentiality of Proposals

In submitting its proposal the vendor agrees not to discuss or otherwise reveal the contents of the proposal to any source outside of the Committee or its Legislative Services Office staff until after the award of the contract.

Form of Proposal

Proposals shall be submitted in a form that, in the opinion of the Committee, may be incorporated verbatim into a contract.

Exception to Terms

Any exception, interpretation, or suggestion for clarification by the vendor to any of the terms and conditions of this RFP must be clearly stated by the vendor.

Competitive Offer

Pursuant to the provision of G.S. 143-54, and under penalty of perjury, the signer of any proposal submitted in response to this RFP thereby certifies that this proposal has not been arrived at collusively or otherwise in violation of either Federal or North Carolina antitrust laws.

Right to Submitted Materials

All responses, inquiries, and correspondence relating to or in reference to this RFP shall become the property of the State of North Carolina when received.

Vendor's Representative

Each vendor shall submit with its proposal the name, address, telephone number, and email address of the person(s) with authority to bind the firm and answer questions or provide clarification concerning the vendor's proposal.

Proprietary Information

All vendors' information submitted in the proposal has the potential to become public information. Vendors are cautioned that any proprietary information contained in the proposal may not be protected as confidential and should not be submitted in response to this RFP.

Terms and Conditions of Resulting Contract

The following are terms and conditions that will be included in the contract for conducting the project. Other terms and conditions may be added prior to the signing of the contract.

Vendor

The contract is between the Joint Legislative Transportation Oversight Committee (subject to the approval of the Legislative Services Commission) and the selected vendor (hereinafter referred to as "Vendor").

Governing Law

This contract is made under and shall be governed and construed in accordance with the laws of the State of North Carolina.

Situs

The place of this contract, its situs and forum, shall be Raleigh, North Carolina, where all matters, whether sounding in contract or tort, relating to its validity, construction, interpretation and enforcement shall be determined.

Contract Period

The terms of the contract shall begin at its signing and shall end twelve weeks after contract signing, unless extended or terminated as provided in this document.

Termination

Upon mutual written agreement of the Committee and the Vendor, the contract may be terminated at any time. Failure to perform by the Vendor may result in termination by the Committee. In addition, the Committee has the right to terminate the contract at its discretion with 10 days written notice. In the event of termination, the Vendor will be paid an amount commensurate with work completed.

Independent Vendor

The Vendor shall be considered to be an independent vendor and as such shall be wholly responsible for the work to be performed and for the supervision of its employees. The Vendor represents that it has, or will secure at its own expense, all personnel required in performing the services under this agreement. Such employees shall not be employees of, or have any individual contractual relationship with the Committee or the Legislative Services Office.

Key Personnel

The Vendor shall not substitute key personnel assigned to the performance of this contract without prior written approval by the Committee. The individuals designated as key personnel for purposes of this contract are those specified in the Vendor's proposal.

Subcontracting

Work proposed to be performed under this contract by the Vendor or its employees shall not be subcontracted without prior written approval of the Committee.

Performance and Default

If, through any cause, the Vendor shall fail to fulfill in timely and proper manner the obligations under this agreement, the Committee shall thereupon have the right to terminate this contract by giving written notice to the Vendor and specifying the effective date thereof. In that event, all finished or unfinished deliverable items under this contract prepared by the Vendor shall, at the option

of the Committee, become its property, and the Vendor shall be entitled to receive just and equitable compensation for any satisfactory work completed on such materials. Notwithstanding, the Vendor shall not be relieved of liability to the Committee for damages sustained by the Committee by virtue of any breach of this agreement, and the Committee may withhold any payment due the Vendor for the purpose of setoff until such time as the exact amount of damages due the Committee from such breach can be determined. In case of default by the Vendor, the Committee may procure the services from other sources and hold the Vendor responsible for any excess cost occasioned thereby. Neither party shall be deemed to be in default of its obligations hereunder if and so long as it is prevented from performing such obligations by any act of war, hostile foreign action, nuclear explosion, riot, strikes, civil insurrection, earthquake, hurricane, tornado or other catastrophic natural event or act of God.

Bankruptcy

Upon the filing for bankruptcy or insolvency by or against the vendor, the Committee may terminate the contract, and the provisions of paragraph entitled "Performance and Default" shall apply.

Performance Bond

The Committee may require either a performance bond up to the full amount of the contract or another performance guarantee.

Availability of Funds

Any and all payments to the Vendor are dependent upon and subject to the availability of funds to the Committee for the purpose set forth in this agreement.

Confidentiality

The vendor agrees to protect the confidentiality of any files, data, or other materials provided by the Committee and to restrict their use to the purpose of performing the contract. The vendor shall comply with the provisions of Article 17 of Chapter 120 of the North Carolina General Statutes regarding confidentiality between the vendor and members of the General Assembly.

Care of Property

The Vendor agrees that it shall be responsible for the proper custody and care of any files or other property furnished by the Committee.

Copyright

No deliverable items produced in whole or in part under this agreement shall be the subject of an application for copyright by or on behalf of the Vendor.

Access to Persons and Records

The State Auditor shall have access to persons and records as a result of all contracts or grants entered into by State agencies or political subdivisions in

accordance with General Statute 147-64.7. The Vendor shall retain all records for a period of three years following completion of the contract.

Transfer or Assignment

The contract shall not be transferred or assigned to a third party.

Compliance with Laws

The Vendor shall comply with all laws, ordinances, codes, rules, regulations and licensing requirements that are applicable to the conduct of its business, including those of federal, state, and local agencies having jurisdiction or authority.

Equal Opportunity Statement

The nondiscrimination clause contained in Section 202 Executive Order 11246, as amended by Executive Order 11375, relative to equal employment opportunity for all persons without regard to race, color, religion, sex, age or national origin, and the rules and regulations prescribed by the Secretary of Labor, are incorporated herein. The program for Employment of the Handicapped (Affirmative Action) Regulations issued by the Secretary of Labor of the United States in Title 20, Part 741, Chapter VI, Subchapter "C" of the Code of Federal Regulations, pursuant to the provisions of Executive Order 11758 and Section 503 of the Federal Rehabilitation Act of 1973, are incorporated herein.

Insurance

The Vendor shall obtain, pay for, and keep in force, for the duration of the contract, worker's compensation insurance, as required by the laws of North Carolina, covering all of the Vendor's employees engaged in any work on the project in the State.

Additional Contract Expenses

The contract for the project is not a time and materials agreement. Any expenses of the vendor in addition to those contracted for, or above the contract amount, are the sole responsibility of the Vendor.

Advertising

Vendor agrees not to use the results or existence of the contract, or the products produced pursuant to the contract as a part of any news release or commercial advertising without the prior written approval of the Committee.

ATTACHMENT A

SESSION LAW 2006-178
House Bill 2208

AN ACT TO REPEAL THE REQUIREMENT THAT CERTAIN STATUTORY CRITERIA RELATED TO GRANTS FROM THE CLEAN WATER MANAGEMENT TRUST FUND FOR WASTEWATER AND STORMWATER COLLECTION AND TREATMENT PROJECTS HAVE PRIORITY OVER CRITERIA ESTABLISHED BY THE BOARD OF TRUSTEES OF THE CLEAN WATER MANAGEMENT TRUST FUND, TO CLARIFY THE AUTHORITY OF THE BOARD OF TRUSTEES WITH RESPECT TO MATCH REQUIREMENTS IN CONNECTION WITH GRANT AWARDS, AND TO ESTABLISH TERM LIMITS FOR THE BOARD OF TRUSTEES.

The General Assembly of North Carolina enacts:

SECTION 1. G.S. 113A-254 reads as rewritten:

"**§ 113A-254. Grant requirements.**

(a) Eligible Applicants. – Any of the following are eligible to apply for a grant from the Fund for the purpose of protecting and enhancing water quality:

(1) A State agency.
(2) A local government unit.
(3) A nonprofit corporation whose primary purpose is the conservation, preservation, and restoration of our State's environmental and natural resources.

(a1) Criteria. – The criteria developed by the Trustees under G.S. 113A-256 apply to grants made under this Article. The common criteria for water projects set in G.S. 159G-23 and the criteria set out in this section also apply to wastewater collection system projects, wastewater treatment works projects, and stormwater quality projects. ~~The common criteria set in G.S. 159G-23 have priority over the criteria set under this Article for wastewater collection system projects, wastewater treatment works projects, and stormwater quality projects.~~ An application for a wastewater collection system project or a wastewater treatment works project that serves an economically distressed local government unit has priority.

(b) Matching Requirement. – The Board of Trustees shall establish matching requirements for grants awarded under this Article. ~~The Board of Trustees may require a match of up to twenty percent (20%) of the amount of the grant awarded.~~ This requirement may be satisfied by the donation of land to a public or private nonprofit conservation organization as approved by the Board of Trustees. The Board of Trustees may also waive the requirement to match a grant pursuant to guidelines adopted by the Board of Trustees.

(c) Restriction. – No grant shall be awarded under this article to satisfy compensatory mitigation requirements under 33 USC § 1344 or G.S. 143-214.11.

(d) Wastewater Limits. – A wastewater collection system project or a wastewater treatment works project is eligible for a grant under this Article only if it is a high-unit-cost project, as defined in G.S. 159G-20. A grant made under this Article for a wastewater collection system project or a wastewater treatment works project is subject to the cost limits and recipient limits set in G.S. 159G-36 for a grant awarded from the Wastewater Reserve.

(e) Stormwater Limits. – The amount of a grant awarded under this Article for a stormwater quality project may not exceed the construction costs of the project. The total amount of grants awarded under this Article to the same recipient for stormwater quality projects for a fiscal year may not exceed the limit set in G.S. 159G-36(c)(1) for grants to the same recipient from the Wastewater Reserve.

(f) Withdrawal. – An award of a grant under this Article is withdrawn if the grant recipient fails to enter into a construction contract for the project within one year after the date of the award, unless the Trustees find that the applicant has good cause for the failure. If the Trustees find good cause for a recipient's failure, the Trustees must set a date by which the recipient must take action or forfeit the grant."

SECTION 2. G.S. 113A-255 is amended by adding a new subsection to read:

"(b2) Limitation on Length of Service. – No member of the Board of Trustees shall serve more than two consecutive four-year terms or a total of 10 years."

SECTION 3. Sections 1 and 3 of this act are effective retroactively to 1 January 2006. Section 2 of this act is effective retroactively to 1 July 2006. This act shall not apply to any person who is a member of the Board of Trustees of the Clean Water Management Trust Fund on 30 June 2006.

In the General Assembly read three times and ratified this the 17th day of July, 2006.

EXHIBIT F

Questions Received Related to the RFP – Report on the study of the merger of the Ecological Enhancement Program and Clean Water Management Trust Fund

1. Does the State have an estimated level of effort for this work?

No, we are asking the consultant to estimate the level of work required to fulfill the tasks of the scope of work.

2. The RFP indicates a project timeline of up to 20 weeks in the table in the Project Timeline section, but under Contract Period section it states that the contract "shall begin at signing and shall end twelve weeks after contract signing." Which timeframe should be assumed for this work?

We are asking that the study be completed within twelve weeks after the award and signing of the contract.

3. Please clarify the meaning of the acronym EDP in Scope of Study item II.

This acronym is incorrect, please disregard.

4. In producing the 2 originals and 10 copies of the proposal, are an equal number of sample work products needed?

No you do not have to submit multiple copies of your sample work products, one complete package of your work products is sufficient.

DRAFT—FOR REVIEW ONLY

EXHIBIT G

NORTH CAROLINA GENERAL ASSEMBLY

Report on Costs Associated with Providing Nutrient Controls that are Adequate to Offset Point Source and Nonpoint Source Discharges of Nitrogen and Other Nutrients

REQUEST FOR PROPOSAL

13 December 2006

Sealed proposals subject to the conditions made a part hereof will be received until **5:00 p.m., Friday 5 January 2007,** for furnishing services described herein. Send all proposals to the following:

George F. Givens, Commission Counsel
Environmental Review Commission
General Assembly of North Carolina
545 Legislative Office Building
300 North Salisbury Street
Raleigh, North Carolina 27603
Phone: 919-733-2578

The contact persons to whom you should direct all inquiries and questions about the request for proposal are George F. Givens and Jeffrey Hudson at the above address. E-mail: georgeg@ncleg.net and jeffreyh@ncleg.net.

NOTE: Indicate firm name, "Technical Proposal" or "Cost Proposal" on the front of each sealed proposal envelope or package, along with the date for receipt of proposals specified above.

Introduction

In accordance with Section 2 of Session Law 2006-215 and pursuant to G.S. 120-70.44(c), the North Carolina Environmental Review Commission (ERC) is seeking a consultant to:

1. Estimate the length of time that the existing North Carolina Nutrient Offset Fee Payments Program (NOFPP) will be able to continue as a completely self-sustaining program capable of providing adequate mitigation for the additional nitrogen loading purchased at the current cost of $11 per pound of nitrogen.
2. Study the costs associated with providing nutrient controls that are adequate to offset point source and nonpoint source discharges of nitrogen in the Neuse River Basin.
3. Study how a total nutrient offset payment fee should be determined.
4. Provide information and outline options, including the advantages and disadvantages of each option, to assist the ERC in deciding whether nutrient offset payments should be authorized for additional nutrients, including phosphorus, and whether the NOFPP should be expanded to other river basins, including the Tar-Pamlico River Basin.
5. Evaluate the ability of public entities other than the Environmental Enhancement Program (EEP) and private entities to provide nutrient offsets.
6. Prepare a comprehensive review and discussion of the types of potential nutrient mitigation efforts available.

Qualifications

Potential vendors submitting proposals must demonstrate:

1. Knowledge of and experience with the NOFPP.
2. An ability to estimate the length of time that the existing NOFPP will be able to continue as a completely self-sustaining program capable of providing adequate mitigation for the additional nitrogen loading purchased at the current cost of $11 per pound of nitrogen.
3. An ability to determine an accurate cost per pound factor for nitrogen, phosphorus, and other nutrients from point and nonpoint sources based on the cost of providing the appropriate mitigation that is required to offset this additional nutrient loading in accordance with Session Law 2006-215, 15A NCAC 2B .0235, and 15A NCAC 2B .0240.

4. An ability to recommend how a total nutrient offset payment fee should be determined.
5. Knowledge of and experience with nutrient issues in the river basins of North Carolina.
6. Knowledge of and experience with public entities other than the EEP and private entities that are capable of providing nutrient offsets.
7. Knowledge of and experience with the types of potential nutrient mitigation efforts available.
8. The ability to produce clear, well-written, and well-illustrated reports by providing examples of completed projects.

Work Plan

The vendor shall prepare a report that will:

1. Estimate the length of time that the existing NOFPP will be able to continue as a completely self-sustaining program capable of providing adequate mitigation for the additional nitrogen loading purchased at the current cost of $11 per pound of nitrogen as authorized in Session Law 2006-215.
2. Contain a proposed cost per pound for nitrogen point and nonpoint source loading in the Neuse River Basin for potential use in the NOFPP.
3. Make specific recommendations as to how a total nutrient offset payment fee should be determined, including any formula and the specific factors that should be incorporated into the calculation of the total nutrient offset payment fee.
4. Provide information and outline options, including the advantages and disadvantages of each option, to assist the ERC in deciding whether:
   a. Nutrient offset payments should be authorized for other nutrients, including phosphorous, and present a proposed cost per pound factor for the point and nonpoint source loading from these additional nutrients.
   b. The NOFPP should be expanded to other areas of the State, including specifically the Tar-Pamlico River Basin.
5. Evaluate the ability of public entities other than the EEP and private entities to provide nutrient offsets. This evaluation shall include a determination of whether, in comparison with the EEP, other entities are able to:
   a. Provide nutrient offsets of comparable effectiveness with respect to water quality.
   b. Deliver nutrient offsets in a comparable or shorter time period.

c. Deliver nutrient offsets at a comparable or lower cost.

6. Contain a comprehensive review and discussion of the types of potential nutrient mitigation efforts available.

The vendor shall contact and consult officials from State and local government agencies, interested stakeholders, and other individuals and organizations having knowledge and information about the NOFPP, nutrient issues in the river basins of North Carolina, and nutrient offsets generally. The vendor shall specifically evaluate the analysis of costs for nutrient offsets conducted by the Department of Environment and Natural Resources that was the basis of the Environmental Management Commission's March 2006 amendments to 15A NCAC 2B .0235 and 15A NCAC 2B .0240.

The vendor shall prepare the first phase report by 16 February 2007 and shall complete the entire report, including any revisions needed in the first phase report by 1 May 2007. The vendor shall provide the contracting officer an opportunity to review the draft first phase report one week before it is due and the final report two weeks before it is due and shall take review comments into account when preparing the first phase and final reports. The report shall be prepared in both paper and electronic formats.

In addition to a proposal based on the foregoing schedule, the vendor may propose a study based on an alternate schedule that allows additional time for completion of a thorough study. Preference will be given to proposals that envision completion of a thorough study of the following issues according to the foregoing schedule or in an alternative timeframe that will ensure that the study will be useful to the 2007 Regular Session of the General Assembly:

1. Estimate the length of time that the existing North Carolina Nutrient Offset Fee Payments Program (NOFPP) will be able to continue as a completely self-sustaining program capable of providing adequate mitigation for the additional nitrogen loading purchased at the current cost of $11 per pound of nitrogen.
2. Study the costs associated with providing nutrient controls that are adequate to offset point source and nonpoint source discharges of nitrogen in the Neuse River Basin.
3. Study how a total nutrient offset payment fee should be determined.
4. Provide information and outline options, including the advantages and disadvantages of each option, to assist the ERC in deciding whether nutrient offset payments should be authorized for additional nutrients, including

phosphorus, and whether the NOFPP should be expanded to other river basins, including the Tar-Pamlico River Basin.

Report Requirements

First Phase Report

The vendor shall prepare a first phase report that includes:

1. A detailed discussion of the methodology that will be utilized by the vendor to estimate the length of time that the existing NOFPP will be able to continue as a completely self-sustaining program capable of providing adequate mitigation for the additional nitrogen loading purchased at the current cost of $11 per pound of nitrogen as authorized in Session Law 2006-215.
2. A detailed discussion of the methodology that will be utilized by the vendor to examine the costs associated with providing nutrient controls and the methods that will be employed to determine an appropriate cost per pound factor for nitrogen loading from point and nonpoint sources.
3. A detailed discussion of the methodology that will be utilized by the vendor to determine the formulation of a fee equation and the factors included in that equation.
4. A review of the methods that will be used by the vendor to assist the ERC in determining whether to include nutrients other than nitrogen and whether to expand the NOFPP into other areas of the State.
5. A review of the methods that will be used by the vendor to evaluate the ability of public entities other than the EEP and private entities to provide nutrient offsets.
6. A review of the methods that will be used by the vendor to prepare a comprehensive review and discussion of the types of potential nutrient mitigation efforts available.
7. Any preliminary findings and recommendations that the vendor determines to be appropriate.

Final report

Self-Sustainability of the Current Nutrient Offset Fee Payments Program (NOFPP)

The report shall include an estimate of the length of time that the existing NOFPP will be able to continue as a completely self-sustaining program capable of providing adequate mitigation for the additional nitrogen loading purchased at the current cost of $11 per pound of nitrogen as authorized in Session Law 2006-215.

Examination of Costs Associated with Providing Nitrogen Controls

The report must provide a thorough examination and discussion of the current costs associated with providing nutrient controls that are adequate to offset point and nonpoint source discharges of nitrogen. This examination should include a description of the types of projects that can be implemented to achieve necessary reductions and their respective costs. Because buffer restoration is one of the cost-effective approaches to achieve nutrient reductions, an analysis of the extent of buffer restoration opportunities that may be pursued to achieve reductions should also be included.

Proposed Cost per Pound of Nitrogen

The report shall propose and justify a cost per pound for nitrogen loading from point and nonpoint sources. This cost factor must be sufficient to allow the NOFPP to continue in operation for the indefinite future as a totally self-sustaining program while successfully mitigating all nitrogen loads for which payments are made into the program.

Nutrient Offset Payments for Additional Nutrients

The report shall provide information and outline options, including the advantages and disadvantages of each option, to assist the ERC in determining whether nutrient offset payments should be authorized for other nutrient loads, including phosphorus. For any additional nutrients that the report will examine for inclusion in the NOFPP, the vendor shall provide and fully justify a proposed cost per pound factor for loading from point and nonpoint sources of these additional nutrients. These proposed cost factors must be sufficient to allow the NOFPP to continue in operation for the indefinite future as a totally self-sustaining program while successfully mitigating all additional nutrient loads for which payments are made into the program.

Calculation of Total Nutrient Offset Payment Fee

In addition to the cost per pound factors for nitrogen, phosphorus, and any other nutrients that the vendor may examine for inclusion in the NOFPP, the report shall examine and provide a recommendation for the use of a comprehensive formula and the specific factors that will be included in that formula for the calculation of the total nutrient offset payment fee for each option that will be required for nutrient loadings to meet the objectives of the NOFPP. Examples of specific factors that may be considered for inclusion in a comprehensive fee formula might include, but are not limited to:

- **Annual Adjustment Factor:** A factor that may be applied on an annual basis to automatically adjust the cost per pound nutrient factors in order to ensure that these cost factors keep pace with inflation.

- **Land Cost Factor:** A factor that may be included in the total fee equation in order to allow for the incorporation of land costs in the final fee calculation. This factor may be deemed necessary in order to establish a spatial relationship between additional nutrient loading and the mitigation needed to offset that loading.

- **Maintenance Factor:** A factor that may allow the EEP or other State agency tasked with the monitoring and maintenance of mitigation projects to recoup their costs associated with monitoring and maintenance.

- **Administrative Costs Factor:** A factor that may allow the EEP or other State agency, tasked with providing the mitigation funded by the NOFPP to recoup their administrative costs associated with the management of the program.

Regardless of the specific factors included in the calculation of the total nutrient offset payment fee, the vendor must provide the documentation necessary to demonstrate that the proposed total fee calculation method will be sufficient to allow the NOFPP to continue in operation for the indefinite future as a totally self-sustaining program while successfully mitigating all additional nutrient loads for which payments are made into the program.

Expansion to Other Geographic Areas of the State

The report shall provide information and outline options, including the advantages and disadvantages of each option, to assist the ERC in determining whether the

NOFPP should be expanded to other areas of the State beyond the Neuse River Basin. The report shall specifically address the expansion of the NOFPP to the Tar-Pamlico River Basin for nitrogen and phosphorus. The vendor shall provide information necessary for the ERC to determine whether to expand the NOFPP to other areas of the State beyond the Neuse River Basin.

Evaluation of Other Nutrient Offset Providers

The report shall evaluate the ability of public entities other than the EEP and private entities to provide nutrient offsets. This evaluation shall include a determination of whether, in comparison with the EEP, other entities are able to:

a. Provide nutrient offsets of comparable effectiveness with respect to water quality.
b. Deliver nutrient offsets in a comparable or shorter time period.
c. Deliver nutrient offsets at a comparable or lower cost.

Types of Mitigation

The report shall contain a comprehensive review and discussion of the types of nutrient mitigation that would adequately protect water quality that could be provided using the fees and cost factors recommended in the report. The report shall include:

1. Figures regarding the design, construction, and 30-year monitoring and maintenance costs of the types of nutrient mitigation.
2. Details regarding the nutrient removal rate for each type of nutrient mitigation that is discussed.
3. An analysis of the availability of the types of mitigation identified in order to ensure the long-term sustainability of the NOFPP.
4. A discussion of the adequacy and effectiveness of each type of nutrient mitigation in achieving reductions in nutrient loading and protecting water quality.

Meetings with Affected Stakeholders

Under the auspices of the Commission Counsel, the vendor will be required to periodically consult with and brief the stakeholders that are affected by, or interested in, this process in order to gather input from these affected parties. In

addition, the vendor may be required to present the First Phase Report, the Final Report, or both to the stakeholder group.

Presentations

The vendor may be required to present a final report to the ERC. The vendor may also be expected to give several presentations of the final report to various other legislative committees.

Project Timeframe

The schedule is listed below:

Activity	Date
Request for Proposals Distributed	15 December 2006
Proposals from Vendors Due	5 January 2007
Award Contract	19 January 2006
First Phase Report	16 February 2007
Final Report	1 May 2007

In addition to a proposal based on the foregoing schedule, the vendor may propose a study based on an alternate schedule that allows additional time for completion of a thorough study. Preference will be given to proposals that envision completion of a thorough study of the following issues according to the foregoing schedule or in an alternative timeframe that will ensure that the study will be useful to the 2007 Regular Session of the General Assembly:

1. Estimate the length of time that the existing North Carolina Nutrient Offset Fee Payments Program (NOFPP) will be able to continue as a completely self-sustaining program capable of providing adequate mitigation for the additional nitrogen loading purchased at the current cost of $11 per pound of nitrogen.
2. Study the costs associated with providing nutrient controls that are adequate to offset point source and nonpoint source discharges of nitrogen in the Neuse River Basin.
3. Study how a total nutrient offset payment fee should be determined.
4. Provide information and outline options, including the advantages and disadvantages of each option, to assist the ERC in deciding whether nutrient offset payments should be authorized for additional nutrients, including

phosphorus, and whether the NOFPP should be expanded to other river basins, including the Tar-Pamlico River Basin.

Required Contents for Proposal

Please limit the proposal to approximately 10 pages, excluding examples of prior work.

The response to this request for proposals shall consist of the following sections:

(a) Executive Summary – The Executive Summary shall consist of a brief summary of the contents of the proposal.

(b) Corporate Background and Experience – This section shall include:
- (1) Background information on the vendor's organization and details of vendor's experiences with similar projects.
- (2) A list of at least three references, including contact persons and telephone numbers, for whom the vendor has performed similar work.
- (3) Examples of previous work performed.

(c) Financial Statement – The vendor's most recent financial statement or similar evidence of financial stability.

(d) Project Staffing and Organization – This section shall include:
- (1) Proposed staffing, deployment, and organization of personnel to be assigned to this project.
- (2) Resumes of key personnel who will actually be assigned to the project, describing experience with similar projects and the responsibilities assigned to each person.
- (3) A description of how the study will be planned, organized, and conducted.

(e) Technical Proposal – This section shall include, in narrative, outline, or graphical form, the vendor's approach to accomplishment of the tasks outlined in the project description section of this request for proposals. This section shall include a description of each task and a schedule for completion of each task.

(f) Cost Proposal – The cost proposal must be submitted in a separate sealed package and must contain the following information:

(1) Personnel costs, including hourly rates and total hours.
(2) Travel and subsistence expenses.
(3) Fixed, overhead, support, or administrative costs, if any.
(4) Sub-vendor costs, if any.
(5) Other costs.
(6) Total cost for completion of the project.
(7) Rates for any additional analysis that may be requested during the project period.

Proposal Submittal Process

1. The vendor shall submit two original and 10 copies of both the technical proposal and cost proposal, in separate sealed packages.

2. Each original shall be signed and dated by an official authorized to bind the firm.

Vendor Selection Process

The selection of the vendor shall be determined by a "Best Value" methodology, with key factors to be considered to include experience of the vendor and its consultants with related projects and price.

General Conditions Related to Submittal of Proposals

1. Right to Reject
The ERC reserves the unqualified right to reject any and all proposals when such rejection is deemed to be in the best interest of the State of North Carolina.

2. Right to Accept Part of Proposal, Negotiate Content and Cost
The ERC reserves the right to accept part of any proposal, and to divide any proposal into parts deliverable in stages over an extended time period. The ERC reserves the right to negotiate and alter the content, form, schedule, and

deliverables of any proposal or portion of a proposal accepted. The ERC reserves the right to negotiate the cost of any proposal or portion of a proposal accepted.

3. **Time for Acceptance**
Each proposal shall state that it is a firm offer that may be accepted within a period of 30 days from the date of submission.

4. **Unsolicited Proposal Changes**
Any unsolicited change to a proposal that is received after the closing date of this request for proposal will be rejected.

5. **Responsibility to Make Timely Submission**
The vendor is responsible for assuring the timely delivery of a proposal. Late proposals will be rejected without review.

6. **Cost for Proposal Preparation**
Any costs incurred by vendors in preparing or submitting offers are the vendor's sole responsibility. The ERC will not reimburse any vendor for any costs incurred prior to award.

7. **Elaborate Proposals**
Elaborate proposals in the form of brochures or other presentations beyond that necessary to present a complete and effective proposal are not desired. Vendors are encouraged to limit proposals to approximately 10 pages excluding examples of prior work.

8. **Oral Explanations**
The ERC shall not be bound by oral explanations or instructions given at any time during the competitive process or after award.

9. **Confidentiality of Proposals**
In submitting its proposal the vendor agrees not to discuss or otherwise reveal the contents of the proposal to any source outside of the ERC or its Legislative Services Office staff until after the award of the contract.

10. **Form of Proposal**
Proposals shall be submitted in a form that may be incorporated verbatim into a contract.

11. Exception to Terms

Any exception, interpretation, or suggestion for clarification by the vendor to any of the terms and conditions of this request for proposals must be clearly stated by the vendor.

12. Competitive Offer

Pursuant to the provision of G.S. 143-54, and under penalty of perjury, the signer of any proposal submitted in response to this request for proposals thereby certifies that this proposal has not been arrived at collusively or otherwise in violation of either federal or North Carolina antitrust laws.

13. Rights to Submitted Proposals

All responses, inquiries, and correspondence relating to or in reference to this RFP shall become the property of the State of North Carolina when received.

14. Vendor's Representative

Each vendor shall submit with its proposal the name, address, and telephone number of the person(s) with authority to bind the firm and answer questions or provide clarification concerning the vendor's proposal.

15. Proprietary Information

All vendors' information submitted in the proposal has the potential to become public information. Vendors are cautioned that any proprietary information contained in the proposal may not be protected as confidential and should not be submitted in response to this request for proposals.

Terms and Conditions of Resulting Contract

The following are terms and conditions that will be included in the contract for conducting the project. Other terms and conditions may be added before the contract is signed.

1. Vendor

The contract is between the ERC, subject to the approval of the Legislative Services Commission (Commission), and the selected vendor (Vendor).

2. **Contract Period**
The terms of the contract shall begin at its signing and shall end on or before 1 June 2007, unless extended or terminated as provided in this document.

3. **Availability of Funds**
Any and all payments to the Vendor are dependent upon and subject to the availability of funds to the ERC or the Commission for the purpose set out in this agreement.

4. **Additional Contract Expenses**
The contract for the project is not a time and materials agreement. Any expenses of the vendor in addition to those contracted for, or above the contract amount, are the sole responsibility of the Vendor.

5. **Independent Vendor**
The Vendor shall be considered to be an independent vendor and as such shall be wholly responsible for the work to be performed and for the supervision of its employees. The Vendor represents that it has, or will secure at its own expense, all personnel required in performing the services under this agreement. Such employees shall not be employees of, or have any individual contractual relationship with the ERC, the Commission, or the Legislative Services Office.

6. **Key Personnel**
The Vendor shall not substitute key personnel assigned to the performance of this contract without prior written approval by the Commission. The individuals designated as key personnel for purposes of this contract are those specified in the Vendor's proposal.

7. **Subcontracting**
Work proposed to be performed under this contract by the Vendor or its employees shall not be subcontracted without prior written approval of the ERC.

8. **Confidentiality**
The Vendor agrees to protect the confidentiality of any files, data, or other materials provided by the Commission and to restrict their use to the purpose of performing the contract. The Vendor shall comply with the provisions of Article 17 of Chapter 120 of the North Carolina General Statutes regarding

confidentiality between the Vendor and members of the General Assembly. For purposes of this paragraph only, employees of the Vendor shall be considered "legislative employees" as defined in G.S. 120-129.

9. **Care of Property**
The Vendor agrees that it shall be responsible for the proper custody and care of any files or other property furnished by the Commission.

10. **Copyright**
No deliverable items produced in whole or in part under this agreement shall be the subject of an application for copyright by or on behalf of the Vendor.

11. **Access to Persons and Records**
The State Auditor shall have access to persons and records as a result of all contracts or grants entered into by State agencies or political subdivisions in accordance with General Statute 147-64.7. The Vendor shall retain all records for a period of three years following completion of the contract. To the extent that the Vendor acts on behalf of the ERC and the Commission pursuant to the contract, the Vendor shall comply with and take any action necessary to facilitate compliance by the ERC and the Commission with the provisions of Chapter 132 of the General Statutes.

12. **Transfer or Assignment**
The contract shall not be transferred or assigned to a third party.

13. **Termination**
Upon mutual written agreement of the ERC or the Commission and the Vendor, the contract may be terminated at any time. Failure to perform by the Vendor may result in termination by the ERC or the Commission. In addition, the ERC or the Commission has the right to terminate the contract at its discretion with 10 days written notice. In the event of termination, the Vendor will be paid an amount commensurate with work completed.

14. **Performance and Default**
If, through any cause, the Vendor shall fail to fulfill in timely and proper manner the obligations under this agreement, the ERC or the Commission shall thereupon have the right to terminate this contract by giving written notice to the Vendor and specifying the effective date thereof. In that event, all finished or unfinished deliverable items under this contract prepared by

the Vendor shall, at the option of the ERC or the Commission, become its property, and the Vendor shall be entitled to receive just and equitable compensation for any satisfactory work completed on such materials. Notwithstanding, the Vendor shall not be relieved of liability to the ERC or the Commission for damages sustained by the ERC or the Commission by virtue of any breach of this agreement, and the ERC or the Commission may withhold any payment due the Vendor for the purpose of setoff until such time as the exact amount of damages due the ERC or the Commission from such breach can be determined. In case of default by the Vendor, the ERC or the Commission may procure the services from other sources and hold the Vendor responsible for any excess cost occasioned thereby. Neither party shall be deemed to be in default of its obligations hereunder if and so long as it is prevented from performing such obligations by any act of war, hostile foreign action, nuclear explosion, riot, strikes, civil insurrection, earthquake, hurricane, tornado, or other catastrophic natural event or act of God.

15. Compliance with Laws

The Vendor shall comply with all laws, ordinances, codes, rules, regulations, other provisions of law, and licensing requirements that are applicable to the conduct of its business, including those of all federal, state, and local agencies that have jurisdiction or authority.

16. Equal Opportunity Statement

The nondiscrimination clause contained in Section 202 Executive Order 11246, as amended by Executive Order 11375, relative to equal employment opportunity for all persons without regard to race, color, religion, sex, age or national origin, and the rules and regulations prescribed by the Secretary of Labor, are incorporated herein. The program for Employment of the Handicapped (Affirmative Action) Regulations issued by the Secretary of Labor of the United States in Title 20, Part 741, Chapter VI, Subchapter "C" of the Code of Federal Regulations, pursuant to the provisions of Executive Order 11758 and Section 503 of the Federal Rehabilitation Act of 1973, are incorporated herein.

17. Insurance

The Vendor shall obtain, pay for, and keep in force, for the duration of the contract, worker's compensation insurance, as required by the laws of North Carolina, covering all of the Vendor's employees engaged in any work on the project in the State.

18. Bankruptcy

Upon the filing for bankruptcy or insolvency by or against the vendor, the ERC or the Commission may terminate the contract, and the provisions of paragraph entitled "Performance and Default" shall apply.

19. Performance Bond

The ERC or the Commission may require either a performance bond up to the full amount of the contract or another performance guarantee.

20. Advertising

Vendor agrees not to use the results or existence of the contract, or the products produced pursuant to the contract as a part of any news release or commercial advertising without the prior written approval of the ERC or the Commission.

21. Governing Law

This contract is made under and shall be governed and construed in accordance with the laws of the State of North Carolina.

22. Situs

The place of this contract, its situs and forum, shall be Raleigh, North Carolina, where all matters, whether sounding in contract or tort, relating to its validity, construction, interpretation, and enforcement shall be determined.

23. Schedule of Payments

The Legislative Services Office shall pay the Vendor according to the following schedule:

(a) Fifteen percent (15%) of the total cost for completion of the project within fifteen (15) days after the Vendor delivers the First Phase Report.

(b) Seventy percent (70%) of the total cost for completion of the project within fifteen (15) days after the Vendor delivers the Final Report.

(c) Fifteen percent (15%) of the total cost for completion of the project within fifteen (15) days of the end of the contract period.

The ERC shall request the Legislative Services Office to make payments to the Vendor as provided in this paragraph upon determination by the ERC that the Vendor has satisfactorily completed all work required to be completed under the foregoing schedule.

Basis for Request: Needed Supply

- Projected need in 2035 = 42.5 MGD (Ave. Day)
- Under DNER rules, new plan is required when demand = 80 percent of supply. The argument by K-C was that the 80 percent rule meant the supply was inadequate when demand = 0.8 x supply. Therefore
  0.8 x Requested Supply = 42.5
  Requested Supply = 53 MGD (Ave. Day)

Shortfall

- Requested supply = 53 MGD Avg. Day
- Existing within-basin supply = 31 MGD
- Shortfall = 22 MGD Average Day
- Max Day = 1.6 Average Day
- 36 MGD maximum day

Request

- 10 MGD max day IBT from Yadkin
- Balance to come from Catawba
  - 26 MGD max day if the IBT from Yadkin is granted
  - Otherwise, 36 MGD from Catawba

Recommended Decision presented to EMC for action in January

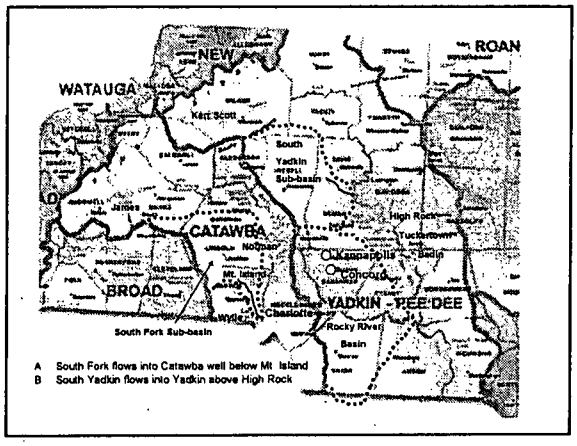
- Grant 10 MGD (max day) from Catawba via Charlotte-Mecklenburg Utilities
- Grant 10 MGD (max day) from Yadkin
- Subject to several conditions
  - Conservation policies in Catawba apply to Kannapolis-Concord
  - Changing needs in Catawba Basin
    - built in review after 20 years;
    - Capacity Use Act supercedes IBT certificate

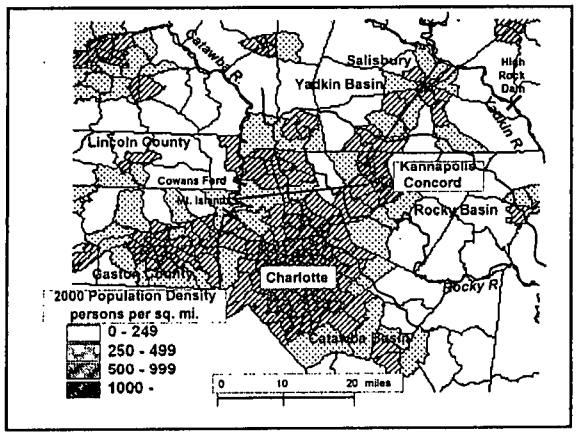
Factors Leading to Recommendation: Calculation of Shortfall

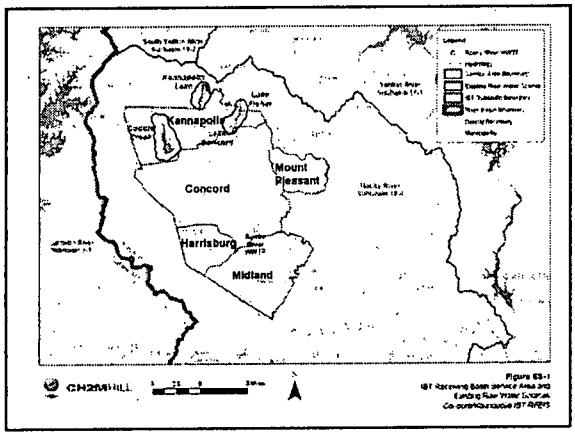
- Rejected argument based on 80 percent rule which put need at 53 MGD instead of the 42.5
- average daily need adjusted to 42.5 MGD – 31 MGD = 11.5 MGD
- Maximum day demand = 11.5 x 1.6 = 18.4 MGD

Factors Leading to Recommendation: Relative Impacts on Donor Basins

- Transfers in excess of 10 MGD begin to have impacts on Catawba (even they are not major)
- Water availability in Yadkin at High Rock approximately twice that in Catawba at Mt. Island
- Future needs (30-years hence) in all three basins are uncertain

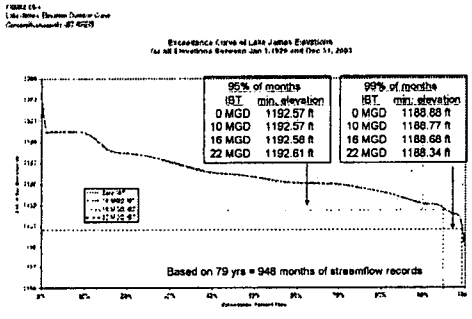

NEW
ROAN
WATAUGA
Kerr Scott
South Yadkin Sub-basin
CATAWBA
Kannapolis
Concord
BROAD
Mt. Island
YADKIN - PEE DEE
South Fork Sub-basin
Rocky River Basin
A South Fork flows into Catawba well below Mt. Island
B South Yadkin flows into Yadkin above High Rock


Catawba R.
Salisbury
Yadkin Basin
High Rock Dam
Yadkin R.
Lincoln County
Cowans Ford
Mt. Island
Kannapolis
Concord
Rocky Basin
Gaston County
Charlotte
Rocky R.
Catawba Basin
2000 Population Density
persons per sq. mi.
0 - 249
250 - 499
500 - 999
1000 -
0 10 20 miles

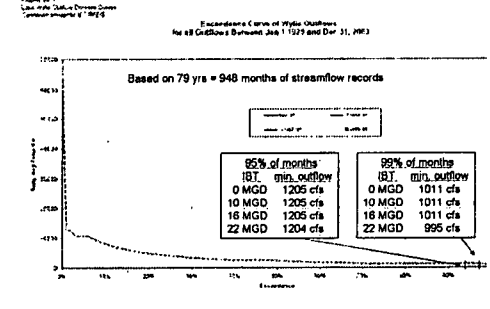

Kannapolis
Concord
Mount Pleasant
Harrisburg
Midland
CH2MHILL

IMPACT ON CATAWBA BASIN

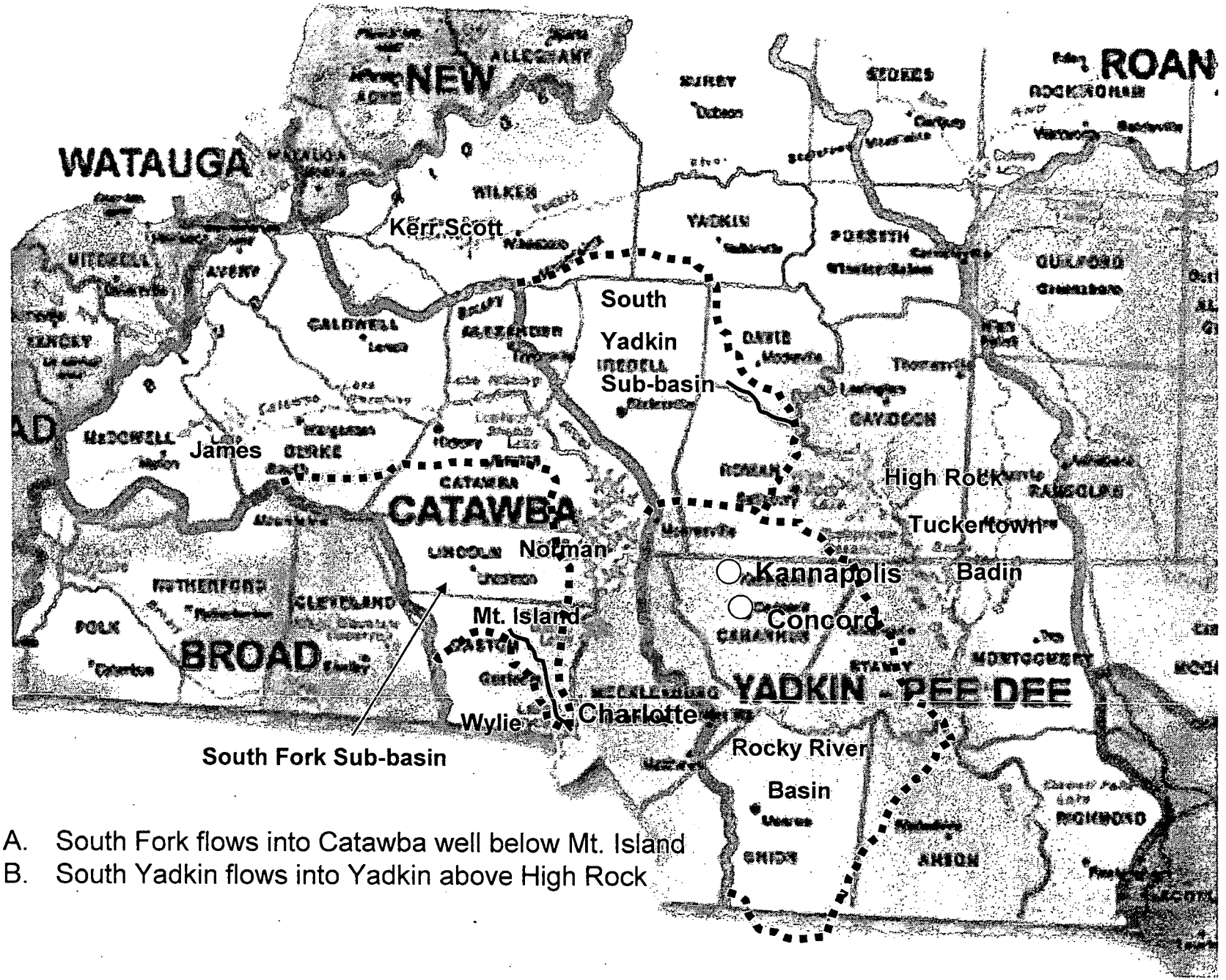
- IBT Scenarios
  (1) Zero (2) 10 MGD (3) 16 MGD (4) 22 MGD
- Summary of performance for 79 years of streamflow records with projected needs in Catawba Basin
- Worst case in record 2000-2002
- Simplified check on credibility of model



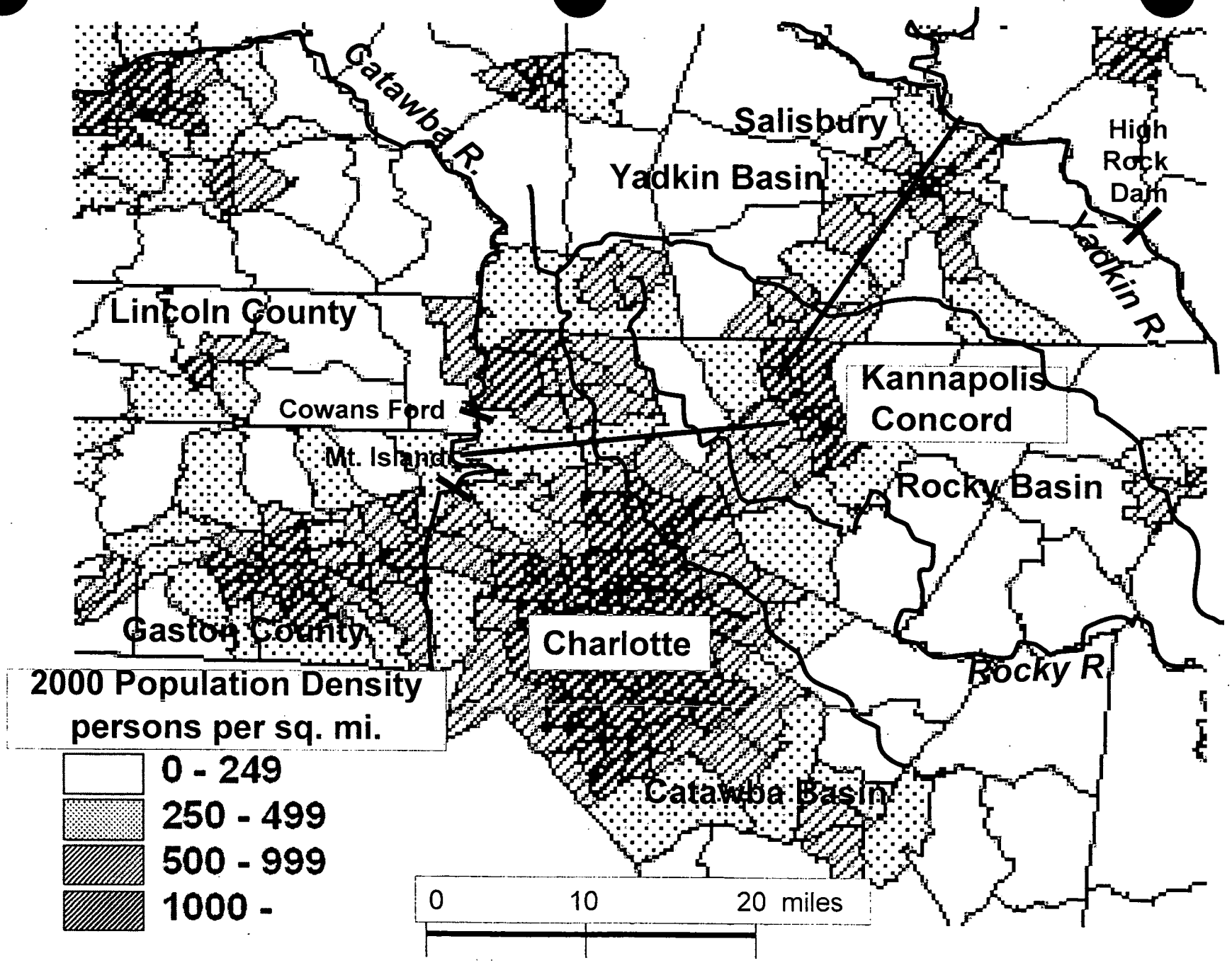
Summary of performance over 79 years of streamflow records

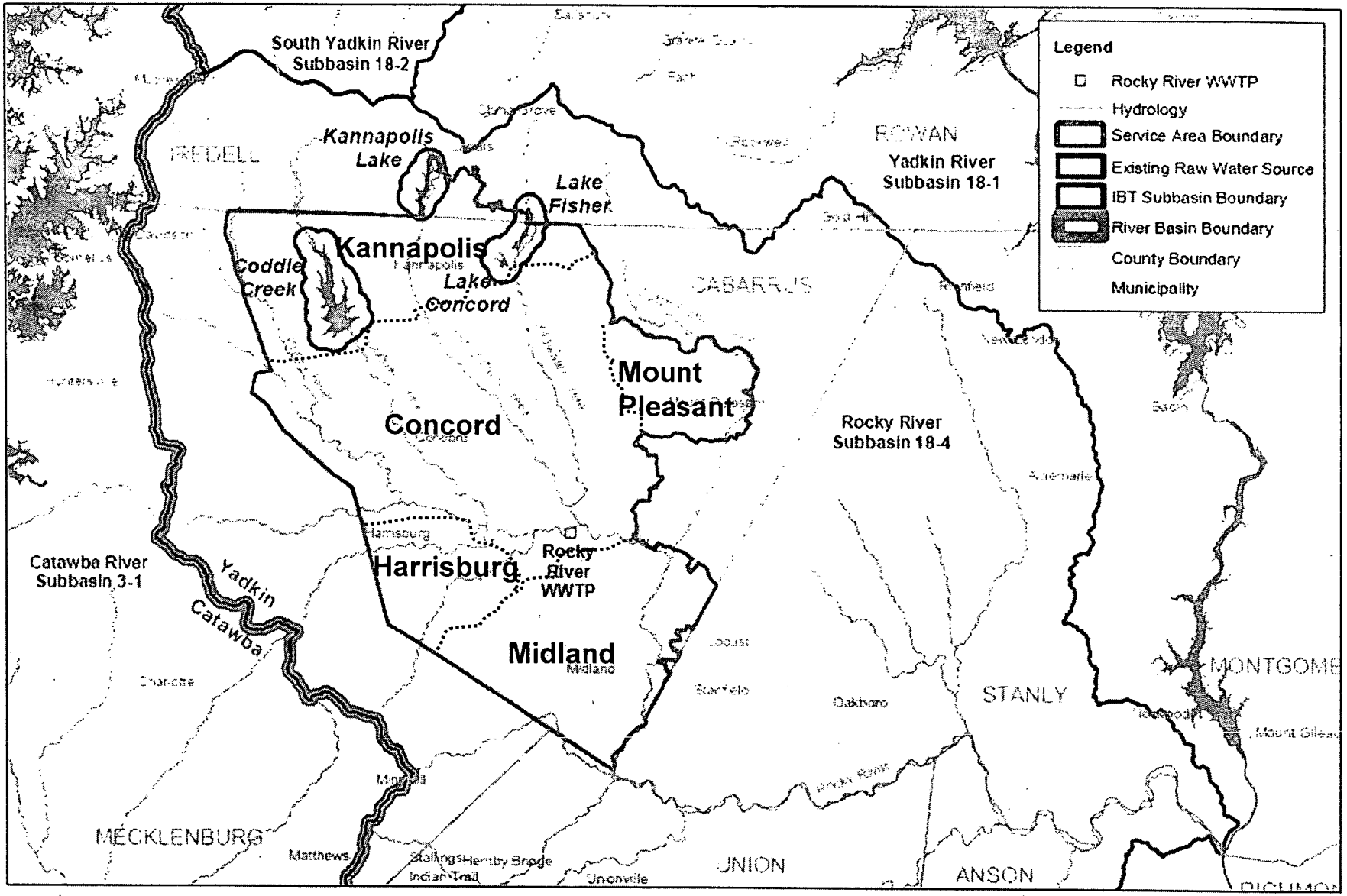


Summary of performance over 79 years of streamflow records:
Outflows from Lake Norman



A. South Fork flows into Catawba well below Mt. Island
B. South Yadkin flows into Yadkin above High Rock

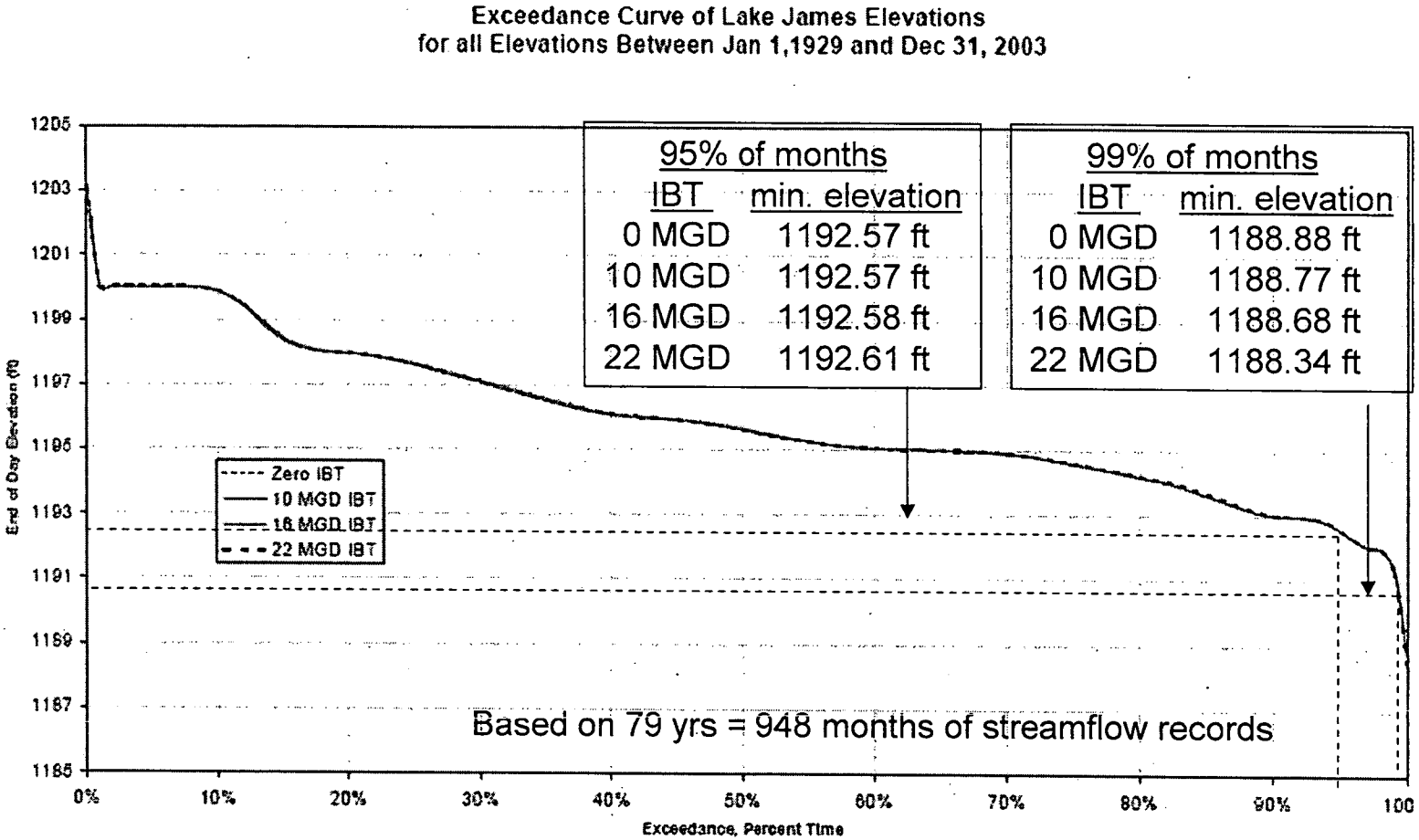

Catawba R.
Salisbury
Yadkin Basin
High Rock Dam
Yadkin R.
Lincoln County
Kannapolis
Concord
Cowans Ford
Mt. Island
Rocky Basin
Gaston County
Charlotte
Rocky R.
Catawba Basin
2000 Population Density
persons per sq. mi.
0 - 249
250 - 499
500 - 999
1000 -
0
10
20 miles



CH2MHILL

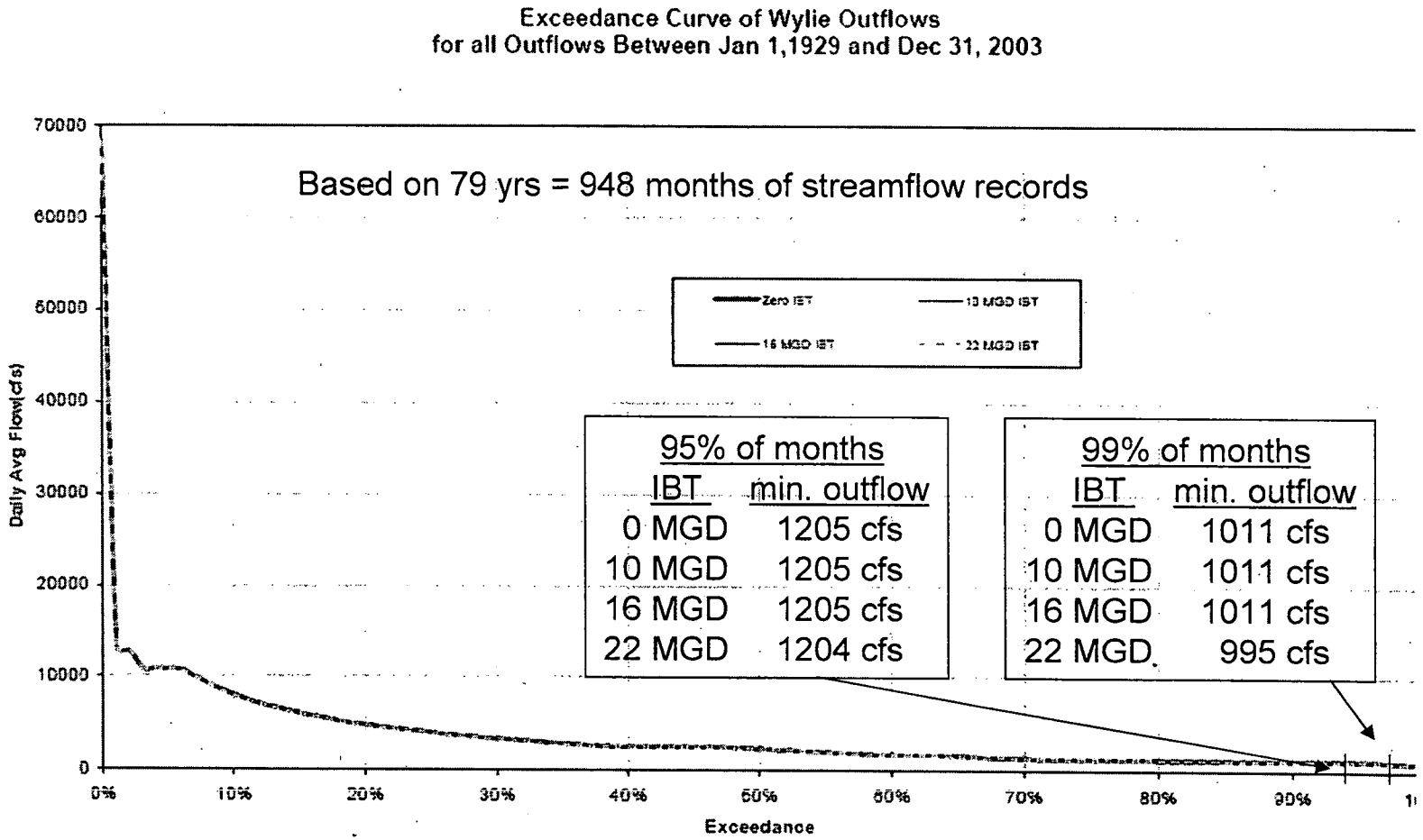
Figure ES-1
IBT Receiving Basin Service Area and Existing Raw Water Sources
Concord/Kannapolis IBT RFEIS

FIGURE ES-4
Lake James Elevation Duration Curve
Concord/Kannapolis IBT RFEIS



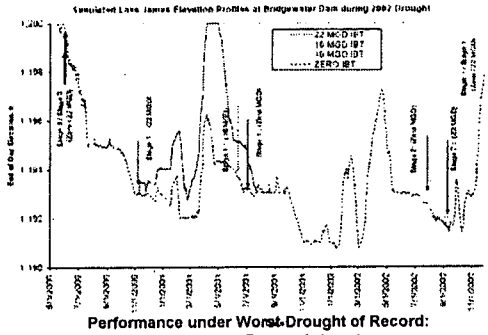
Summary of performance over 79 years of streamflow records

FIGURE ES-5
Lake Wylie Outflow Duration Curves
Concord/Kannapolis IBT RFEIS

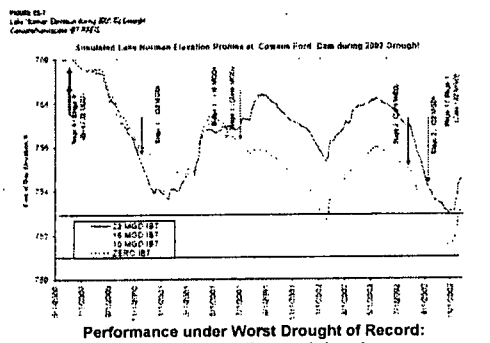


Summary of performance over 79 years of streamflow records:

Outflows from Lake Norman

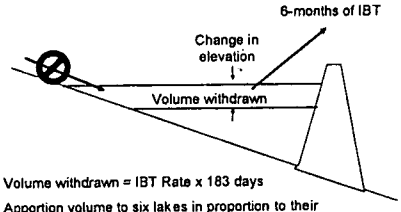


Performance under Worst Drought of Record:
Lake James Reservoir Levels



Performance under Worst Drought of Record:
Lake Norman Reservoir Levels

Simple Check –
Upper Bounds on Changes in Elevation



1) Volume withdrawn = IBT Rate x 183 days
2) Apportion volume to six lakes in proportion to their storage levels at 75 and 90 percent full.
3) Calculate change in elevation = volume withdrawn/surface area

Results

TABLE 2-14
Simple Analysis based on Stage-Storage Curves and Assumption of No Inflow
Concord/Kannapolis IBT RFETS

Reduction in Reservoir Elevations (inches) for Transfers of 10, 16, and 22 mgd

	10 mgd		16 mgd		22 mgd	
	Initial Storage Conditions					
Reservoir	90% storage	75% storage	90% storage	75% storage	90% storage	75% storage
James	2.1	2.3	2.1	3.7	4.6	5.0
Rhodhiss	1.1	1.2	1.1	1.9	2.4	2.8
Hickory	1.4	1.6	1.4	2.5	3.0	3.5
Lookout Shoals	1.3	1.3	1.3	2.1	2.8	2.9
Norman	1.4	1.7	1.4	2.4	3.1	3.4
Mountain Island	0.9	1.0	0.9	1.4	2.1	2.3

IMPACT ON YADKIN BASIN: Summary of Performance over 75 Years of Streamflow Records

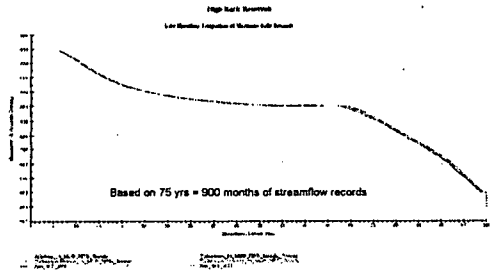
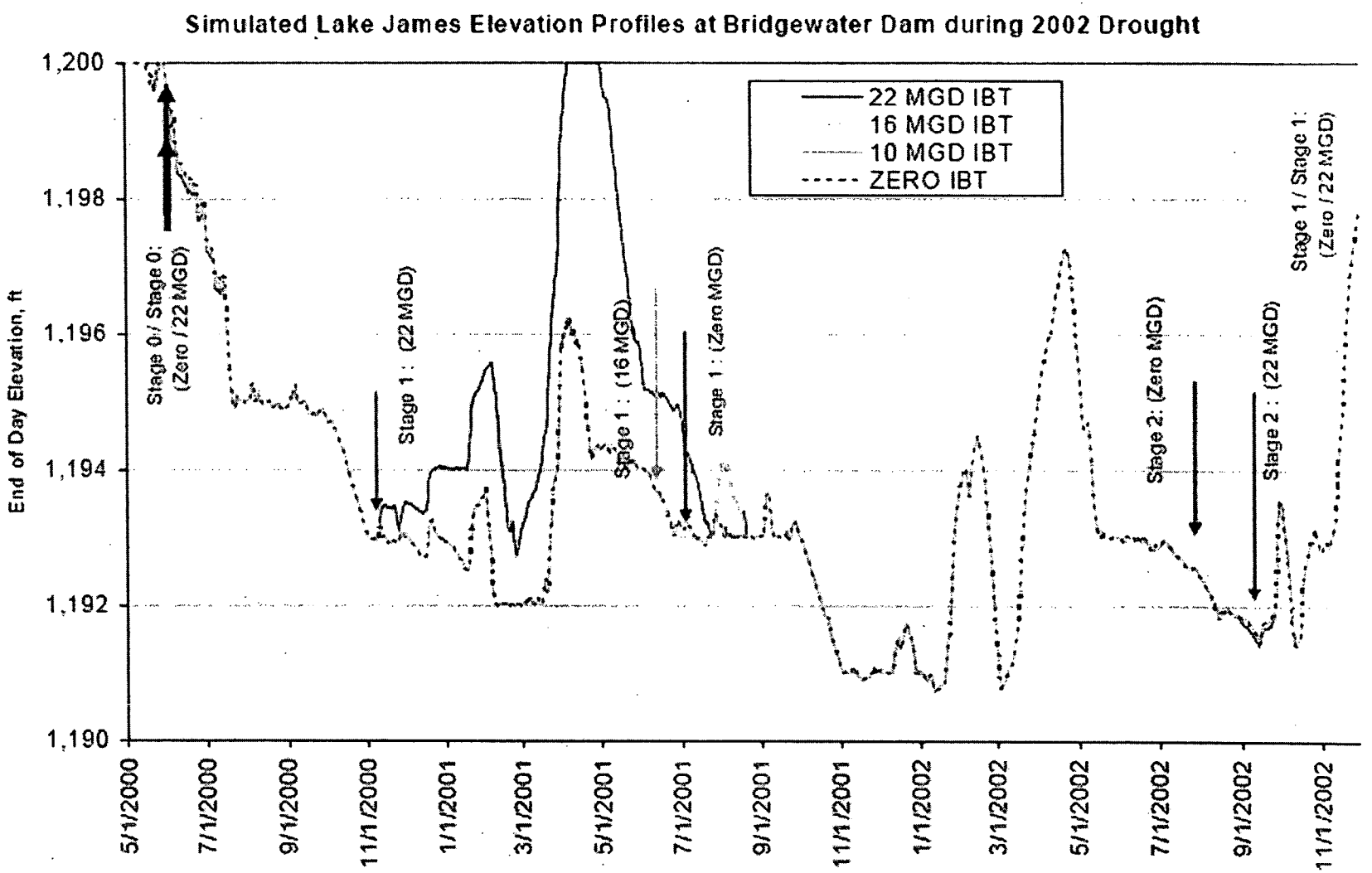
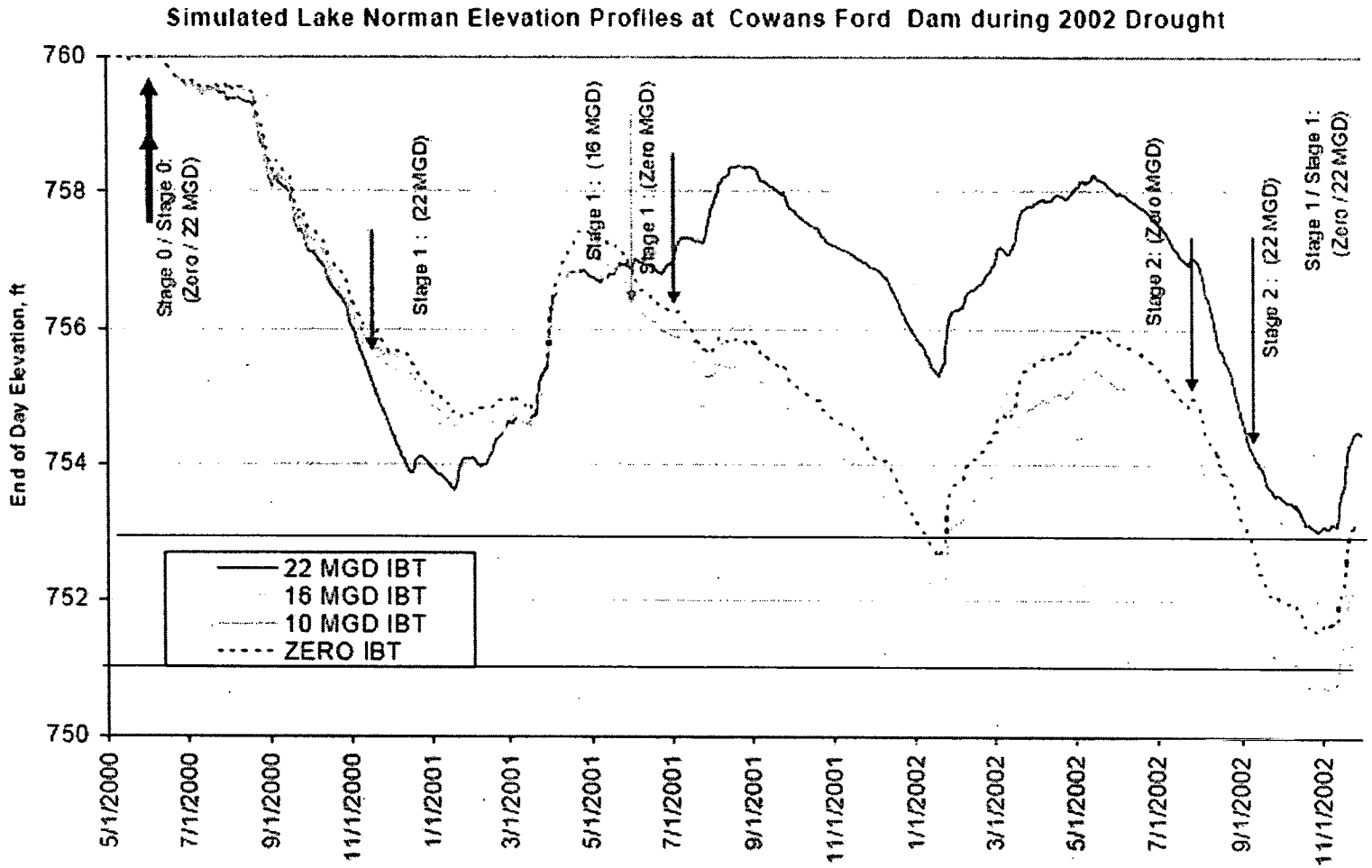


FIGURE ES-6
Lake James Elevation during 2001-02 Drought
Concord/Kannapolis IBT RFEIS



Performance under Worst Drought of Record: Lake James Reservoir Levels

FIGURE ES-7
Lake Norman Elevation during 2001-02 Drought
Concord/Kannapolis IBT RFEIS



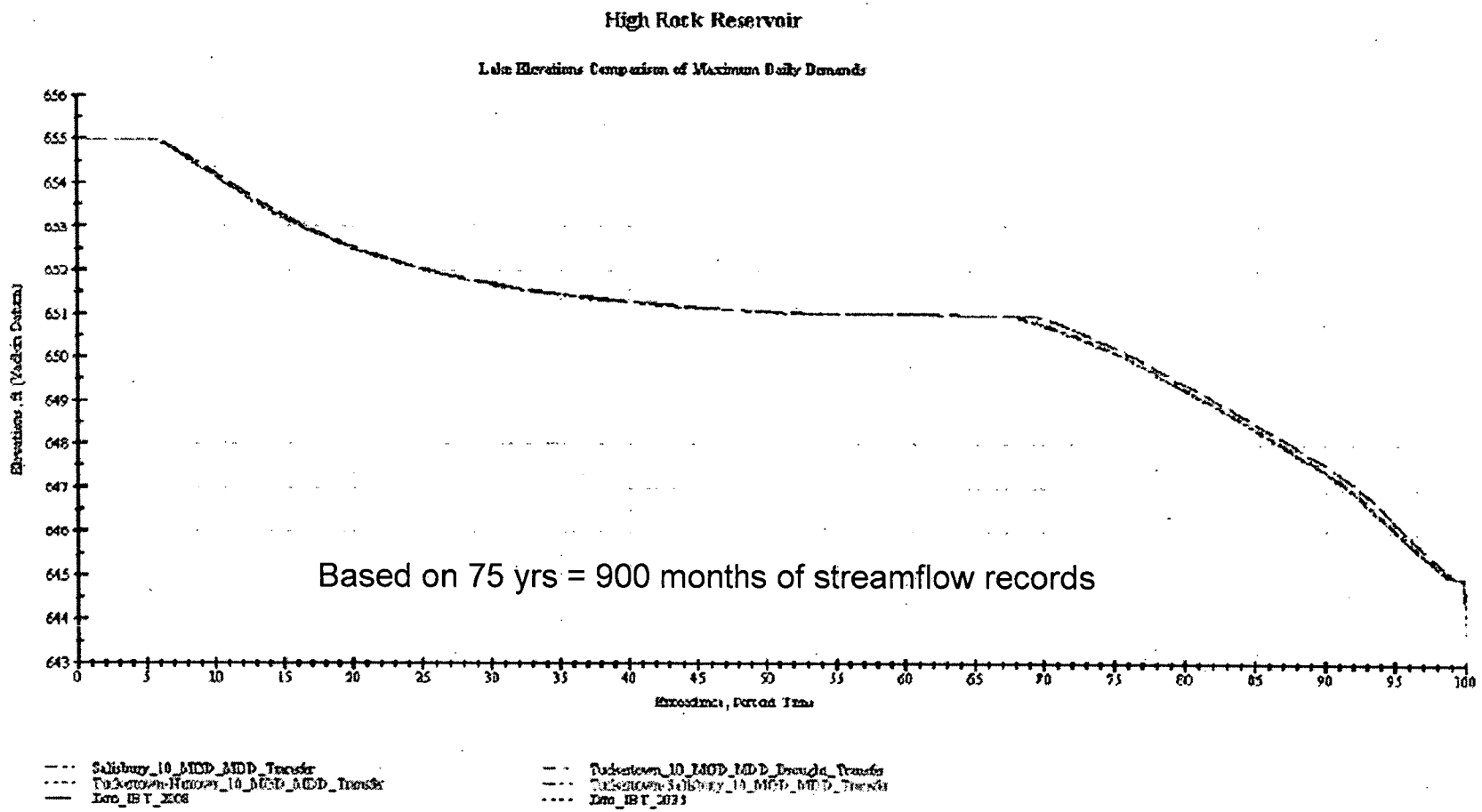
Performance under Worst Drought of Record: Lake Norman Reservoir Levels

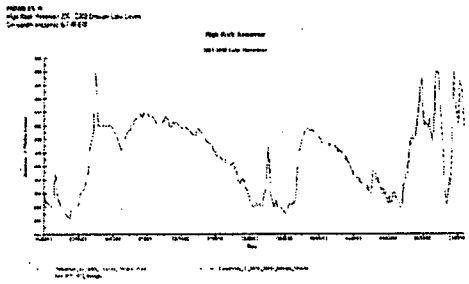
Results

TABLE 2-14
Simple Analysis based on Stage-Storage Curves and Assumption of No Inflow
Concord/Kannapolis IBT RFEIS

	Reduction in Reservoir Elevations (inches) for Transfers of 10, 16, and 22 mgd					
	10 mgd		16 mgd		22 mgd	
	Initial Storage Conditions					
Reservoir	90% storage	75% storage	90% storage	75% storage	90% storage	75% storage
James	2.1	2.3	2.1	3.7	4.5	5.0
Rhodhiss	1.1	1.2	1.1	1.9	2.4	2.6
Hickory	1.4	1.6	1.4	2.5	3.0	3.5
Lookout Shoals	1.3	1.3	1.3	2.1	2.8	2.9
Norman	1.4	1.7	1.4	2.6	3.1	3.6
Mountain Island	0.9	1.0	0.9	1.6	2.1	2.3

FIGURE ES-8
High Rock Lake Level Duration Curves – Maximum Daily Demands
Concord/Kannapolis IBT RFEIS





Simple Check – Upper Bounds on Changes in Elevation

Storage, % of Available Capacity	Drawdown in inches resulting from 183 days of 10 MGD IBT		
	High Rock	Narrows	Tillery
100%	2.7	3.6	1.6
75%	3.3	3.9	1.7
50%	4.4	4.4	1.9

Comparative Analysis

Drainage Areas and Average Flow

Location	Drainage Area	Average Flow
Catawba River at Mt. Island	1,856 sq. mi.	1,495 MGD
Yadkin River at High Rock	3,940 sq. mi.	3,208 MGD

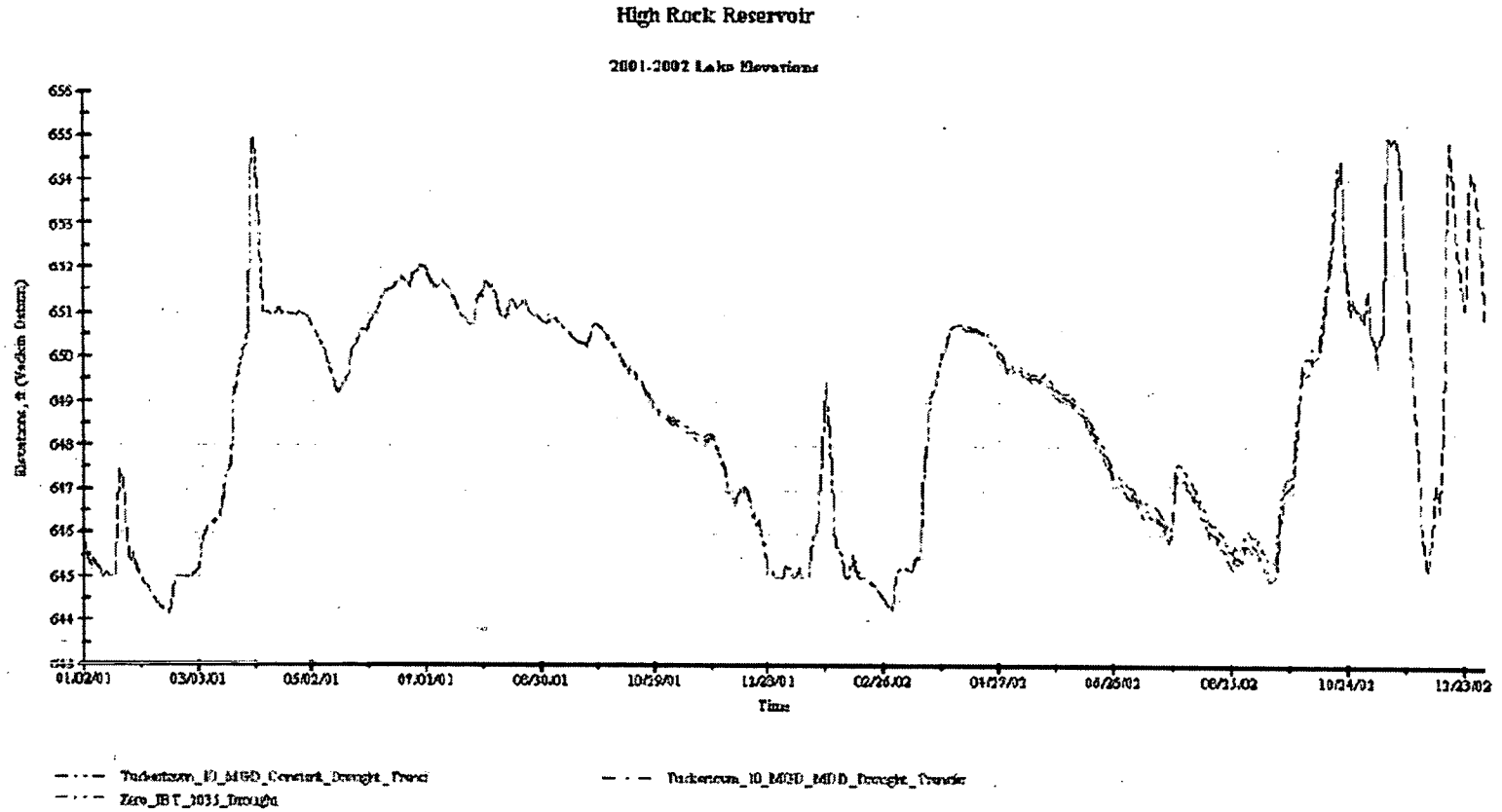
Average June-November Flows, cfs

Percentile (75 yrs)	Mt. Island	High Rock
Lowest	358	642
5% of years	461	875
10% of years	539	1087
25% of years	702	1468
50% of years	987	2135

Items for Discussion on IBT Statute and Process

- Weights on donor versus receiving basins
- Time limits on certificates – 20-30 years
- Seasonal limits on transfers – take water during high flow months and put in off-stream storage
- Two-stage public involvement
  - Notice of receipt of petition
  - Hearing on recommended decision

FIGURE ES-10
High Rock Reservoir 2001-2002 Drought Lake Levels
Concord/Kannapolis IBT RFEIS



Notice Announcing the Availability of an Analysis of a Renewable Portfolio Standard for the State of North Carolina and Request for Public Comments December 13, 2006

On January 24, 2006, the Environmental Review Commission (ERC) of the North Carolina General Assembly adopted a motion requesting the North Carolina Utilities Commission (Commission) to undertake a study of the potential costs and benefits of enacting a renewable energy portfolio standard (RPS) in this State. The process proposed to and adopted by the ERC requires the Commission to issue a request for proposals (RFP) and to ultimately contract with an experienced consultant to perform the study under the direction and guidance of the Commission.

After evaluating the responses to the RFP, the Commission engaged La Capra Associates to perform the analysis requested by the ERC. On December 13, 2006, the Commission and La Capra presented the results of the study to the ERC.

The Commission is soliciting written comments on the report from the public to be provided to the ERC. Any written comments should be signed and mailed to the Chief Clerk, North Carolina Utilities Commission, 4325 Mail Service Center, Raleigh, North Carolina 27699-4325 or hand delivered to 430 North Salisbury Street, Fifth Floor, Raleigh, North Carolina 27603. The Commission will accept such comments through January 19, 2007.

- Letter from George Givens, Counsel for the Environmental Review Commission, to Jo Anne Sanford, Chair, North Carolina Utilities Commission, February 23, 2006
- *Analysis of a Renewable Portfolio Standard for the State of North Carolina*, La Capra Associates, December 2006
- *A Study of the Feasibility of Energy Efficiency as an Eligible Resource as Part of a Renewable Portfolio Standard for the State of North Carolina*, GDS Associates, Inc., December 2006
- Presentation to the Environmental Review Commission, La Capra Associates, December 13, 2006

# # #

La Capra Associates

Renewable Portfolio Standard

Analysis for the State of North Carolina

Presented by: Jonathan Winer
Mon-Fen Hong
Dick Spellman

December 12, 2006

La Capra Associates

Outline of Discussion

- Our Goal
- Key Findings
- Renewable and Energy Efficiency Potential
- Electric Rate Impact
- Other Potential Costs and Benefits

2

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Our Goal

Provide an objective view of the issues related to a possible Renewable Portfolio Standard for North Carolina.

3

LaCapra Associates

Three Key Findings

North Carolina has sufficient renewable resources to meet a 5% RPS requirement for new renewable generation

- Less than 1% increase in retail electricity rates
- Doubles current level of renewables
- Potential job creation and property tax benefits

4

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Three Key Findings

It would be difficult to meet a 10% RPS with only new North Carolina renewable supply resources

- Must include wind in both the west and off-shore locations and larger hydroelectric generation
- If these additional resources can be developed, a 3.6% estimated rate increase, at most, by the 10th year

5

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Three Key Findings

Inclusion of energy efficiency would enable the State to achieve a 10% RPS and would reduce consumers' overall electricity bill

- Energy efficiency could easily meet one-quarter of RPS
- Both a 5% RPS and a 10% RPS with energy efficiency could produce net savings of about half a billion dollars over 20 years
- Less than 1% increase in rates, but average bill decreases due to less usage overall

6

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Renewable Resource Overview

North Carolina has over 2,000 MW of renewable generation already

- Equal to 4% to 5% of the State's current energy needs

7

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New Renewable Resource Potential in North Carolina

- **Technical potential for over 12,000 MW of new in-state renewable supply resources**
  - Strong logging and farming sectors – fuel for additional renewable generation
  - Good wind resources, but development may be more challenging
- **Practical potential is as much as 3,400 MW**
  - Maximum amount that could reasonably be expected to be implemented

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New Renewable Resource Potential in North Carolina

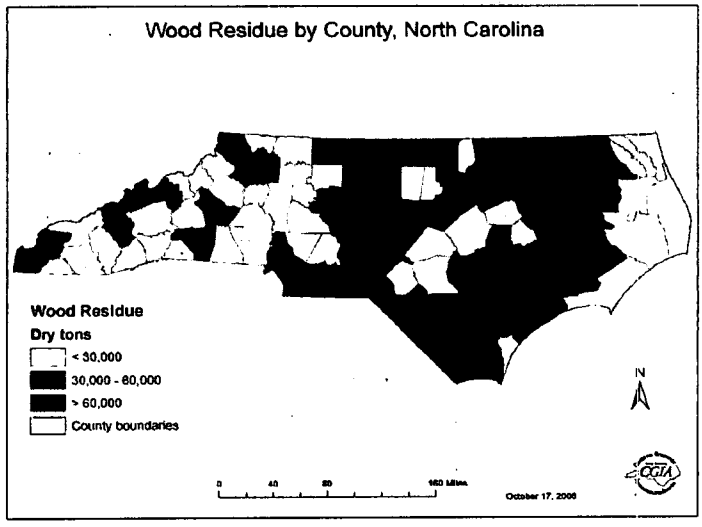
Resources	Technical Potential (MW)	Practical Potential (MW)	Practical Energy Potential (GWh)
Landfill Gas	240	150	1,000
Biomass (Wood and Ag. Crops Waste)	2,270	1,100	8,700
Co-Firing **	*1,875*	*384*	*2,500*
Poultry Litter	175	105	800
Hog Waste	116	93	600
Wind (on-shore)* **	9,600	1,500	3,900
Wind (off-shore)	N/A	N/A	N/A
Hydro** **	508	425	1,700
Solar PV	N/A	N/A	N/A
Total In-State Potential	**12,909**	**3,373**	**16,700**

*Energy estimate rounded to nearest hundred GWh.
***Includes wind development in the western mountains.
**Co-firing is a subset of the Biomass assessment.
**** Includes hydroelectric generation larger than 10 MW.

9

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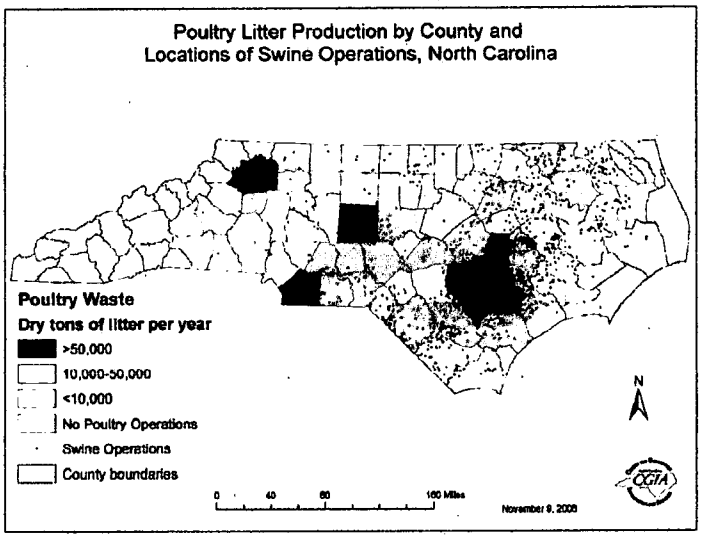
Biomass (Wood) Across the State



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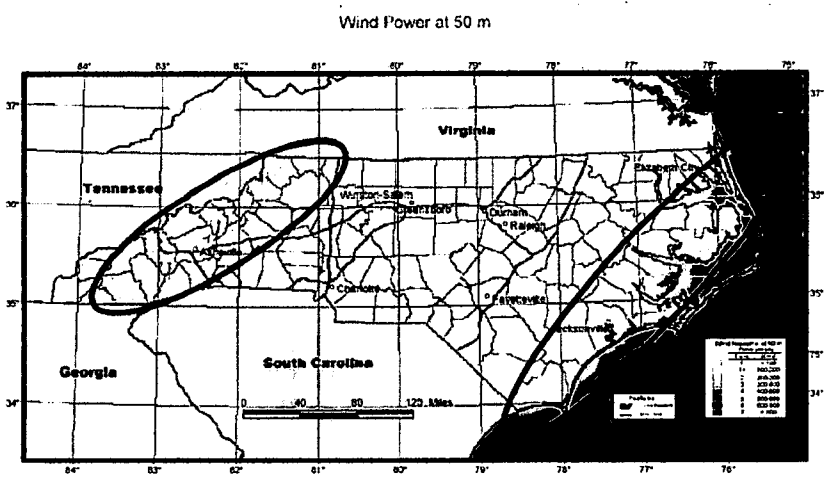
Poultry Litter and Hog Waste More Concentrated



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Wind in the West and Eastern Coastline

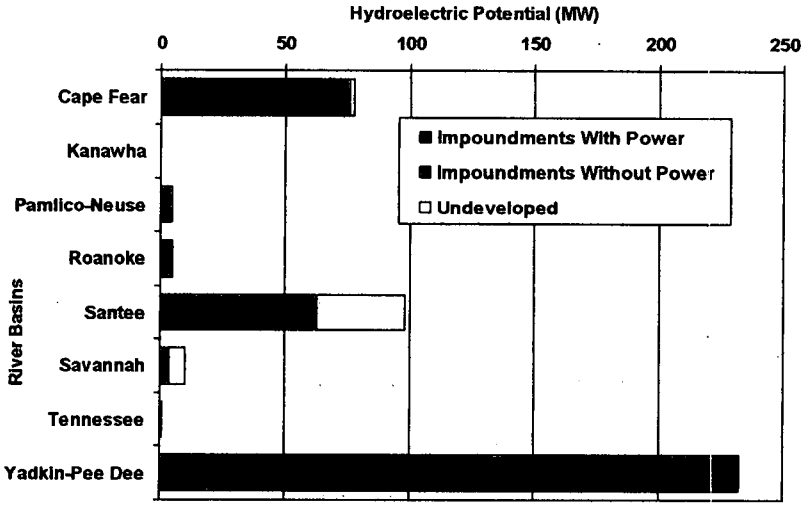


Source: TrueWind Solutions

12

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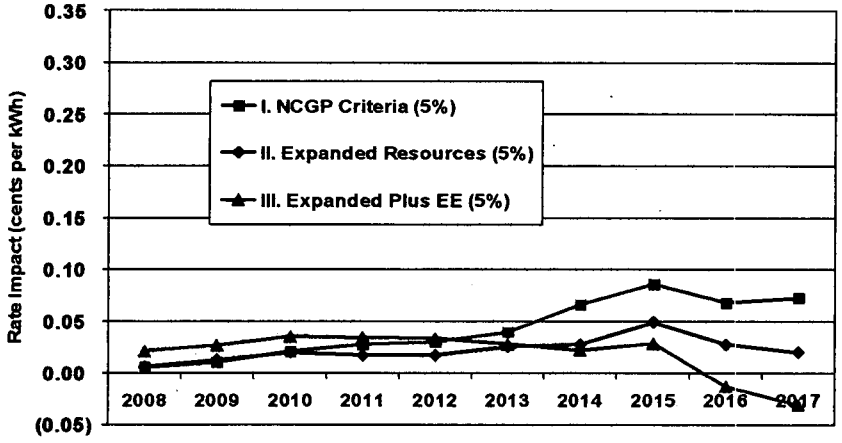
Hydroelectric Potential by River Basins



13

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Range of Rate Impacts for 5% RPS is -0.3% to 0.9% by 2017*

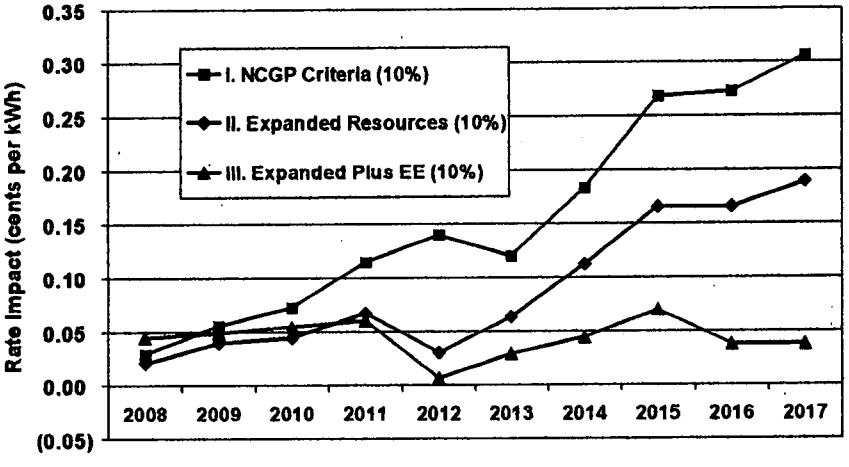


*Assumes average electricity rates of 8.5 cents per kWh by 2017

14

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Range of Rate Impacts for 10% RPS is 0.4% to 3.6% by 2017*



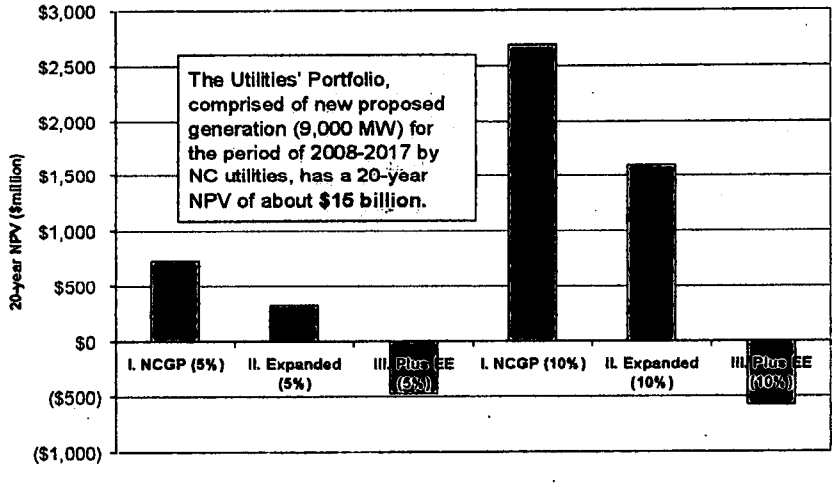
*Assumes average electricity rates of 8.5 cents per kWh by 2017

15

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Total Incremental Cost/Savings (NPV) Over 20 Years

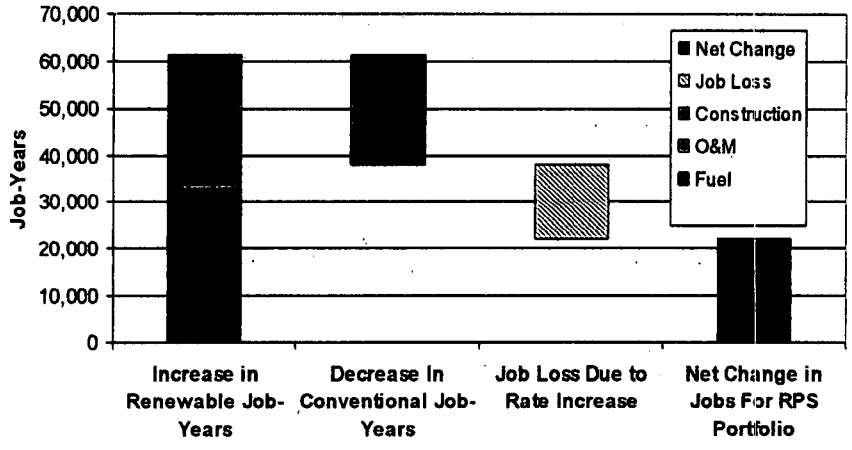
Total Cost for RPS Scenarios



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Jobs: 5% RPS Without Energy Efficiency*

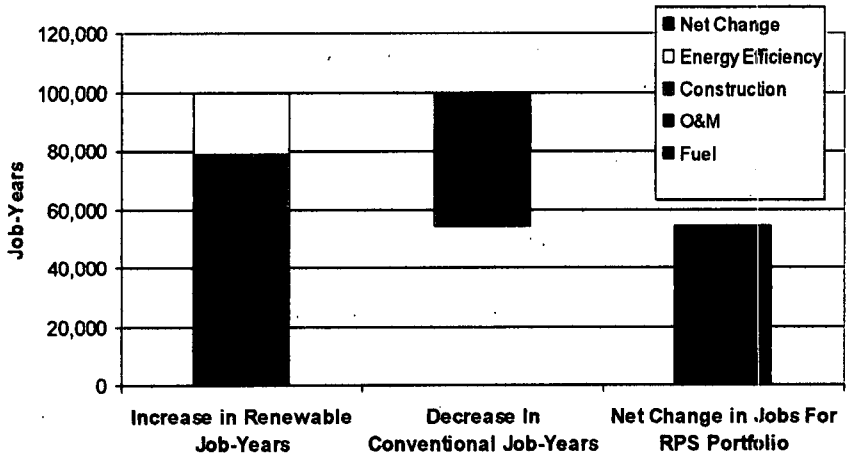


*Job-years for O&M and Fuel assume 20 years of operation. Electricity rate impact assumed over 20 years.

17

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Jobs: 10% RPS With Energy Efficiency*



*Job-years for O&M and Fuel assume 20 years of operation. No electricity rate impact or job losses because overall electricity bill decreases.

18

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Key Environmental Benefits

- **Energy efficiency would have the greatest positive impact.**
- The annual **displacement of Carbon Dioxide**, once a 5% or 10% RPS is achieved, could total at least 7.3 to 13.6 million tons per year, respectively.
- **Potential displacement of emissions related to air quality and health**, such as Nitrogen Oxides, Sulfur Dioxide, particulate matter, and mercury.
- Renewable generation facilities either **do not produce waste or the waste products are more benign** than from coal and nuclear fuels.
- Renewable energy resources **do not have significant environmental impact from fuel extraction** in contrast to the extraction impacts of coal, oil, natural gas, and nuclear fuel.

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LaCapra Associates

Conclusions

- There should be sufficient renewable resources within the State to meet a 5% RPS requirement for new renewable generation.
- The State would have difficulty meeting a more aggressive 10% RPS with only new renewable resources located within North Carolina.
- Inclusion of energy efficiency would enable the State to achieve a 10% RPS and reduce average electricity bill.
- An RPS would produce direct economic and environmental benefits to the State.
- An RPS may enable the State to avoid the development of 1,000 MW or more of baseload conventional generation.

20

LaCapra Associates

The full RPS Report will be posted on the
North Carolina Utilities Commission website today:
www.ncuc.net

Contact Information:

jwiner@lacapra.com
mhong@lacapra.com
dick.spellman@gdsassociates.com

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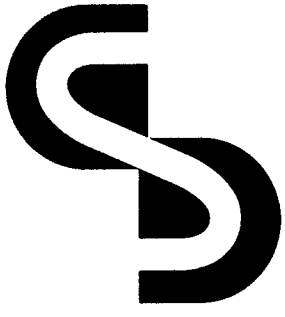
EXHIBIT K

A Study of the Feasibility of Energy Efficiency as an Eligible Resource as Part of a Renewable Portfolio Standard for the State of North Carolina

December 2006

Report for the North Carolina Utilities Commission

Prepared and Submitted by:



GDS Associates, Inc.
Engineers and Consultants

EXHIBIT L

La Capra Associates

ANALYSIS OF A RENEWABLE PORTFOLIO STANDARD FOR THE STATE OF NORTH CAROLINA

Technical Report

PREPARED FOR

North Carolina Utilities Commission

PREPARED BY

La Capra Associates, Inc.
Twenty Winthrop Square
Boston, MA 02110

GDS Associates, Inc.
1850 Parkway Place, Suite 800
Marietta, GA 30067

Sustainable Energy Advantage, LLC
4 Lodge Lane
Natick, MA 01760

December 2006

EXHIBIT M

City of Greensboro
North Carolina

Date: December 13, 2006

To: Members of the Environmental Review Commission

From: Jeryl W. Covington, P.E.
Director, Environmental Services Department

Reference: Local Government Perspective: Landfill Moratorium and Solid Waste Study

The City of Greensboro is pleased to have an opportunity to speak with the Environmental Review Commission regarding the recently enacted landfill moratorium and requested solid waste study. Upon learning of these decisions, the City of Greensboro contacted our regulatory agency to discuss the immediate impact(s) for our facility and the potential effect on our ability to provide an economical and a long-term disposal option for our community. Hence, our community has been present at many of the Commission meetings when solid waste issues are incorporated as agenda items. We are appreciative of the Commission's focus on such a relevant topic for our State.

During some of your most recent meetings, staff from the Waste Management Division presented compelling reports on the growth of the solid waste generation rates and recycling impacts across the State. Being from one of the larger North Carolina communities, Mr. Paul Crissman identified us as being included in the populace responsible for such growth rates. The maze of imports and exports arrows depicted on his waste map did not include our facility since our customer base is limited by permit to Guilford County. The permitted landfill capacity and future shortfalls as reported by Mr. Crissman clearly defined a pending problem for us as we entered a new solid waste management market.

For many years, the City of Greensboro has had a strong recycling and reduction program; yet, we continually understand that we will not be able to recycle out of our current waste generation state. Although many tons of materials have been diverted from our landfill, many more have been managed in place. Landfill bans have been effective and enforced by the permitted operators as well as opened new markets within the State which has been positively received as economic development. We recognize that any successful solid waste management program has to be comprehensive; addressing waste generation at the onset (i.e. selectively purchasing products with fewer waste components, and promoting reuse and second generation life) through the useful life and concluding with final disposal or destruction.

The City of Greensboro recently entered the competitive solid waste management market by transitioning from a landfill owner/operator to a solid waste exporter. Our municipal solid waste is currently managed at a privately-owned disposal site in another county. Conversely, our local solid waste management services will only provide construction and demolition disposal and composting operations. Our initial investigative steps into the competitive markets in 2001 faired favorably. At the time, landfill airspace was in abundance with new facilities being proposed and landfill expansions pending permit approval. Hence, we are aware that this climate has

P.O. Box 3136 • Greensboro, NC 27402-3136 • www.ci.greensboro.nc.us • (336) 373-2065 • TTY # 333-6930

changed as hints of stricter requirements, policy changes, evaluations of existing facilities, etc. proliferate across the industry. Limiting or delaying the development of available, in-state solid waste disposal options will directly affect the costs for disposal which will be borne by our public.

Prior to our transitioning to transporting our waste out-of-county, we reviewed many alternative solid waste management systems. We enlisted assistance from the Waste Management Division, solid waste consultants, and university scholars in order to decipher potential and viable management options. While many of the landfill alternatives were unproven, a few appeared to have potential applications in the solid waste management field. However, these potential technologies included a landfill component incorporated into the system in order to manage waste that was determined to be non-compatible with the "new technology" or for managing by-products of the process. Conclusively, we returned to the traditional solid waste management option, landfills.

Being a former municipal solid waste landfill owner/operator, we wish to acknowledge the daunting task set before our regulators in their efforts to depict levels of safety for the public regarding the siting and permitting of a new or expanding landfill. Through our operations, we have been able to contrast the performance differences between the design, construction, management, and monitoring of mature and closed landfills in comparison to the recently permitted facilities. Through our long-term operation, we have documented that the improvements gained through the adoption of the solid waste management rules have had a positive impact on our industry. Likewise, the Waste Management Division through their reviews, reports and analysis, has not acknowledged environmental impact from a Subtitle D landfill since promulgation of these rules. In evaluating the development and operations of new landfill facilities, we can support the Commission's recommendation to review existing regulations to ensure that we continually strive to protect public health and the environment. We are hopeful that this process will be open and allow input from all interested parties. Likewise, we are optimistic that this process will not evolve into a quagmire where the important task at hand becomes diluted by isolated concerns or a long-term evaluation of "what-if" scenarios.

In our partnering with the Waste Management Division, we understand the need to address staffing shortfalls and assessing formerly utilized and abandoned hazardous and solid waste sites. We believe plans and tip fees previously promoted by the Division to address the latter concern needs to be thoroughly evaluated since many communities will experience a shift of tax-payer dollars being utilized to address compliance issues for industrial and municipal properties in the absence of viable potentially responsible parties. The Division has made a compelling argument regarding their need to acquire, train, and maintain qualified staff. As a member of the regulated community, we can support such request since fulfilling this need will ensure a secure and safe environment.

The City of Greensboro appreciates the inclusiveness of your policy development process.

EXHIBIT N

Outline Of Issues
Solid Waste Study
Environmental Review Commission

Brief History: The environment of solid waste management today is different than the late 1980s and early 1990s when significant changes were made to solid waste law and regulations.

Activities of the Division in preparation for the Solid Waste Study

The following issues should be considered as a part of the solid waste study and addressed to enhance the regulatory structure for solid waste management in today's environment:

I. Owner and Operator Liability and Solvency

NC statutes currently provide liability protection to members, managers, directors, and executives of a Limited Liability Company for the obligations of an LLC and provide that they do not become liable by participating, in whatever capacity, in the management or control of the business. In recent years the State has received several landfill permit applications from LLCs; those applications have raised concerns about the ability of LLCs to meet financial qualifications to demonstrate they have the resources to own and operate a landfill.

In addition, federal and state rules provide financial responsibility requirements for closure and post closure care for municipal solid waste landfills and construction and demolition landfills, but only require financial responsibility for releases from landfills once a release occurs.

II. Compliance with NC Bans on Disposal of Certain Waste Types

In North Carolina, both the State and local governments have adopted bans on disposal of certain materials in landfills based on waste reduction goals, toxicity, and pathogenic potential. Some of the new landfills proposed in North Carolina would be receiving waste from states that allow landfill disposal of materials prohibited for landfill disposal in North Carolina. Generators of waste (industry, commercial operations, and citizens) in those states could put material in the waste stream that would be in compliance with requirements in their state, but in violation of North Carolina law and rules. There needs to be a mechanism for insuring that importation of waste does not result in disposal of materials in violation of North Carolina standards.

III. Alternative Analysis and Impact Study

The current landfill permitting process does not require consideration of alternative sites or alternative waste management and waste reduction measures. The existing regulatory system also does not require a comprehensive landfill impact study with a method to weigh the environmental sensitivity of an individual site.

IV. Local Government Franchise/Host Fees

Local government franchise requirements were intended to give local governments an opportunity to regulate the waste collection and disposal activities of private waste management companies in the local government's jurisdiction. The statute requires consideration of local solid waste management needs; state policies on waste reduction, reuse and recycling; and public participation in the decision to grant a franchise. In recent years, the payment of host fees and other financial benefits for the local government have been negotiated in exchange for issuance of a franchise. These negotiated monetary benefits were not anticipated when the legislature gave franchise authority to local governments and may be changing the basis for local government franchise decisions.

The franchise statute was also based on the assumption that siting and construction of a landfill would generally have local impacts. Proposals for very large landfills with multi-state service areas raise the question of whether regional and statewide concerns are adequately addressed in the franchise decision.

V. State Regulatory Program Resources

The state solid waste program was at its highest staffing level in 1996. The program has lost 8 positions though budget reductions since that time. The number of permit applications and complexity of facilities permitted have increased over the period since 1996. Permits for solid waste facilities are one of the few environmental permits that require no permit or operational fee. The state program will need additional resources to adequately review landfill permit applications and provide sufficient oversight for landfill construction and operation. This need becomes even more acute as the size and service area of the proposed landfills increase.

VI. Old Landfill Sites

There are approximately 700 old unlined landfills that operated prior to a permitting program in North Carolina. Many of these sites directly impact the environment through degradation of groundwater and surface water quality and can pose hazards through explosive methane migration. The landfill sites were operated primarily by or for local government as a public health measure. These landfills were not operated for profit and there are no resources currently identified for cleanup of these sites.

VII. Technology/Design/and Operational Enhancements

Regulations for municipal solid waste landfills were adopted for NC 13 years ago. They were formed from existing policy and rules for sanitary landfills and new regulations from EPA for municipal solid waste landfills. Experience with lined municipal solid waste landfills in NC, technology advances, and information from other state's experiences can be applied to rulemaking to enhance current requirements and improve protection of public health and the environment.

Old Uncontrolled Landfills/Dumps

Charlotte V Jesneck

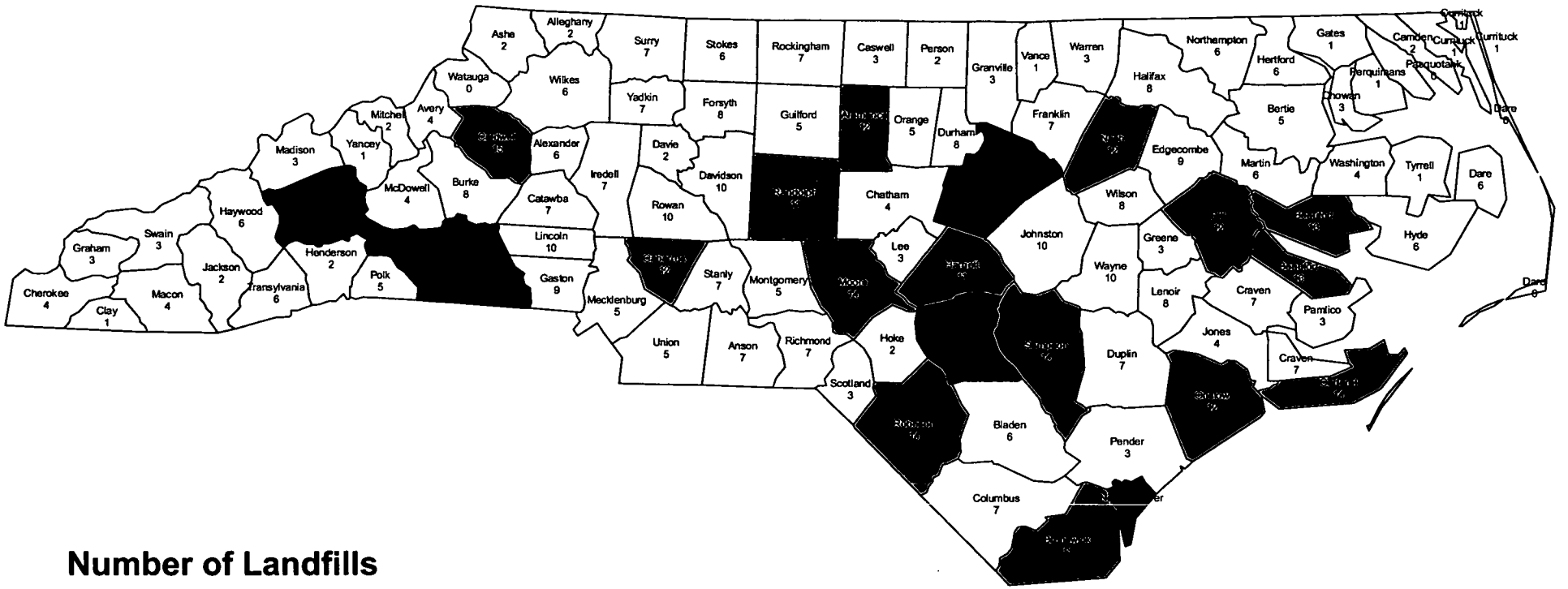
NC Department of Environment and Natural Resources
Division Of Waste Management
Superfund Section
Inactive Hazardous Sites Branch

EXHIBIT O

Old Uncontrolled Landfills/Dumps

- 684 Old uncontrolled, unlined landfills and dumps
- Operated prior to landfill permitting program
- 40 % have been inspected thus far to determine location and uses

Non-Permitted, Unlined Landfills



Number of Landfills

- 0
- 1 - 5
- 6 - 10
- 11 - 15
- 16 - 30

North Carolina Division of Waste Management
DWM
Managing Waste Today For A Cleaner Tomorrow

November 6, 2006

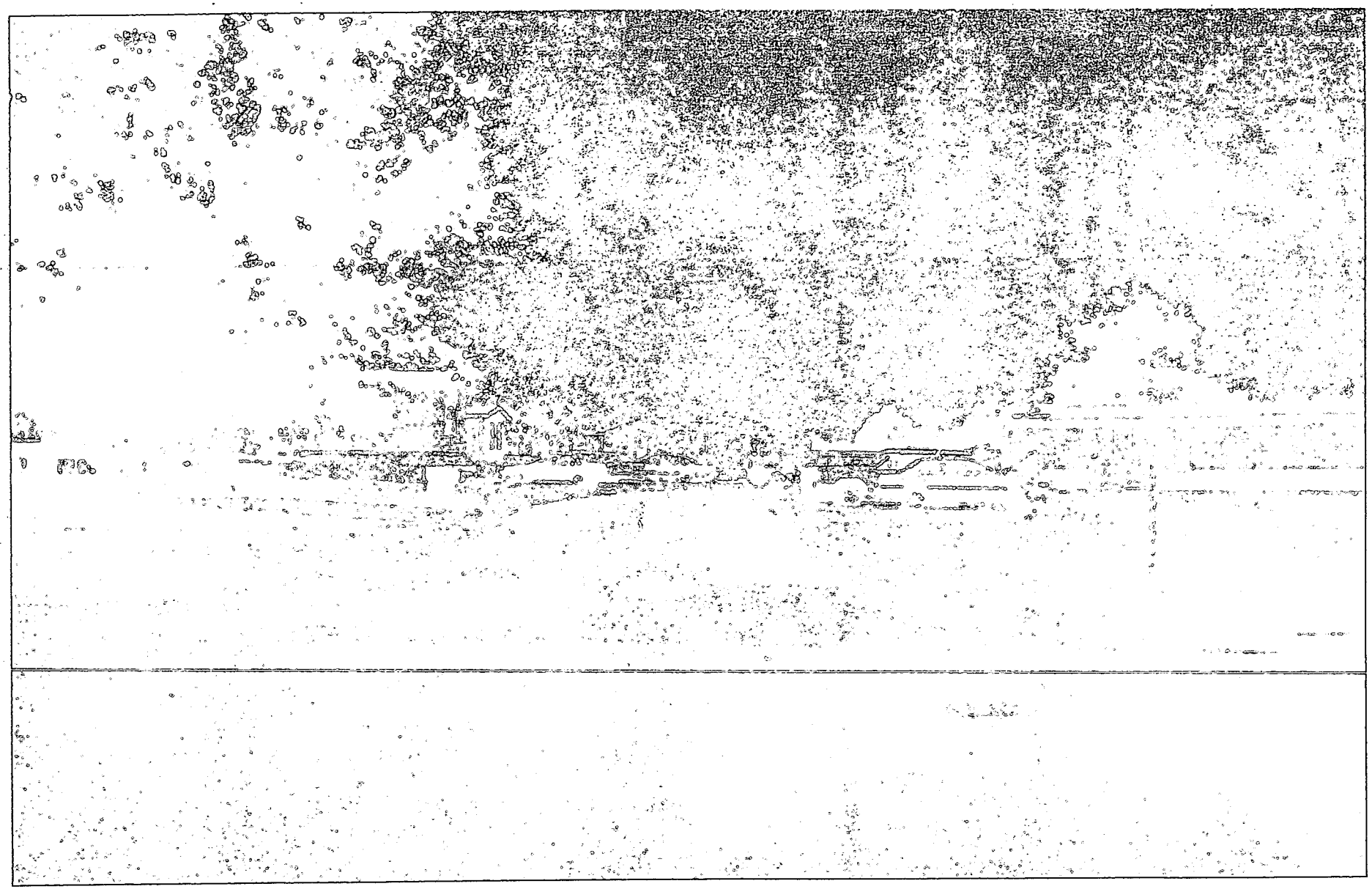
Old Uncontrolled Landfills/Dumps

- 71% of those inspected have a residence, school, day care, church or drinking water source within 1000 feet

- 102 of those inspected have drinking water wells within 500 feet

- 13 of those inspected have residences on the landfill

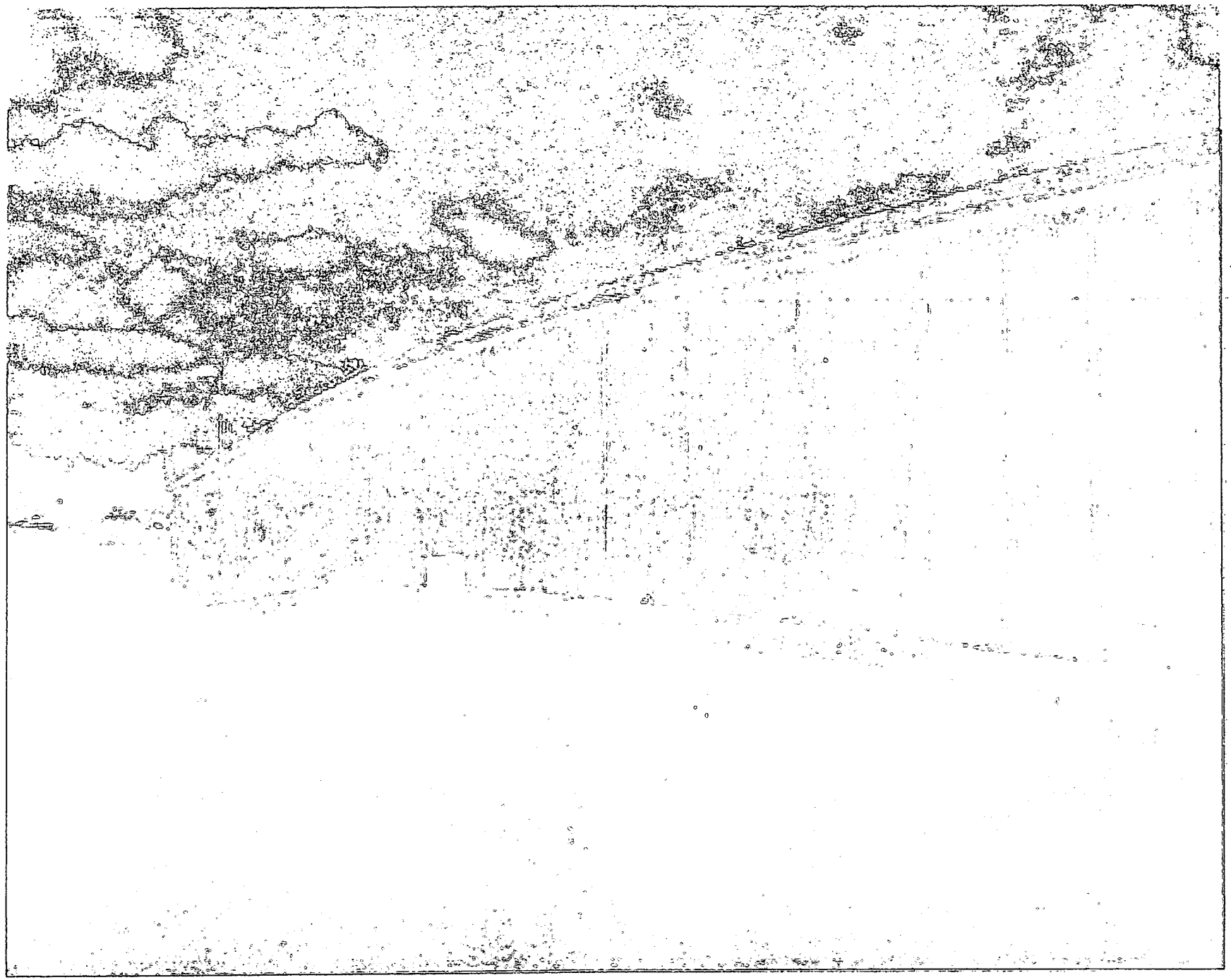




Old Uncontrolled Landfills/Dumps

- Many expected to have groundwater contaminated with hazardous substances
- Landfill gas (methane and hazardous vapors) migrating into structures also a concern
- Uncontrolled development on landfills could potentially pose risks to occupants of the property





Old Uncontrolled Landfills/Dumps

- The landfills were operated either by:

local governments

or

private individuals

Old Uncontrolled Landfills/Dumps

- Local governments operated the landfills not for profit, but to control indiscriminate dumping
- Individual property owners may not be available anymore as most of the dumping occurred 25 to 50 years ago
- The former individual operator and the current individual owner likely do not have sufficient funds to make the property safe

Old Uncontrolled Landfills/Dumps

- Last session, legislation was introduced that would establish a means of addressing these uncontrolled landfills

- HB 1769 (introduced 5/05) and HB 2845 (introduced 5/06) would have established a state-wide surcharge on waste coming into the state's landfills

- Many other states have state-wide surcharges or tip fees (29 according to 2002 survey)

Old Uncontrolled Landfills/Dumps

Benefits of a State-Wide Surcharge

- Proceeds could provide a means to characterize and control the hazards posed by old unlined landfills and convert them to a safe reuse

- May provide a means of converting many old unlined landfills into green space

- In short, removing public health threats, restoring land to some redevelopment potential, and possibly adding green space

MEMORANDUM

To: Members of the Environmental Review Commission
From: Steve Wall, NC DENR
Re: Liability issues related to old uncontrolled landfills/dumps
Date: December 13, 2006

****

Overview of hazardous sites cleanup law

Federal law

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), more commonly known as Superfund, imposes liability upon certain parties who have engaged in disposal activities related to hazardous substances.

The federal definition of "hazardous substance" is quite broad. It includes substances found in industrial and manufacturing processes, but also more common substances such as paint, batteries, cleaning solutions and chemicals.

CERCLA provides that a person can be held liable for the costs of cleaning up a site if the person:

1) currently owns or operates the facility from which there is a release or threat of release;
2) owned or operated the facility in the past at a time when hazardous substances were disposed of at the facility;
3) generated hazardous substances now found at such a facility or arranged for transport; or
4) accepted hazardous substances for transport to disposal or treatment facility.

The federal courts have interpreted the liability provisions broadly. Liability under CERCLA is:
1) **strict:** without regard to fault;
2) **joint and several**: if more than one person is responsible, any one of them may be held liable for the entire cost of cleanup; and
3) **retroactive**: liability can extend to acts that occurred before enactment of CERCLA in 1980.

State law

Inactive Hazardous Sites Response Act (North Carolina General Statutes 130A-310 et seq.)
State statute provides that a responsible party is someone who:

1) discharges or deposits;
2) contracts or arranges for any discharge or deposit;
3) accepts for discharge or deposit; or
4) transports or arranges for transport for the purpose of discharge or deposit

any hazardous substance, the result of which discharge or deposit is the existence of an inactive hazardous substance site or waste disposal site.

Are old uncontrolled landfills regulated under CERCLA?

As a general rule, closed city and county landfills are subject to the same policies and regulations as other sites and facilities that may be discharging hazardous substances, such as abandoned manufacturing facilities.

Some city and county landfills disposed of both household and industrial wastes. Even those city and county landfills that accepted only household waste were disposing small amounts of hazardous substances, such as paints, solvents and pesticides. Consequently, courts have held local governments liable under CERCLA as owners/operators of landfills.

(over)

A 2nd Circuit case from 1992 (B.F. Goodrich Co. v. Murtha) held that CERCLA liability attaches to the disposal of municipal solid waste, even if the waste only contains minimal amounts of hazardous substances.

During the 1990's several attempts were made in Congress to exempt cities and counties from CERCLA liability. Although no legislation was approved, these efforts led to EPA putting a policy in place that limits local government liability in very narrow circumstances. In 2001 when Congress passed amendments to CERCLA, some new defenses and exemptions were added, but no broad exemption was provided to cities and counties.

What are the potential consequences of this liability?

Case Study: Georgetown, Kentucky

A residential development was placed on the town's old dump that had been used in the1930's to 1950's. Decades later, in the year 2000 workers putting in water lines discovered mounds of trash. Testing revealed that many of the properties were contaminated with high levels of heavy metals. The town agreed to buy 18 houses in the subdivision. Some of the cleanup funding has come from state funds but the town will be largely responsible for the cleanup which is estimated in the millions of dollars. Spotlight on this cleanup played a role in Kentucky becoming proactive in dealing with its waste problem.

Case Study: New Hanover County

Although the site in question was not an old unlined landfill, the Flemington landfill in New Hanover County is instructive as to the potential liability faced by local governments. In 1977 residents of Flemington, an area just outside of Wilmington began noticing problems with their water quality. After complaints were made to the county and the state, EPA became involved. In 1979 the landfill was closed due to these concerns. In 1980 EPA sued the owners and operators of the landfill along with New Hanover County seeking injunctive relief and reimbursement for the costs of the cleanup. After more than a decade of litigation and cleanup, the U.S. Department of Justice issued a final consent decree in 1996.

National Priorities List

Cities and counties also face having one of their closed landfills added to the National Priorities List. NPL is the list maintained by EPA of the very worst of the hazardous waste sites in the country. Of the 1500 national sites on the NPL list over 200 are local government landfills. While none of North Carolina's 31 sites on the NPL are local government landfills, both Virginia and South Carolina have had old landfills designated for listing on the NPL. In almost every case, the cleanup process for NPL sites is time consuming and expensive.

How have other states addressed the old landfill issue?

North Carolina is not alone. Other states in the Southeast and throughout the country are struggling with how to address the cleanup of old landfills. Among other states that are addressing this issue, there has been a general recognition that the potential liability for local governments is substantial and threatens smaller local governments with bankruptcy. It is within this context that in recent years some states have begun to address the problem of old uncontrolled landfills.

Most pressing need has been to find a funding source to begin to identify, assess and clean up:

- appropriations
- tipping fee
- bonds

Presentation to the
Environmental Review Commission

Landfills' Long-Term Liabilities

by Peter Anderson, *Executive Director*
The Center for a Competitive Waste Industry



The Center for a Competitive Waste Industry

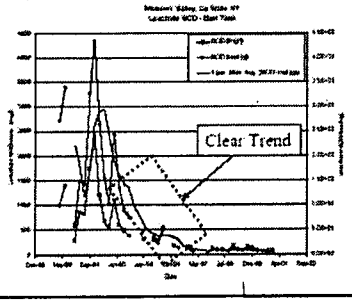
Current Practice

- Routine care for 30 years after closure
- Uncertain funding mechanisms intended to assure that the routine care will be undertaken for that period

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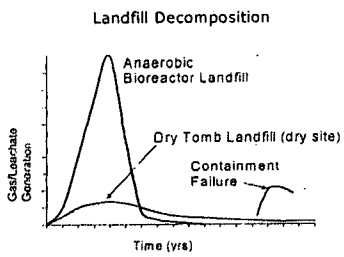
The Industry View

Industry consultant Mort Barlaz



The New Reality

California Integrated Waste Management Bd.



The First Problem

Second Wave

- EPA in the Federal Register of Aug. 30, '88–

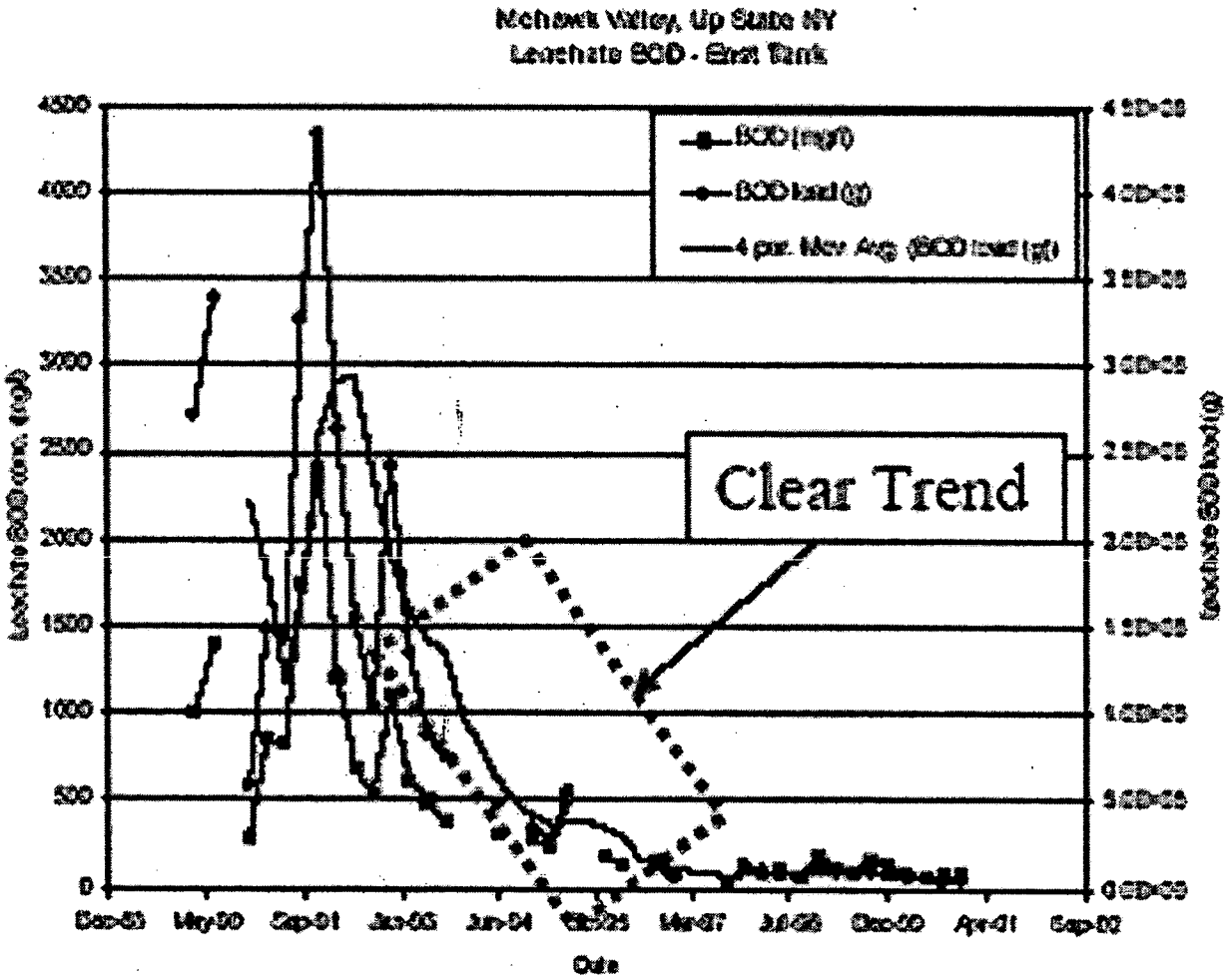
"[E]ven the best liner and leachate collection systems will *ultimately fail* due to deterioration..."



The Center for a Competitive Waste Industry

The Industry View

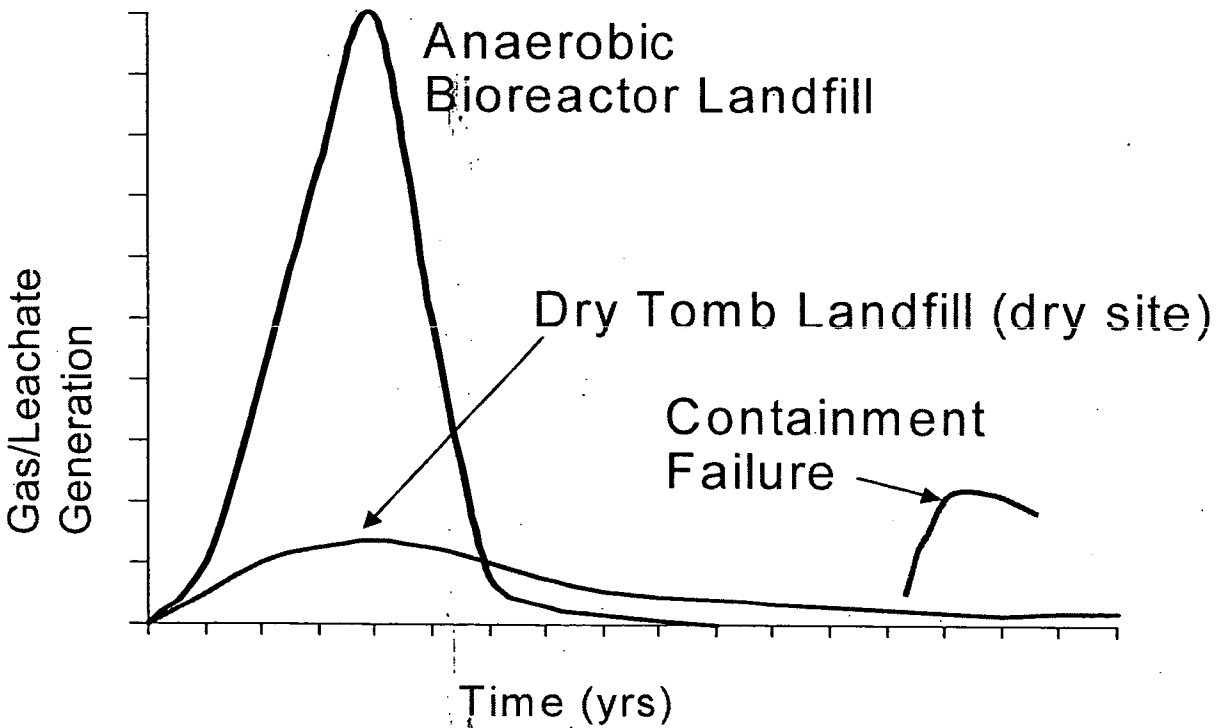
Industry consultant Mort Barlaz



The New Reality

California Integrated Waste Management Bd.

Landfill Decomposition



There is no dispute

...More Second Wave

- SWANA Director and former EPA OSW Chief, John Skinner, in "Composting and Bioreactors," *MSW Management* Magazine (July/August 2001) –

"The problem with the dry-tomb approach to landfill design is that it leaves the waste in an active state for a very long period of time. If in the future there is a breach in the cap or a break in the liner and liquids enter the landfill, degradation would start and leachate and gas would be generated...."

The Center for a Competitive Waste Industry

SIZE MATTERS

The Center for a Competitive Waste Industry

The Second Problem

Costs are Enormous

- The true costs to address major landfill failures in the future could be 10 times greater than Superfund suggests – which are 10 times what current assurance covers

The Center for a Competitive Waste Industry

Containment v. Remediation

E.P.A., *Conducting Remedial Investigations - Feasibility Studies for CERCLA Municipal Landfill Sites* (1991)

"[C]*ontainment* technologies will generally be appropriate remedies for wastes that pose a relatively low-level threat or where treatment is *impracticable.*"

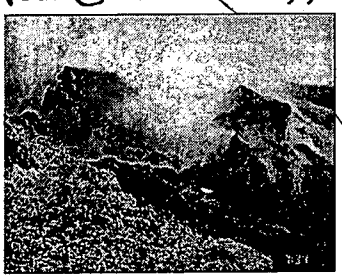
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The Flaw in EPA's Policy

- When landfills fail: [1] cities will have sprawled around them and [2] standards will be stricter
- Modern mega-fills are several hundred feet high and may collapse catastrophically

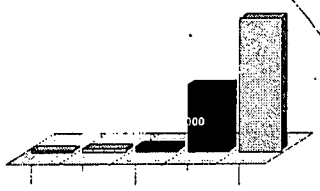
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Catastrophic Site Failure Near Cincinnati in 1996



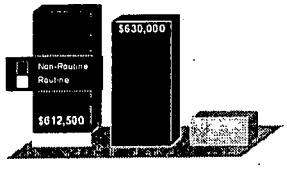
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What is at Stake



The Center for a Competitive Waste Industry

Care Costs Exceed Cash Flow



The Center for a Competitive Waste Industry

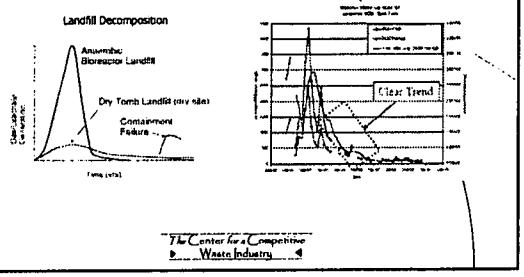
Recommendation

for Corrective Action & Third Party Injury

- Cover corrective action and third-party injuries with long-term catastrophic insurance

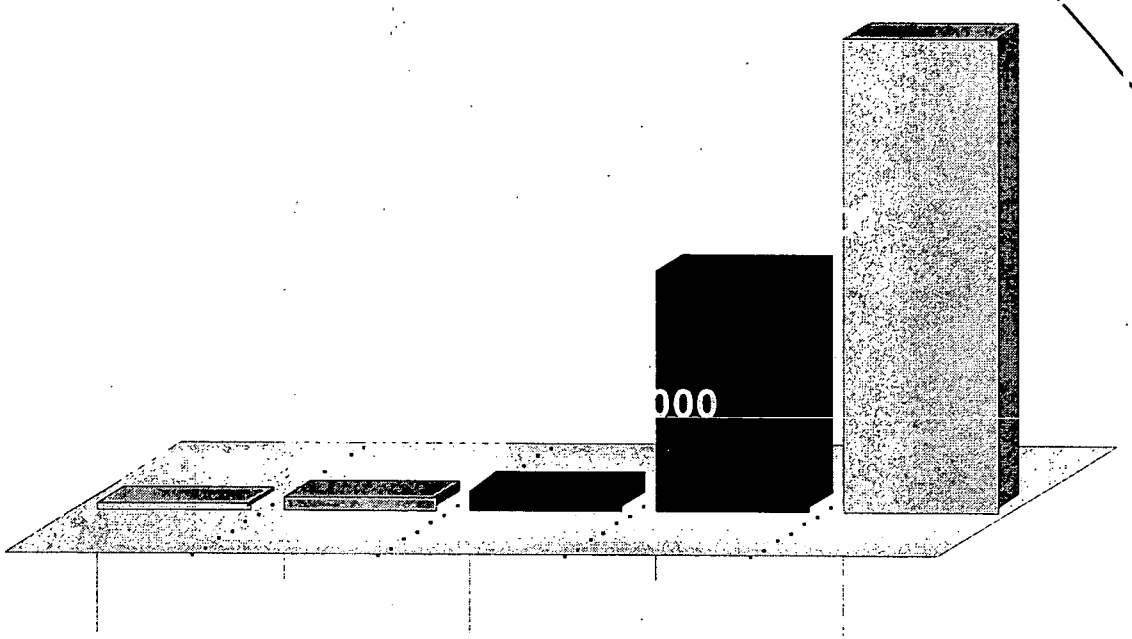
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You Decide Which is Correct



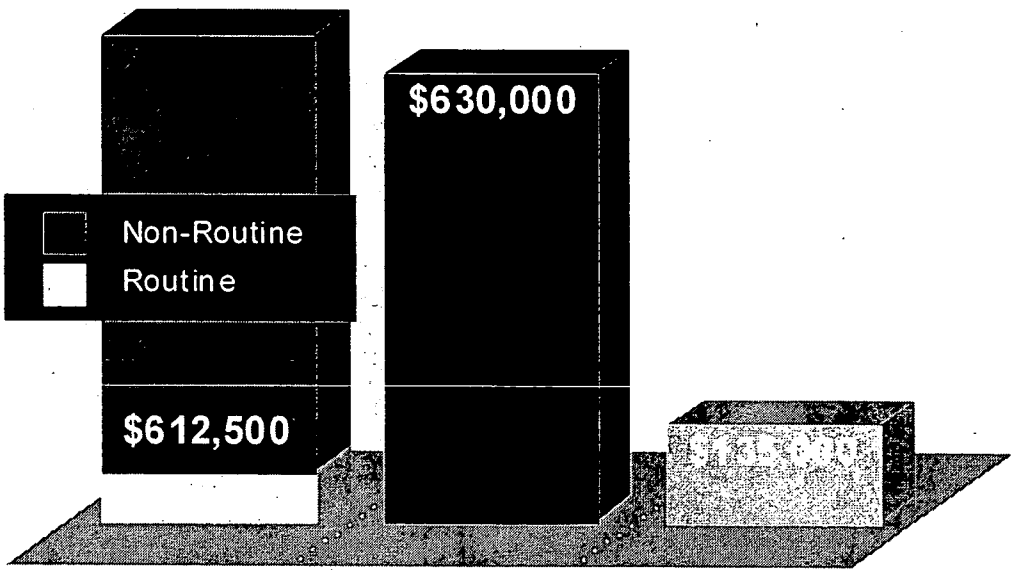
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What is at Stake



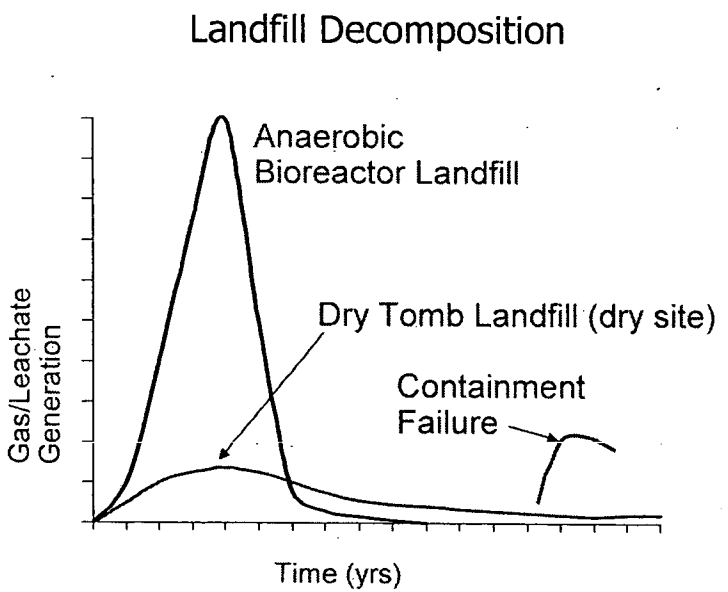
The Center for a Competitive
Waste Industry

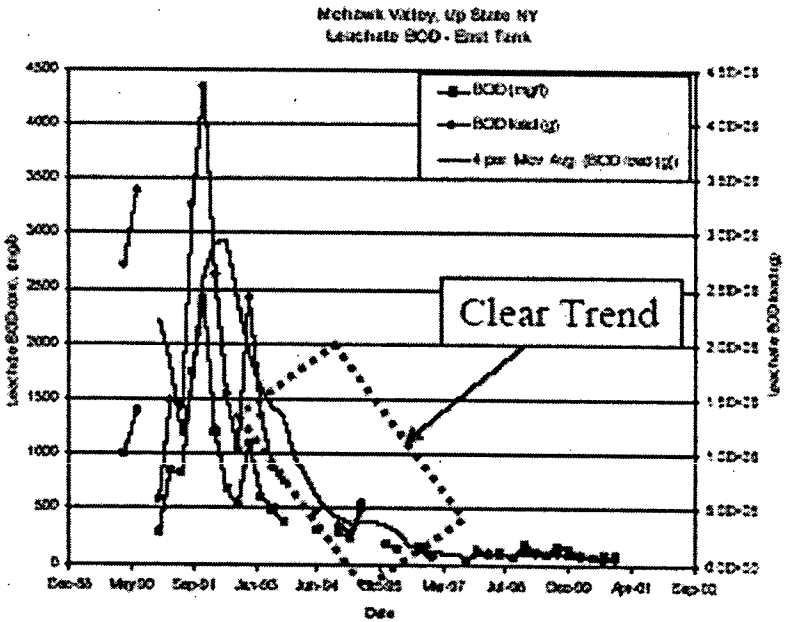
Care Costs Exceed Cash Flow



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You Decide Which is Correct



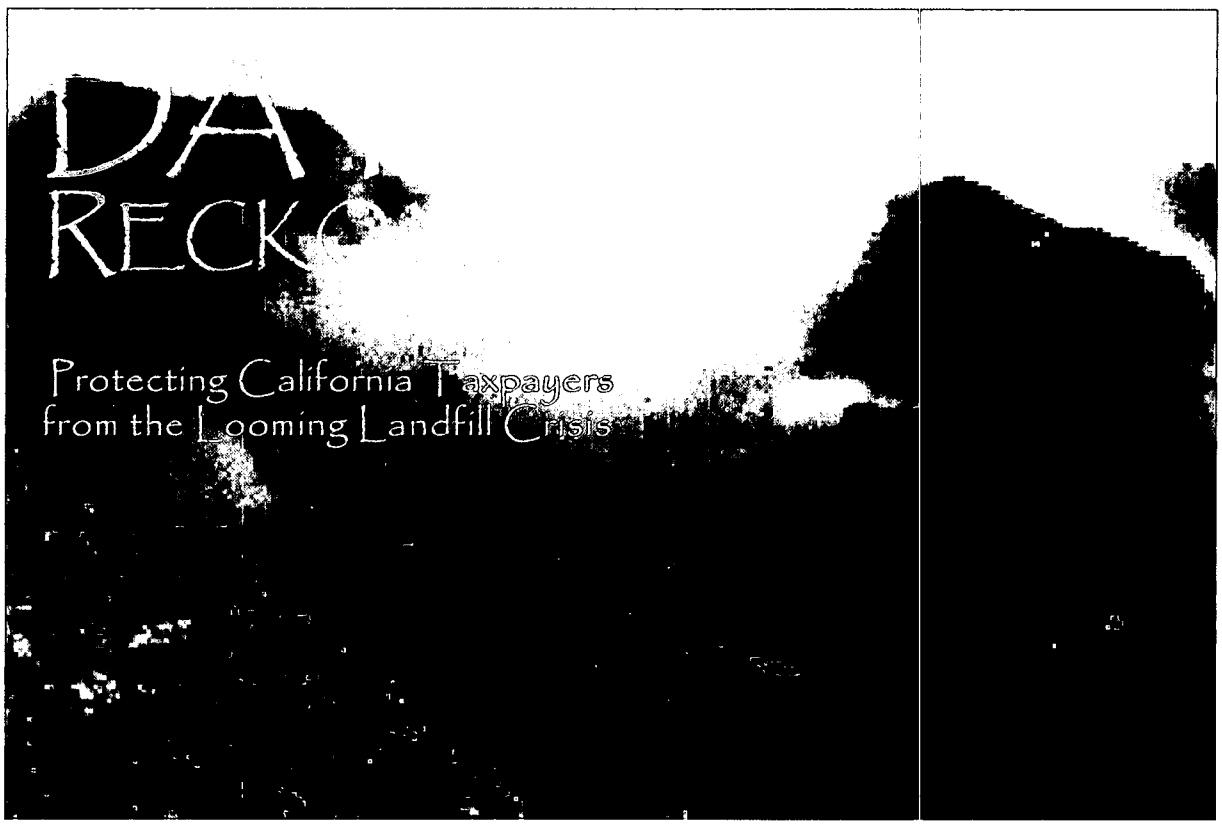


The Center for a Competitive Waste Industry

EXHIBIT R

v.3

a Report to the
GRASSROOTS RECYCLING NETWORK
from the
CENTER for a COMPETITIVE
WASTE INDUSTRY



December 2004

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Cover photo is of the catastrophic collapse of the Rumpke landfill, near Cincinnati, in 1996. The photograph is by Cheryl Allen of the Ohio DNR, and is reprinted with her permission.

1998 Restatement 73
1999 Restatement 73
Ability to fund cap repair 75
SEC charges falsified earnings 75

How to contact the
Center *for a* Competitive Waste Industry

Postal Address
The Executive Building
4513 Vernon Blvd. • Suite 15
Madison, Wisconsin 53705-4964

Phone
(608) 231-1100

Fax
(608) 233-0011

email
center@competitivewaste.org

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Epilogue

The final lesson for California from South Carolina's financial crisis over Safety-Kleen's abandoned Pinewood landfill

"Some of these things you just want to put out of your mind," Richard Jabbour reflected recently, recalling the financial fallout from the Pinewood landfill near the shores of South Carolina's Lake Marion, which is the state's largest reservoir, over two aquifers, which provides drinking water to the state's coastal plain. "This," he exclaimed, "is one of them."

Jabbour was referring ruefully to a vote he had cast in 1995, which eliminated monetary protection the state had established the year before to insulate its taxpayers from the landfill's long-term liabilities. Over the next few years, he had slowly awakened to the realization that Pinewood had become a financial albatross around the state's neck because of that decision he had made to ignore the technical facts and acquiesce to political pressure.

Back in 1977, an old clay pit began a new life as a kitty litter mine, and, a year later was converted into a loosely regulated hazardous waste dump. Thereupon, the landfill went through a dizzying succession of different owners. First there was SCA, and then Laidlaw, which later morphed into Safety-Kleen.

By 1985, regulators had come to realize that the landfill's liners would eventually fail, threatening the water supply for tens of thousands of people. Eventually, they later projected, a major cleanup would be necessary that could cost as much as $1 billion.

[South Carolina] projected a major cleanup would be necessary that could cost as much as $1 billion.

After a series of confounding twists and turns, in 1994, the Board of the Department of Health and Environmental Control (DHEC) had required Laidlaw to post a $133 million cash bond before expanding the hazardous waste dump. But only the first $14.5 million installment was ever paid when the company's political machine was wheeled into action.

During the year that followed, Laidlaw spent $250,000 lobbying the Legislature, generating the political pressure to steam roll over the Department's technical decision.

When the DHEC Board sat down to revisit the issue the following year, three new

and more compliant members had been appointed, and they decided to let the operator, itself, determine how to provide financial assurance. To no one's surprise, the company offered up a corporate IOU, which had no more value than its dubious balance sheet. But, there was – everyone was assured – no need for concern. After all, this was a strong $2 billion company.

But, as spring gave way to the summer of 2000, things came unglued. Safety-Kleen, the site's last owner, ominously decamped its offices from Columbus to Delaware, and, thereupon, filed for bankruptcy. Then, this year, it offered South Carolina a take-it-or-leave-it annuity allegedly worth $49 million for the long term costs of maintaining the site. In the exceedingly unlikely event anything was left over, that would be no more than a *de minimus* down payment on the possibly billion dollar cost to clean up Pinewood. Even that pittance was contingent on their being legally relieved of responsibility for all future liabilities.

"We felt surely they would never go bankrupt," remembered Roger Leaks, who had been one of those new Board members appointed to remove the bonding requirement. "Maybe," he now wonders, "we should have held out for cash."

"The costs could be astronomical," fretted Sandra Molander, another former state environmental board member. "I'm sure there's not enough money there," she said.

But, by then, the horse was out of the barn. In the end, South Carolina realized it had little choice but to sign the release in order to get any cash. At that point, the state with license plates that say "Beautiful Places," and which prides itself on the benefits of being business-friendly, recognized they had been diddled, boxed in by political machinations into accepting a billion dollar liability for chump change.

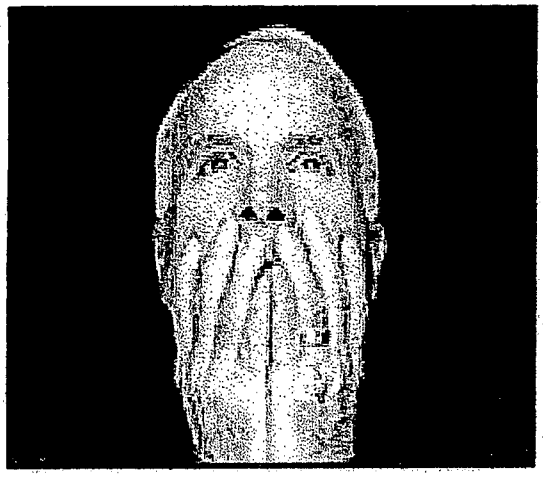
Lake Marion stands as a poster child, teaching the rest of us how trading away protection from long-term landfill liabilities for political crumbs has been a monumental mistake..

Although Pinewood hasn't failed yet, a fuse has been lit because the site's toxic brew festers behind barriers doomed to eventually degrade. Someday, in the not to distant future, that ticking time bomb will detonate a massive tax increase to pay for the cleanup.

Lake Marion stands as a poster child, informing the rest of us how trading away protection from long-term landfill liabilities for political crumbs has been a monumental blunder.

❖

In the career of many in public life, there comes along one trial by fire that, by its enormous stakes, transcends the political adage, to get along, go along. Like the trillion dollar S&L debacle a generation before, now landfills' future risks exemplify those cases, made exceptional by their sheer magnitude, which must be carved out from the customary way politics is practiced in America.



"I fear the [Keating 5] episode probably will be on my tombstone." **– John McCain**

For most of us, we can, and we do, learn from history. And, by doing so now, we will not come to suffer the same fate as John McCain and Alan Cranston, both good men, honorable men, who slipped up once following Charles Keating's siren song nearly 20 years ago. Now, they expect to have that mistake on their tombstone as the legacy for which they will be remembered, rather than for all the good works they had championed over the course of their lives.

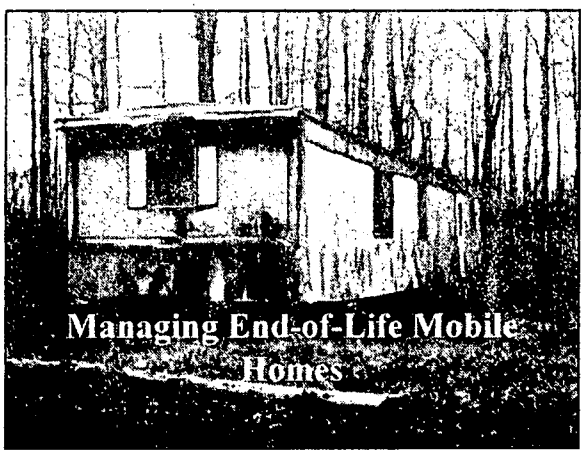
Past generations of regulators had the luxury of passing the buck to the next, but those days are now gone. Today is the day of reckoning, and this generation of regulators has – to paraphrase Roosevelt during those earlier times when the S&L's faced their first crisis – a rendevous with destiny.

The time for you to act is now.* ❐

---

* The Lake Marion story has been extensively chronicled by *The State*'s reporter, Sammy Fretwell. The background and quotations described in this Epilogue were largely excerpted from his article "Landfill deal threatens S.C. lake, taxpayers," published on June 13, 2004. The McCain quote in the photo caption is from his autobiography, John McCain, *Worth Fighting For* (Random House, 2003), at p. 204. Notably, as McCain wrestled with a bout of cancer that made him confront his mortality, he rued that "twelve years after [the conclusion of the Keating Five scandal] I still wince about it and find that—

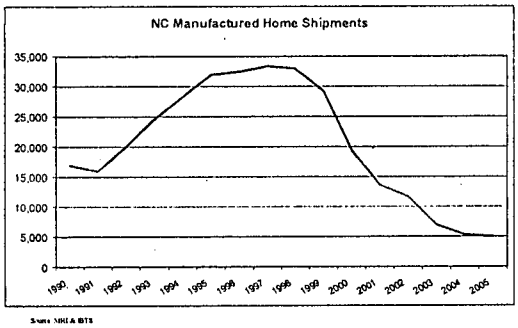
> "if I do not repress the meaning, its recollection still provokes a vague but real feeling that I had lost something very important, something that was lost in pursuit of gratifying ambitions, mine and others', and that I might never possess again as assiduously as I once had."



Number of Manufactured/Mobile Homes

- 2000 Census
  - North Carolina
    - 577,323 units
    - 16.4% of housing stock
  - United States – manufactured homes account for 7.6% of housing
  - NC ranked 5th for percentage of housing stock

North Carolina Shipments



HUD v. Pre-HUD

- Pre-HUD homes
  - Mobile homes
  - Built prior to June 15, 1976
  - Life expectancy ≈ 20 years (can vary greatly)
- HUD Homes
  - Manufactured homes
  - Built after June 15, 1976
  - Life expectancy > 30 years
  - Larger and better built

Nuisance Structures

- Hard to Define
  - Habitable v. Uninhabitable
  - Abandoned v. Occupied
  - Used as Storage Building
  - Violating Local Ordinance
- Concerns
  - General Health and Safety
    - Playing in and around
  - Economic Development
  - Illegal Activities
    - Meth production

NC Nuisance Structure Estimate

- NCACC – 40,000 Nuisance Structures
  - DPPEA supports this estimate
- DPPEA Estimate of Pre-HUD Stock
  - As many as 163,000 structures
  - Roughly 28 percent of all stock
  - Based on AHS and CHP research.

Supporting Data

- Onslow County - > 1,000 nuisance units
- Rockingham County – 450 to 500 units
  - 816 pre-HUD homes on tax records
- Brunswick County – 873 requests
  - 697 structures removed as of March 2004

Clean-Up Programs

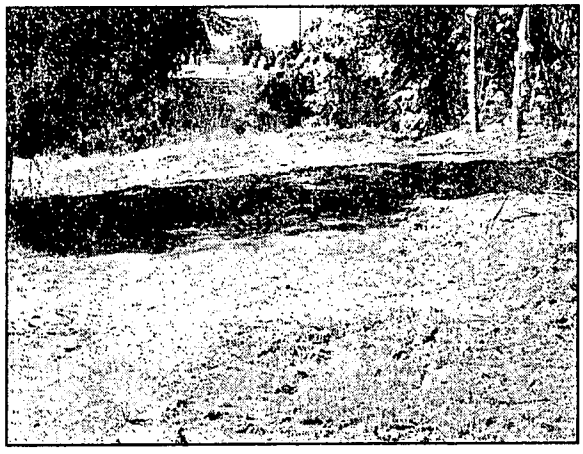
- Two Types
  - Landfill Based
    - Has limitations due to over road transport
  - On-Site Demolition
    - Generally more expensive
- Current Status of Programs
  - Only three permanent programs
  - Some pilot programs
  - There is more interest than activity







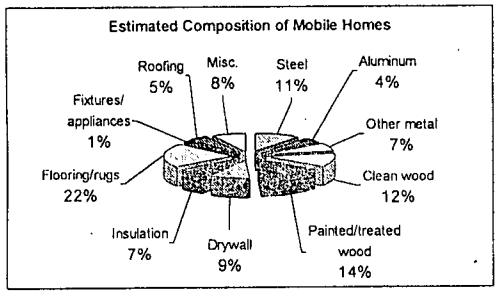




Mobile Home Composition

- Average weight of a single unit – 6 tons
  - Newer data may raise this estimate
- Theoretical Recovery ≈ 52 %
- Economical Recovery ≈ 30 %
- Majority of recycling is from metals

Composition of a Mobile Home



Cost Per Unit

- Costs can vary greatly
  - Internalization of costs
  - Contracted v. public hauling
  - Tipping fees
  - Container rental
  - Transportation of structure
  - Site clean up – septic, etc.
- Average cost per unit - $750 to $1,500
  - Trending towards the higher side

County Perspective on the Clean-Up of Abandoned Manufactured Homes

Environmental Review Commission- Dec. 13, 2006

Paul Meyer
North Carolina Association of County Commissioners

What NCACC is hearing

- Abandoned MH "junks up" the community
- Abandoned MH limits economic development opportunities
- Abandoned MH reduces property values
- Abandoned MH damages the environment
- Abandoned MH jeopardizes public safety
- Citizens want abandoned MH cleaned up

Issues Impacting Clean-Up

- Minimal owner participation in clean-up
- Significant county resources required
  - Enforcement actions (nuisance/zoning)
  - Voluntary release
  - $800 per section (just hard costs)
  - Tax lien
- Ownership determination difficult

Few County Programs

- Models:
  - Funded from county general fund
  - Use of criminal code: requires significant intergovernmental cooperation and resource allocation by non-county sources
- Only impacting the tip of the iceberg
- Lack of resources greatest deterrent

Advance Disposal Fee

- Similar to white goods/scrap tire programs
- Paid at dealer/LG permitting
- Money used to fund clean-up efforts by participating counties

Questions?

EXHIBIT U

Mobile Home Recycling

Environmental Review Commission

December 13, 2006

Stephanie Lewis

Assistant Director of Operation Services

Brunswick County, NC

Two Options for Disposal of Mobile Homes in Brunswick County

- Developed an operational plan allowing mobile homes to be added to the acceptable materials at the County's Construction and Demolition Landfill. This would also allow for the recycling of metals from the mobile homes and thus became known as the Mobile Home Recycling program.
- Implemented a program called Appearance & Code Enforcement or (ACE). This has provided a service to County residents and is very popular.

Program History

- The Mobile Home Recycling Program was initiated by the Planning Department.
  - Zoning Ordinance to discontinue all non-conforming junkyards by January 2000.
  - The objective was to provide an alternative method of mobile home disposal.
  - The Planning Department approached the Solid Waste Department with the idea of recycling mobile homes.

Program History

- Applied for and received a C&D Recycling Grant from NCDENR in February of 2000.
  - Assist in identifying and implementing a cost-effective management method for recycling dilapidated mobile homes.
  - Target the recovery of recyclable materials from a waste stream which historically had been absent from intermediate processing.
- Brunswick County began accepting mobile homes at its C&D Landfill in February of 2000.

Appearance & Code Enforcement

- The ACE program was established in 2001.
- This effort is aimed at addressing concerns regarding the appearance of Brunswick County.
- The program was for a limited time and is promoted as a service to County citizens.

Items Addressed by ACE

- Junked/Abandoned Vehicles
- Junked Mobile Homes
- Dilapidated Housing

ACE Goals

- Improve County's appearance across its 856 scenic square miles.
- Protect and maintain property values.
- Eliminate public health/environmental nuisances.
- Protect public safety and welfare.
- Increase desirability for residential and economic development.

ACE Program Results

- Demolished a total of 1,227 mobile homes.
- Demolished a total of 952 dilapidated homes.
- Removed a total of 671 vehicles and 158 boats.
- Recycled approximately 4,037 tons of metal.
- Channeled over 5,000 tires to the proper waste stream.

ACE Program Costs

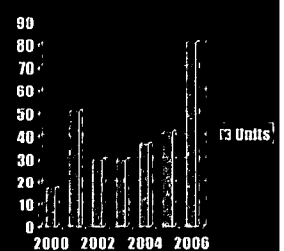
- Costs were determined using the following:
  - Five (5) Equipment Operators
  - One Excavator
  - Four Tandem Dump Trucks
  - One Lowboy Trailer & One Pickup Truck as needed
  - Administrative & Supervisory Costs
  - Tip Fee Costs

ACE Program Costs

- Estimated cost to demolish a mobile home = $1,200/unit (without disposal fees)
- Estimated cost to demolish & dispose of a mobile home = $1,500/unit (varies upon tip fee)
- Total ACE (Oct. 2001 – Nov. 2006) Costs:
  - Labor & Equipment Costs = $1,899,730
  - Disposal Costs (waived tip fees) = $1,907,738
    - Lost Landfill Space = 104,344 cubic yards

Landfill Program Results

- 2000 – 21 mobile homes
- 2001 – 53 mobile homes
- 2002 – 30 mobile homes
- 2003 – 30 mobile homes
- 2004 – 37 mobile homes
- 2005 – 42 mobile homes
- 2006 – 81 mobile homes



Landfill Program Costs

- 2 Equipment Operators
- One Excavator
- One Dump Truck
- ~ 30 minutes per unit (single wide mobile home)
- ~ in-house cost of $75 per unit for demolition, plus $185 - $275 for tip fees (depending on contents and size of MH & variable tip fees)
- Average cost for Brunswick County = $255/unit

Summary

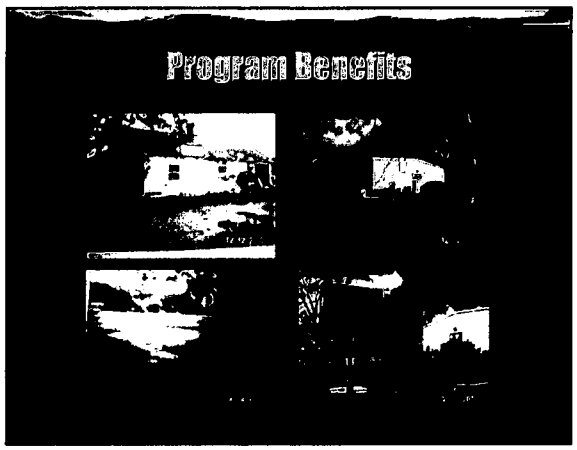
- Program initiated by the Planning Department
- Received C&D grant from NCDENR
- Became operational in 2000 w/ ACE starting in 2001
- Has been very successful in several aspects:
  - Provides an alternative method of mobile home disposal for our residents.
  - Has vastly improved the appearance of our County.

Program Benefits



Program Benefits




Program Benefits

The following is a general outline and guide to voluntary participation in the Brunswick County Appearance & Code Enforcement effort. This effort is aimed at addressing concerns regarding the appearance of Brunswick County and for a limited time is being promoted as a service to its citizens. The following goals have been established in accordance with this effort:

- Improve County's appearance across its 856 scenic square miles.
- Protect and maintain property values.
- Eliminate public health/environmental nuisances.
- Protect public safety and welfare.
- Increase desirability for residential and economic development.

JUNKED/ABANDONED VEHICLES

Junk/abandoned motor vehicle(s) may be removed free of charge for a limited time only according to the following procedure.

After the limited period has expired, removal of junked/ abandoned vehicles will be mandatory and the vehicle owner(s) will be responsible for the cost of removal.

- Owner/applicant must contact Brunswick County Code Enforcement staff.
- Owner should sign vehicle release form(s) to indemnify the County for each vehicle to be removed from the premises.
- Owner should provide vehicle information (e.g., make, color, VIN and condition).
- Owner should clearly mark with an (X) all items to be removed.
- Staff will tow/transport vehicle(s) to County Landfill.

JUNKED MOBILE HOMES

Junked/uninhabitable mobile home(s) may be removed free of charge for a limited time only according to the following procedure.

After the limited period has expired, mandatory removal of junked/uninhabitable mobile homes will be required based on condemnation procedures. Owner will be responsible for the cost of mandatory removal.

- Owner/applicant must contact Brunswick County Code Enforcement staff.
- Owner shall sign release form to allow County to remove or dismantle mobile home.
- Owner should provide mobile home(s) information (e.g., color, make, serial number, condition, and title, if available).
- Owner should clearly mark with an (X) all items to be removed.
- Junk/uninhabitable mobile home(s) will either be dismantled on-site or towed to County Landfill depending upon condition.



DILAPIDATED HOUSING

Dilapidated house(s) will be demolished on-site free of charge for a limited time only, according to the following procedure.

After the limited period has expired, mandatory demolition of dilapidated houses will be required based on condemnation procedures. Owner will be responsible for the cost of mandatory removal.

- Owner/applicant must contact Brunswick County Code Enforcement staff.
- Owner shall sign release form giving County permission to demolish and remove structure.
- Owner should provide house information (e.g., color, construction and condition).
- Chief Building Inspector will perform free asbestos inspection.
- Owner/applicant will be responsible for any asbestos removal/disposal.
- Owner shall clearly mark with an (X) all structures to be demolished.
- County staff will demolish structures on-site and haul to County Landfill.

ALL ITEMS WILL ONLY BE ACCEPTED AT THE COUNTY LANDFILL LOCATED NEAR BOLIVIA

EXHIBIT V

FREQUENTLY CALLED TELEPHONE NUMBERS

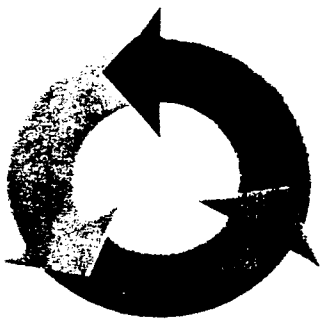
Code Enforcement	(910) 253-2049
	(910) 253-2039
Planning	(800) 621-0609
Fax	(910) 253-2024
Environmental Health	
Bolivia	(910) 253-2250
Toll Free	(800) 428-4429
Building Inspections	(910) 253-2050
	(800) 822-5986
Operation Services	(910) 253-2515
Solid Waste & Recycling	(910) 253-2520
Fire Marshall	(910) 253-4376
	(800) 522-2366

ALL ITEMS WILL ONLY BE ACCEPTED AT THE COUNY LANDFILL LOCATED NEAR BOLIVIA

Planning Department
PO Box 249
Bolivia NC 28422

County of
Brunswick

CITIZENS GUIDE TO VOLUNTARY PARTICIPATION IN THE BRUNSWICK COUNTY APPEARANCE & CODE ENFORCEMENT CLEANUP EFFORT



Scotland County Abandoned Mobile Home Program

- Solid Waste Department
- Sheriff's Department
- Court System
  District Attorney and Judges

Need for Abandoned Mobile Home Program

- History and Background
- Need for Program
- Financial Feasibility
- Benefits of Program

The Program Goals

- Financially Feasible – no tax money could be used to support the project
- Legal – local ordinances used with civil and criminal penalties
- Environmentally Safe – all homes and debris must be brought to Scotland County landfill

Scotland County , North Carolina
Ordinance #22

SOLID WASTE MANAGEMENT ORDINANCE
FOR
SCOTLAND COUNTY, NORTH CAROLINA

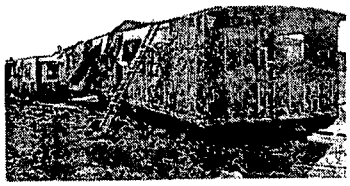
The Program Process

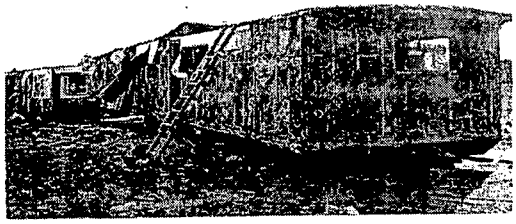
1. Solid Waste Enforcement Officer sends a letter to the landowner to notify that there is a violation on his property. The landowner had 5 days in order to contact the officer of the details of the violation and 30 days in order to bring the violation into compliance.
2. Solid Waste Officer writes a criminal summons to the land owner and the owner either complies or goes to court.

3. Mobile home is transported to the landfill at the owner's expense, weighed and charged a construction demolition tipping fee. The home is taken to the designated area at the C&D landfill where staff dismantles the structure.

4. Items Recycled:
   * aluminum siding and window frames
   * wiring
   * white goods
   * structural steel frames and axles.
5. Un-recyclable wood framing and flooring are disposed in the C&D landfill.

Dismantling of Old Mobile Homes





Before and After

















Summary

- The program has been effective in removing mobile homes without the use of tax dollars.
- The process is slow and without total cooperation with the District Attorney and Court System this program will not succeed.

- The Solid Waste Program pays for the administration and enforcement of the program. This is not a free program. Additional funding will speedup the process and increase the number of homes removed.