



North Carolina Department of Environment and Natural Resources  
Division of Soil & Water Conservation

Beverly Eaves Perdue  
Governor

Patricia K. Harris  
Director

Dee Freeman  
Secretary

**Memorandum**

TO: Environmental Review Commission  
Fiscal Research Division

FROM: David B. Williams, Deputy Director *DBW*

DATE: January 31, 2011

RE: 2010 Annual Report on the Agriculture Cost Share Program for Nonpoint Source  
Pollution Control

This memo transmits the 2010 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 me at 715-6103 or by email at David.B.Williams@ncdenr.gov.

Enclosure

cc: Mariah Matheson  
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**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  
PROGRAM YEAR 2010**



## **INTRODUCTION**

The North Carolina Agriculture Cost Share Program (ACSP) was authorized by the General Assembly in 1983 to improve water quality associated with agriculture in three nutrient sensitive watersheds covering 16 counties. In 1990, the program was expanded to include 96 soil and water conservation districts (districts) covering all 100 counties across the state.

While the Soil and Water Conservation Commission (Commission) has the statutory responsibility to create, implement and supervise the ACSP, it is delivered at the local level by 492 elected and appointed district supervisors who are assisted by their staff and partners in natural resource conservation. These partners include technical and professional employees of the soil and water conservation district or county, the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS), the North Carolina Department of Environment and Natural Resources (DENR) Division of Soil and Water Conservation (Division), the Cooperative Extension Service, and the North Carolina Department of Agriculture and Consumer Services.

The Commission continues to adapt the program to respond to changing needs and technology. There were 64 approved best management practices (BMPs) in the ACSP for program year 2010. BMPs include both short-term and long-term practices. For a BMP to be approved by the Commission, a NRCS technical standard addressing the water quality problem must exist, or the Commission must adopt standards for the practice. Sufficient cost information must also be available to determine the appropriate cost share amount. Occasionally, BMPs are approved on a limited scale for evaluation purposes. These are referred to as district BMPs. The definitions of approved BMPs for the ACSP are provided in the Detailed Implementation Plan (Attachment A).

For most practices, the amount provided in cost share is based on 75 percent of a predetermined average cost for the practice up to a maximum of \$75,000 per cooperating farmer per year. However, some practices are cost shared on 75 percent of actual cost due to the variable nature of the practice. Farmers who qualify as beginning farmers or limited resource farmers, and farmers participating in an enhanced voluntary agricultural district are eligible to receive up to 90 percent cost share up to a maximum of \$100,000 per year.

The Commission conducts a wholesale review of its cost share average costs every three years, but it makes necessary corrections when presented with information that one of its predetermined costs is inaccurate.

Districts spot check a minimum of 5 percent of randomly selected active contracts each year to ensure that practices are being maintained properly. The Division and NRCS also spot check contracts as part of regular reviews of district office implementation of the ACSP. Spot checks for 2010 showed excellent compliance with maintenance requirements by participating farmers. Only 2.5 percent of contracts were out of compliance. When practices are discovered to need additional maintenance, the district is usually able to assist the cooperator to restore the practice to its intended function.

Table 1: Number of site visits conducted during program year 2010

DISTRICTS	CPOs	VISITS	PERCENT VISITED	COMPLIANT	NEED REPAIR	NON-COMPLIANT	PARTICIPATING SUPERVISORS
ALAMANCE	335	22	6.6%	17	5	0	4
ALEXANDER	87	24	27.6%	19	5	0	3
ALLEGHANY	141	13	9.2%	13	0	0	5
ANSON (BROWN CREEK)	60	18	30.0%	18	0	0	4
ASHE (NEW RIVER)	118	8	6.8%	8	0	0	3
AVERY	99	7	7.1%	7	0	0	5
BEAUFORT	53	8	15.1%	8	0	0	4
BERTIE	162	11	6.8%	9	2	0	1
BLADEN	141	14	9.9%	14	0	0	1
BRUNSWICK	80	4	5.0%	4	0	0	2
BUNCOMBE	112	6	5.4%	6	0	0	1
BURKE	69	9	13.0%	8	0	1	4
CABARRUS	64	8	12.5%	8	0	0	3
CALDWELL	73	12	16.4%	10	2	0	4
CAMDEN (ALBEMARLE)	17	3	17.6%	3	0	0	2
CARTERET	3	3	100.0%	3	0	0	2
CASWELL	361	18	5.0%	18	0	0	1
CATAWBA	50	3	6.0%	3	0	0	3
CHATHAM	124	31	25.0%	31	0	0	5
CHEROKEE	135	9	6.7%	9	0	0	3
CHOWAN (ALBEMARLE)	67	5	7.5%	5	0	0	3
CLAY	46	8	17.4%	5	3	0	1
CLEVELAND	72	5	6.9%	5	0	0	5
COLUMBUS	172	10	5.8%	10	0	0	1
CRAVEN	103	8	7.8%	1	1	6	1
CUMBERLAND	92	9	9.8%	9	0	0	2
CURRITUCK (ALBEMARLE)	8	1	12.5%	1	0	0	4

DISTRICTS	CPOs	VISITS	PERCENT VISITED	COMPLIANT	NEED REPAIR	NON-COMPLIANT	PARTICIPATING SUPERVISORS
DAVIDSON	79	21	26.6%	21	0	0	2
DAVIE	59	16	27.1%	16	0	0	3
DUPLIN	206	18	8.7%	18	0	0	1
DURHAM	54	5	9.3%	4	0	1	2
EDGEcombe	264	14	5.3%	14	0	0	5
FORSYTH	74	4	5.4%	4	0	0	2
FRANKLIN	327	16	4.9%	16	0	0	2
GASTON	75	5	6.7%	5	0	0	3
GATES	150	14	9.3%	13	0	1	5
GRAHAM	43	9	20.9%	9	0	0	1
GRANVILLE	324	17	5.2%	15	2	0	3
GREENE	135	12	8.9%	12	0	0	1
GUILFORD	161	22	13.7%	20	2	0	4
HALIFAX (FISHING CREEK)	106	7	6.6%	7	0	0	3
HARNETT	262	21	8.0%	21	0	0	2
HAYWOOD	132	16	12.1%	16	0	0	2
HENDERSON	125	10	8.0%	9	0	0	1
HERTFORD	146	9	6.2%	8	1	0	2
HOKE	52	7	13.5%	6	1	0	1
HYDE	96	5	5.2%	4	0	1	5
IREDELL	76	6	7.9%	6	0	0	3
JACKSON	49	4	8.2%	4	0	0	2
JOHNSTON	259	22	8.5%	21	1	0	4
JONES	60	11	18.3%	10	1	0	2
LEE	104	13	12.5%	11	0	2	1
LENOIR	219	19	8.7%	18	1	0	3
LINCOLN	117	10	8.5%	8	0	2	3
MACON	68	5	7.4%	5	0	0	1
MADISON	100	8	8.0%	8	0	0	3
MARTIN	239	13	5.4%	13	0	0	1
MCDOWELL	37	7	18.9%	7	0	0	1
MECKLENBURG	4	1	25.0%	1	0	0	1
MITCHELL	131	18	13.7%	18	0	0	2
MONTGOMERY	73	24	32.9%	24	0	0	3
MOORE	119	56	47.1%	56	0	0	4
NASH	157	9	5.7%	9	0	0	3
NEW HANOVER	1	1	100.0%	1	0	0	2
NORTHAMPTON	431	23	5.3%	20	3	0	2
ONslow	82	10	12.2%	4	2	4	4
ORANGE	169	20	11.8%	19	0	1	2
PAMLICO (BAY	50	4	8.0%	4	0	0	1

DISTRICTS	CPOs	VISITS	PERCENT VISITED	COMPLIANT	NEED REPAIR	NON-COMPLIANT	PARTICIPATING SUPERVISORS
RIVER)							
PASQUOTANK (ALBEMARLE)	23	5	21.7%	4	1	0	3
PENDER	122	10	8.2%	10	0	0	4
PERQUIMANS (ALBEMARLE)	40	9	22.5%	9	0	0	3
PERSON	274	13	4.7%	9	4	0	4
PITT	300	24	8.0%	24	0	0	3
POLK	46	4	8.7%	4	0	0	2
RANDOPH	65	23	35.4%	20	2	1	5
RICHMOND	63	16	25.4%	11	5	0	3
ROBESON	123	6	4.9%	6	0	0	3
ROCKINGHAM	234	12	5.1%	11	1	0	3
ROWAN	89	9	10.1%	7	1	1	2
RUTHERFORD	188	9	4.8%	5	4	1	2
SAMPSON	165	19	11.5%	19	0	0	3
SCOTLAND	54	7	13.0%	7	0	0	1
STANLY	124	12	9.7%	12	0	0	2
STOKES	139	9	6.5%	9	0	0	4
SURRY	240	18	7.5%	18	0	0	4
SWAIN	25	3	12.0%	3	0	0	2
TRANSYLVANIA	71	10	14.1%	10	0	0	2
TYRRELL	18	3	16.7%	2	1	0	1
UNION	54	13	24.1%	13	0	0	1
VANCE	117	6	5.1%	6	0	0	1
WAKE	153	9	5.9%	7	0	2	3
WARREN	229	15	6.6%	13	1	1	1
WASHINGTON	96	6	6.3%	3	0	3	2
WATAUGA	61	9	14.8%	6	3	0	2
WAYNE	163	15	9.2%	14	0	1	2
WILKES	80	24	30.0%	24	0	0	5
WILSON	133	10	7.5%	10	0	0	5
YADKIN	135	13	9.6%	13	0	0	5
YANCEY	130	11	8.5%	11	0	0	2
<b>TOTALS</b>	<b>12,013</b>	<b>1,161</b>	<b>9.7%</b>	<b>1077</b>	<b>55</b>	<b>29</b>	<b>260</b>
<b>PERCENT(S)</b>				<b>92.8%</b>	<b>4.7%</b>	<b>2.5%</b>	

## **PROGRAM ACCOMPLISHMENTS**

Since the first ACSP contracts were issued in 1984 through the end of program year 2010, 53,740 contracts have been approved for installing BMPs affecting over 2.5 million acres. 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 best management practices installed through the ACSP since its inception are saving over 7.2 million tons of soil annually. 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 (now 15A NCAC 2T) 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:

- ☐ 196,209 acres of marginal or environmentally sensitive cropland have been converted to trees, grass or wildlife habitat areas.
- ☐ 2,200 waste management structures have been constructed to properly store and manage dry and wet animal waste.
- ☐ 925 mortality management systems have been installed to properly manage livestock mortalities to minimize water quality impacts.
- ☐ 4,005 water control structures have been installed improving water management on and reducing nutrient loss from approximately 308,500 acres.
- ☐ 1,106 miles of fencing have been erected, in combination with other practices (e.g., watering sources) to exclude livestock from streams.
- ☐ 626,232 acres of cropland have been converted to no-till or conservation tillage to reduce sediment loss associated with traditional practices.
- ☐ 16,899 acres of forested riparian buffer have been established to reduce nutrient loss from approximately 55,050 acres of cropland.

A complete list of program accomplishments is included as Attachment B.

## **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 program year or in the two previous program 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 a BMP is completed and certified to be in accordance with current NRCS or Commission standards.

Agriculture cost share program payments were applied to 1090 projects statewide between July 1, 2009 and June 30, 2010. These contracts received total payments of \$5,716,983. A list of individual contracts to which agriculture cost share funds were applied in program year 2010 is available upon request.

#### New Contracts for Program Year 2010

In program year 2010, districts requested \$24,363,394 to address identified water quality concerns. The General Assembly appropriated \$4,676,566 in recurring general funds for BMP installation. The Division of Soil and Water Conservation reverted \$337,980 of the appropriated amount to help balance the state budget for Fiscal Year 2009-2010. Current appropriations do not enable districts to meet demand for financial assistance for installing BMPs to protect water quality in North Carolina.

In total, the Commission allocated \$6,583,486 to districts. In addition to the 2010 appropriation, the Commission also had available for allocation (1) funds allocated to districts in 2009 with which districts were unable to execute contracts with farmers prior to the end of the program year and (2) funds recovered from completed and expired contracts from program years 2006 through 2008. Despite the Commission's actions to improve efficiency of the ACSP, districts still must turn away two out of every three farmers requesting cost share assistance.

Districts obligated \$6,447,733 of state appropriated cost share funds to 1,040 new contracts with farmers in program year 2010. In addition, the ACSP infrastructure was used to implement conservation practices using several other funding sources, including the Agricultural Drought Response Project, numerous grants, and an agreement with the Ecosystem Enhancement Program. In all, districts obligated \$7,617,177 to 1,195 contracts. Table 2 presents the total number and value of 2010 contracts for each county. Figure 1 shows the distribution of ACSP contracts within each county. Maps by BMP category can be found in Attachment E.

Table 2: Total number and value of 2010 contracts by county

County	Number of 2010 Contracts	Amount Contracted (Cost Share)	Total Amount Contracted	County	Number of 2010 Contracts	Amount Contracted (Cost Share)	Total Amount Contracted
Alamance	20	\$ 78,117	\$ 138,454	Jones	9	\$ 63,717	\$ 63,717
Alexander	7	\$ 68,871	\$ 95,922	Lee	5	\$ 9,803	\$ 19,791
Alleghany	12	\$ 91,489	\$ 142,489	Lenoir	8	\$ 61,884	\$ 61,884
Anson	6	\$ 101,692	\$ 109,308	Lincoln	4	\$ 64,399	\$ 76,962
Ashe	8	\$ 91,275	\$ 102,478	Macon	6	\$ 53,145	\$ 60,478
Avery	4	\$ 107,146	\$ 117,534	Madison	26	\$ 78,416	\$ 90,798
Beaufort	9	\$ 49,825	\$ 49,825	Martin	9	\$ 35,795	\$ 35,795
Bertie	9	\$ 45,786	\$ 45,786	McDowell	1	\$ 7,500	\$ 7,500
Bladen	8	\$ 51,786	\$ 67,311	Mecklenburg	4	\$ 28,339	\$ 33,332
Brunswick	3	\$ 71,541	\$ 71,541	Mitchell	19	\$ 80,678	\$ 108,237
Buncombe	9	\$ 51,265	\$ 51,265	Montgomery	13	\$ 57,454	\$ 83,286
Burke	8	\$ 76,864	\$ 76,864	Moore	10	\$ 76,620	\$ 77,858
Cabarrus	9	\$ 55,947	\$ 55,947	Nash	4	\$ 60,549	\$ 60,549
Caldwell	8	\$ 56,255	\$ 68,440	New Hanover	0	\$ -	\$ -
Camden	4	\$ 61,255	\$ 61,255	Northampton	17	\$ 76,151	\$ 76,151
Carteret	1	\$ 35,017	\$ 35,017	Onslow	4	\$ 68,320	\$ 68,320

County	Number of 2010 Contracts	Amount Contracted (Cost Share)	Total Amount Contracted	County	Number of 2010 Contracts	Amount Contracted (Cost Share)	Total Amount Contracted
Caswell	36	\$ 7,875	\$ 7,875	Orange	10	\$ 73,399	\$ 73,399
Catawba	8	\$ 94,745	\$ 125,405	Pamlico	8	\$ 57,384	\$ 57,384
Chatham	12	\$ 54,150	\$ 54,150	Pasquotank	7	\$ 48,570	\$ 48,570
Cherokee	25	\$ 109,069	\$ 135,030	Pender	22	\$ 56,401	\$ 56,401
Chowan	31	\$ 91,062	\$ 176,940	Perquimans	9	\$ 54,289	\$ 54,289
Clay	11	\$ 46,931	\$ 68,601	Person	23	\$ 87,272	\$ 87,272
Cleveland	3	\$ 45,230	\$ 52,728	Pitt	20	\$ 85,652	\$ 87,833
Columbus	16	\$ 39,857	\$ 39,857	Polk	2	\$ 35,206	\$ 35,206
Craven	3	\$ 72,264	\$ 72,264	Randolph	24	\$ 116,190	\$ 166,919
Cumberland	5	\$ 29,223	\$ 29,537	Richmond	5	\$ 39,377	\$ 43,380
Currituck	6	\$ 23,455	\$ 23,455	Robeson	28	\$ 100,626	\$ 100,626
Dare	0	\$ 24,750	\$ 24,750	Rockingham	21	\$ 68,730	\$ 123,872
Davidson	8	\$ -	\$ -	Rowan	8	\$ 75,778	\$ 86,441
Davie	11	\$ 50,000	\$ 50,000	Rutherford	13	\$ 56,097	\$ 82,331
Duplin	22	\$ 62,441	\$ 73,907	Sampson	35	\$ 144,384	\$ 225,817
Durham	5	\$ 111,757	\$ 111,757	Scotland	2	\$ 38,481	\$ 38,481
Edgecombe	12	\$ 42,222	\$ 42,222	Stanly	10	\$ 73,070	\$ 82,501
Forsyth	17	\$ 69,457	\$ 76,376	Stokes	13	\$ 62,110	\$ 104,951
Franklin	9	\$ 66,373	\$ 75,546	Surry	22	\$ 239,736	\$ 252,020
Gaston	14	\$ 60,766	\$ 60,766	Swain	11	\$ 39,635	\$ 52,674
Gates	4	\$ 65,240	\$ 86,097	Transylvania	9	\$ 49,418	\$ 51,976
Graham	6	\$ 39,780	\$ 39,780	Tyrrell	9	\$ 54,490	\$ 54,490
Granville	35	\$ 32,566	\$ 32,566	Union	7	\$ 80,189	\$ 90,689
Greene	5	\$ 64,175	\$ 73,526	Vance	19	\$ 45,044	\$ 45,044
Guilford	18	\$ 61,117	\$ 61,117	Wake	19	\$ 92,049	\$ 105,457
Halifax	14	\$ 98,567	\$ 132,330	Warren	25	\$ 59,424	\$ 68,244
Harnett	28	\$ 87,032	\$ 95,426	Washington	18	\$ 71,101	\$ 78,625
Haywood	18	\$ 67,137	\$ 79,137	Watauga	3	\$ 69,123	\$ 69,123
Henderson	11	\$ 95,120	\$ 106,085	Wayne	20	\$ 97,965	\$ 101,047
Hertford	15	\$ 69,435	\$ 92,225	Wilkes	9	\$ 141,744	\$ 178,693
Hoke	3	\$ 69,849	\$ 93,653	Wilson	18	\$ 71,404	\$ 76,656
Hyde	6	\$ 23,982	\$ 23,982	Yadkin	6	\$ 59,181	\$ 176,681
Iredell	4	\$ 41,107	\$ 41,107	Yancey	23	\$ 63,717	\$ 63,717
Jackson	6	\$ 61,140	\$ 61,140				
Johnston	26	\$ 38,305	\$ 47,393	<b>Total</b>		<b>\$ 6,447,733</b>	<b>\$ 7,617,177</b>

Table 3 below shows the top ten BMPs funded in 2010 from all funding sources. Livestock practices including tanks, wells, livestock exclusion fencing and pasture renovation remain some of the program's most popular BMPs. Cropland conversion to grass and grassed waterways are also consistently implemented by program cooperators.

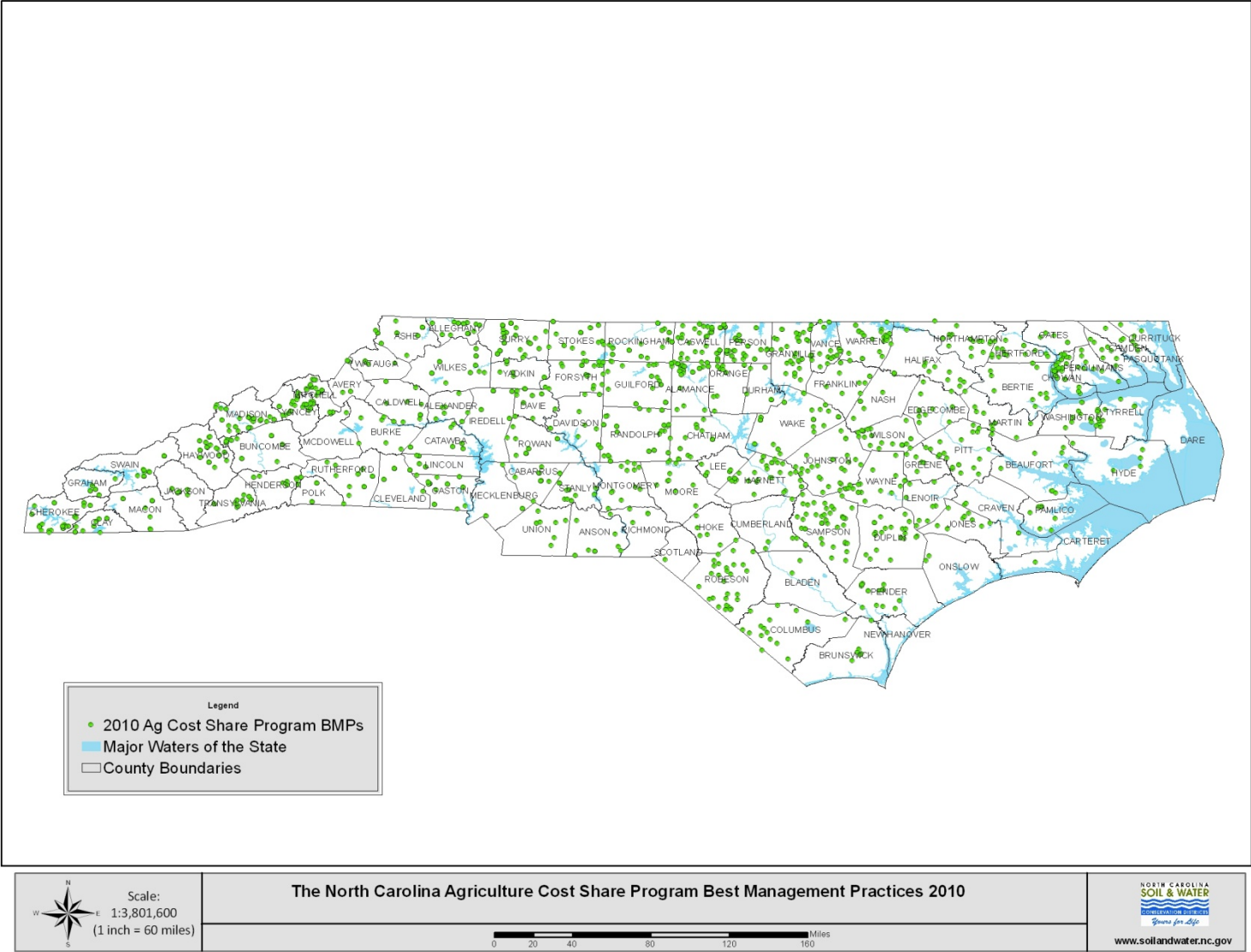


Table 3: Top 10 BMPs for 2010\*\*

<b>BMP</b>	<b>Number of Contracts</b>	<b>Extent of Practice (Units)</b>	<b>Encumbered Dollar Amount</b>
Livestock Water Tanks	195	412 units	\$ 934,152
Well	130	124 units	\$ 714,609
Dry Stack	30	29 units	\$ 585,259
Livestock Exclusion	153	312,241 feet	\$ 551,308
Cropland Conversion – Grass	128	2,000 acres	\$ 469,069
Grassed Waterway	126	104 acres	\$ 345,556
Pasture Renovation	126	1,552 acres	\$ 298,742
Waste Application Equipment and Solid-Sets	32	32 units	\$ 277,681
Long Term No-Till	35	1,810 acres	\$ 213,538
Incinerator	21	21 units	\$ 212,745

\*\*Based on planned or contracted BMPs for 2009-2010, all funding sources.

Figure 1: 2010 Agriculture Cost Share Program BMPs



#### Estimated Water Quality Benefits of ACSP Contracts Initiated in 2010

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: (1) tons of soil saved, (2) pounds of nitrogen saved or managed, and (3) pounds of phosphorus saved or managed.

Soil savings estimates have been required on all ASCP contracts since the start of the program. Beginning with the 1997 program year, estimates of nitrogen and phosphorus savings were required. The Division continues to work with the Division of Water Quality, NRCS, and North Carolina State University to improve and refine the methods used to estimate and account for nutrient reductions.

These estimates have allowed the Division to track progress made 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 and maintain the 30 percent nutrient reduction required by these rules. It will also be of critical benefit for achieving the nutrient reduction requirements in the Jordan Lake and Falls Lake watersheds.

Local districts determine which projects are eligible for funding in their areas according to a required priority ranking process. The priority ranking is 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 2008-2010 are summarized in Table 4.

Table 4: Sediment and Nutrient Reduction Benefits for Program Years 2008 through 2010 from state appropriations

	<b>2008</b>	<b>2009</b>	<b>2010</b>
Number of Contracts	1,484	1,093	1,040
Acres Affected	68,955 acres	53,256 acres	60,099 acres
Soil Saved	125,844 tons	77,480 tons	98,845 tons
Nitrogen (N) Saved	915,805 pounds	393,071 pounds	439,816 pounds
Phosphorus (P) Saved	254,612 pounds	67,243 pounds	83,233 pounds
Waste-N Managed	2,906,961 pounds	1,760,951 pounds	2,149,328 pounds
Waste-P Managed	3,219,796 pounds	2,486,697 pounds	2,623,271 pounds

The sharp drop off in these estimated benefits from 2008 and 2009 can be explained by the focus on drought response in 2009. The Division does not have a good tool for estimating the benefits for many of the drought response BMPs, such as livestock watering wells. Still, these practices are known to improve water quality by reducing livestock dependence upon streams for watering. The Technical Review Committee for the program has formed a workgroup to develop better accounting tools for these practices. Another factor impacting the reduced benefits is due the lower total number of contracts per year.

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.

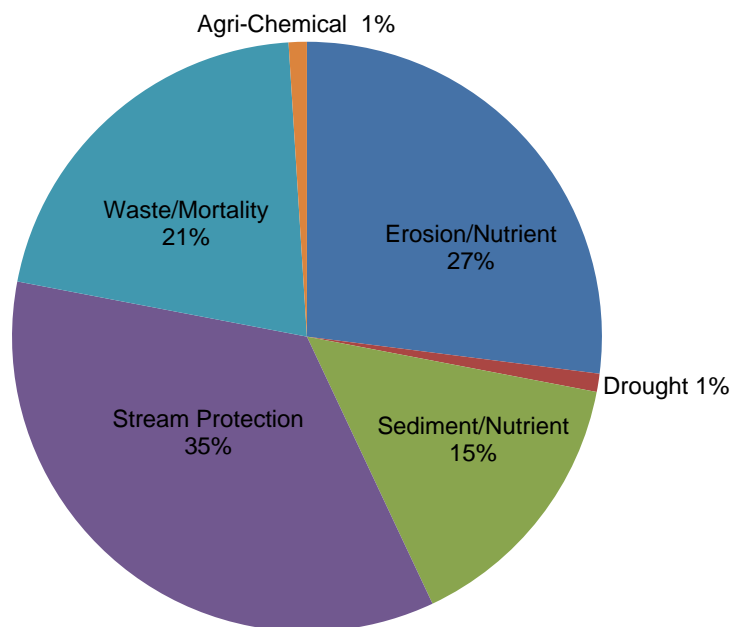
#### Effectiveness of Each Project to Accomplish Its Primary Purpose

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;
- (5) stream protection measures to reduce the delivery of sediment and nutrients by animals and stabilize streambanks to minimize further erosion and sediment contribution.

As shown in Figure 2, 27 percent of the 2010 funds from all funding sources that were directed toward erosion and nutrient-reducing BMPs (e.g., conservation tillage, cropland conversion to grass or trees); 15 percent were directed toward sediment and nutrient-reducing BMPs (e.g., riparian buffers, field borders, grassed waterways); 35 percent were directed toward stream protection systems (e.g., livestock exclusion); 21 percent were directed toward animal operations for waste and mortality management BMPs (e.g., poultry litter storage structures, closure of inactive lagoons, livestock feeding/waste storage structures); 1 percent was directed toward agrichemical pollution prevention measures (e.g. agrichemical handling facilities), and 1 percent was directed toward drought response BMPs (e.g. pasture renovation, wells, conservation irrigation systems). Attachment C includes charts showing the approved BMPs in these categories and their relationship to water quality improvement.

**Figure 2: 2010 ACSP contracts by category, state appropriations**



Projects for which program funds have been expended are verified by staff to ensure that the practices are installed in accordance with program standards and that it is 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. This is best illustrated by the fact that the Commission targeted \$200,000 of funds available in 2010 for the specific purpose of installing BMPs into watersheds listed on the State's 303(d) list of impaired waters due to agricultural nonpoint source pollution. Agriculture was identified as a potential source of pollutants to impaired waters in 94 counties. This allocation was limited to the 16 districts that have completed Impacted/Impaired Streams Initiative surveys to identify specific project locations to address the potential sources of the impairment.

In 2010, about 28 percent of ACSP funds were used to implement BMPs in watersheds of impaired waters. Considering that only 2.4 percent 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 21 percent of funds contracted in program year 2010 were contracted with farmers in the Neuse and Tar-Pamlico River Basins to help them achieve and maintain 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 N.C. Soil and Water Conservation Commission

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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 \$300,000 of program year 2010 funds to 14 districts to assist with implementation of riparian buffers in nutrient sensitive watersheds under the Conservation Reserve Enhancement Program (CREP).

To help respond to the historic drought of 2007 and 2008, the Commission earmarked \$298,030 of 2010 ACSP funds to implement facilitating water quality practices to support new and enhanced water supplies contracted through the Drought Response Program. These funds supplemented the drought appropriation first received in 2008, of which \$173,255 was allocated in 2010. These funds, while not specifically targeted at impaired waters, helped to address an emergency need for the State.

#### Incorporating Information from the Basinwide Water Quality Plans Published by the Division of Water Quality (DWQ)

In 2005, the Commission established a policy relating District Strategy Plans to the DWQ's Basinwide Water Quality Plans which requires that all 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 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 for which agriculture has been identified as a potential source or stressor. This section of the strategy plan should also describe how the district intends to address agricultural nonpoint source problems impacting these waters.

All 96 Districts completed this section of the strategy plan and documented the impaired waters in their county and the actions the District plans to take to address the problems impacting these waters.

### **NEW PROGRAM ENHANCEMENTS TO IMPROVE EFFICIENCY AND PROGRAM DELIVERY**

ACSP is focused on continually improving the program's cost effectiveness due to recurring budget reductions in state appropriations. The Commission is moving forward on enhancements for the 2010-11 program year. These enhancements were designed to improve the efficiency by which program funds are used by agricultural cooperators to install BMPs and to improve the responsiveness of the program to state and local water quality priorities.

#### Database Development

The Division has initiated an upgrade to the existing ACSP database. The Division is working with the DENR Information Technology Services (ITS) to upgrade the current ACSP database. 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 upgrade will include mechanisms to attach GPS and GIS information and digital photographs to better present the benefits and outcomes associated with BMP implementation. It will also provide real-time ACSP information that can easily be updated by the Division, DENR Regional Office and local district staff, with minimal errors and be used to generate standard reports on program use and water quality benefits. This project is currently available for districts to test, and will be fully utilized in program year 2012.

### Program Changes

For program year 2010 the Commission has made several changes to the program including:

1. Adding the following practices to the ACSP:
  - a. Pasture renovation practice – this practice establishes and maintains a conservation cover of grass. The purpose of this practice is to reduce soil erosion, sedimentation and pollution from dissolved and sediment-attached substances on pastureland.
  - b. Precision nutrient management practice – this practice requires the application of nitrogen, phosphorus and lime using specialized application equipment or multiple applications based on the site specific recommendation for each GPS-referenced sampling point. The purpose of this practice is to minimize the entry of nutrients into surface and groundwater, and cost share for this incentive is limited to \$15,000 per cooperator.
2. Approving the following changes to existing practices:
  - a. Scavenger nutrient crop practice – now an annual practice, requiring district verification that the scavenger crop reaches the required kill date, and clarification of the definition of bin seed for this practice.
  - b. Prescribed grazing incentive – allows a greater stocking rate on pastureland, so long as it does not exceed a limit of 30 percent external feed.
  - c. Conservation irrigation conversion practice – encourages the conversion of traveling gun irrigation systems to center-pivot or lateral move systems with low-pressure or drop nozzles. The cap on this practice was reduced to \$15,000.
  - d. Riparian buffer practice – clarifies the purpose and the definition of streams eligible for the practice, includes a minimum buffer width, and updates NRCS reference standards.
  - e. Long-term no-till, 3 year conservation tillage, crop residue management incentives, cover crop and nutrient scavenger crop practices – allows for the treatment of ruts in contracted fields with specific guidance.
  - f. Wells – allows a cost-shareable component for water meters installed through drought response program BMPs. This component became eligible for all pastured-based operations, and the meter will be paid at 75 percent of actual costs not to exceed \$400.

### **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 percent 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 in the program is substantial in helping to change local practices.

### Leveraging Additional BMP Implementation Funds from Other Sources

In addition to the appropriated funds for the Agriculture Cost Share Program, the Division and districts used the Agriculture Cost Share Program infrastructure to encumber over \$1.16 million in grant funds from other funding sources to conservation contracts with NC agricultural producers and landowners. These funding sources included:

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- NC Rural Center (grant funds to support restoring pastures and water supplies impacted by the 2007-08 drought);
- Clean Water Management Trust Fund (grant funds to support implementing water quality best management practices in the French Broad River Basin and in support of the Swine Buyout Program);
- NC Ecosystem Enhancement Program (receipted funds to use the ACSP infrastructure to install BMPs adjacent to stream and wetland restoration projects);
- US EPA Section 319 (grant funds to support implementing water quality best management practices in the Dan River Watershed);
- 3 separate USDA Conservation Innovation Grants for installing innovative best management practices for aquacultural operations, installing innovative mortality management practices for livestock operations, and installing innovative controlled drainage structures on crop production operations.

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) 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 EPA-319 grants for accelerating BMP implementation in the Neuse, Tar-Pamlico river basins, and Jordan Lake Watershed.

Whenever possible, the districts use the ACSP in conjunction with other programs, such as the federal Environmental Quality Incentive Program (EQIP) and the Conservation Reserve Enhancement Program (CREP), 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

The ACSP is delivered locally by 492 elected and appointed volunteer district supervisors and by over 440 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 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. The staff also assists farmers and other landowners in implementing water quality projects using other funding sources such as EQIP, the U.S. Environmental Protection Agency's Section 319 Nonpoint 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 2010, the General Assembly appropriated \$2,448,778 in



recurring funds for cost sharing technical assistance positions in local districts. County commissions provide more than 50 percent match for salaries and operating expenses, including office space and administrative support for these technical assistance positions. In program year 2010, the cost share technical assistance program cost shared on 116 technical positions in 95 counties to assist farmers in designing and installing BMPs. These state technical assistance cost share funds maintain a local conservation infrastructure that is also used to deliver federal cost share funds to NC landowners and land users. In 2010, local districts cooperated with the NRCS to deliver \$32 million of conservation assistance. Technical assistance funds 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 in some districts to use federal vehicles for use on state cost share work. NRCS also provides computers and sophisticated natural resources materials and computer software in 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 D is an overview of the funding and compliance process used for implementing the ACSP.

A Division staff of four full time employees reviews approximately 1,400 contracts annually and processes about 2,000 requests for payment each year. The Division also trains local personnel, provides daily technical assistance to the districts, maintains the ACSP Manual, 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. 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.

## **IMPACT OF INCREASED COSTS TO THE ACSP**

The ACSP has experienced many challenges due to the increased costs of fuel, labor, and materials over the past few years. Since the ACSP is based on 75 percent of a predetermined average cost for each practice it has been almost impossible to keep up with the cost changes in areas such as gravel, pipe, fencing, lumber, and the cost of operating heavy machinery to install many of the BMPs in the program. In program year 2004, the ACSP was able to contract with 2,053 projects statewide encumbering \$6,827,880 compared to only 1,040 projects statewide in the 2010 program year encumbering \$6,776,478. Because of the price increase the soil and water conservation districts are not able to help as many farmers install conservation practices.

The ACSP continues to monitor the established average costs list for the program and receives feedback from the local soil and water conservation districts on any adjustments that are needed. Division staff completed a review of the current average cost manual in the Spring of 2010 and made the adjustments effective for the 2011 program year.

## **CONCLUSIONS AND RECOMMENDATIONS**

Based on the above considerations, the Commission believes the ACSP is being administered 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 these water quality practices cannot be passed on to the consumer in the price of the food or fiber product. The ACSP 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.

Increased costs of fuel, labor, and materials have significantly impacted the amount of conservation the program can effect and the number of cooperating farmers who can be assisted. 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.



## **DETAILED IMPLEMENTATION PLAN – PROGRAM YEAR 2010\***

### **Definition of Practices**

- (1) An abandoned well closure is the sealing and permanent closure of a supply well no longer in use. This practice serves to prevent entry of contaminated surface water, animals, debris, or other foreign substances into the well. It also serves to eliminate the physical hazards of an open hole to people, animals, and farm machinery. Cost share for this practice is limited to \$1,500 per well at 75% cost share and \$1,800 per well at 90%.
- (2) An agrichemical containment and mixing facility means a system of components that provide containment and a barrier to the movement of agrichemicals. The purpose of the system is to provide secondary containment to prevent degradation of surface water, groundwater, and soil from unintentional release of pesticides or fertilizers. Cost share for this practice is limited to \$16,500 per facility at 75% cost share and \$19,800 per facility at 90%.
- (3) 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 \$27,500 per facility at 75% cost share and \$33,000 per facility at 90%.
- (4) Agricultural pond restoration/repair means to restore or repair existing failing agricultural pond systems. Benefits may include erosion control, flood control, and sediment and nutrient reductions from farm fields for better water quality. This practice is only applicable to low hazard classification ponds. For restoration projects involving dam, spillway, or overflow pipe upgrades, cost share is limited to \$15,000 per pond at 75% cost share and \$18,000 per pond at 90%. For restoration projects involving removal of accumulated sediment only, total charge to NCACSP is restricted to a total of \$3,000 per pond at 75% cost share and \$3,600 per pond at 90%.
- (5) Agricultural water supply pond means to construct agricultural ponds for water supply for existing irrigation or livestock watering requirements (not expansion of the operation). Benefits may include water supply, erosion control, flood control, and sediment and nutrient reductions from farm fields for better water quality. This practice is only applicable to low hazard classification ponds. (Temporary practice for the Drought Response Program.) Cost share is restricted to \$15,000 per pond at 75% cost share and \$18,000 per pond at 90%. Receipts are required for reimbursement.
- (6) 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.
- (7) A chemigation or fertigation backflow prevention system means a system for preventing backflow of chemicals or fertilizers from contaminating water sources in chemigation and fertigation 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 at 75% cost share and \$1,800 per system at 90%.

- (8) A 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. Eligible land includes that planted to Christmas Trees, orchards, ornamentals, vineyards and other cropland needing protective cover.
- (9) Conservation irrigation conversion means to modify an existing overhead spray irrigation system to increase the efficiency and uniformity of irrigation water application. Cost Share for this practice cannot exceed a total \$15,000 charge to NCACSP at 75% cost share and \$18,000 at 90%, including the cost of backflow prevention. Other water quality BMPs needed are in addition to the conversion cost. (Temporary practice for the Drought Response Program.)
- (10) 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. This 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.

- (11) A cover crop means a crop of grasses, legumes, or small grain grown primarily for seasonal protection, erosion control and soil improvement. It usually is grown for one year or less. The major purpose is water and wind erosion control, to cycle plant nutrients, add organic matter to the soil, improve infiltration, aeration and tilth, improve soil quality, reduce soil crusting, 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 \$15,000 per cooperator in a lifetime.
- (12) 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.
- (13) 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.

- (14) Crop residue management means maintaining cover on sixty (60) percent of the soil surface at planting to protect water quality. Crop residue management also provides seasonal soil protection from wind and rain erosion, adds organic matter to the soil, conserves soil moisture, and improves infiltration, aeration and tilth. Benefits may include reduction in soil erosion, sedimentation and pollution from dissolved sediment-attached substances. Cost share for this incentive practice is limited to \$15,000 per cooperator in a lifetime.
- (15) 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.
- (16) 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.
- (17) 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.
- (18) 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.
- (19) 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.
- (20) 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.
- (21) A land smoothing practice means reshaping the surface of agricultural land to planned grades for the purpose of improving water quality. Improvements to water quality include:
  - (a) Reduction in nutrient loss.
  - (b) Reduction in concentrated flow of water from an agricultural field.
  - (c) Improved infiltration.
- (22) 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.

- (23) 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 \$4,200 at 75% cost share and \$5,040 at 90%.
- (24) A long term no-till practice means planting all crops for five consecutive years with at least eighty (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.
- (25) A micro-irrigation system means an environmentally safe system for the conveyance and distribution of water, chemicals, and fertilizer to agricultural fields for crop production. A micro-irrigation system is for frequent application of small quantities of water on or below the soil surface as drops, tiny streams, or miniature spray through emitters or applicators placed along a water delivery line. This practice may be applied as part of a conservation management system to support one or more of the following purposes:
  - (a) To efficiently and uniformly apply irrigation water and maintain soil moisture for plant growth.
  - (b) To efficiently and uniformly apply plant nutrients in a manner that protects water quality.
  - (c) To establish desired vegetation.

Cost share for this practice will be based on actual cost with receipts required not to exceed \$25,000 charge to the NCACSP at 75% cost share and \$30,000 at 90%, including the cost of backflow prevention.

- (26) A nutrient management 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.
- (27) A nutrient scavenger crop is a crop of small grain grown primarily as a seasonal nutrient scavenger. The purpose is to scavenge and cycle plant nutrients. The nutrient scavenger crop also adds organic matter to the soil, improves infiltration, aeration and tilth, improves soil quality, reduces soil crusting, provides residue for conservation tillage, and sequesters 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.

- (28) 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.
- (29) A pasture renovation practice means to establish and maintain a conservation cover of grass, where drought has caused damage to pasture vegetation. Benefits may include reduced soil erosion, sedimentation and pollution from dissolved and sediment-attached substances. (Temporary practice for the Drought Response Program.)
- (30) A portable agrichemical mixing station means a portable device to be used in the field to prevent the unintentional release of agrichemicals to the environment during mixing and transferring of agrichemicals. Benefits may include prevention of accidental degradation of surface and ground water. Cost share for this practice is limited to \$3,500 per station at 75% cost share and \$4,200 at 90%. Cost share is also limited to one station per cooperator.
- (31) Precision nutrient management means applying nitrogen; phosphorus and lime in a site-specific manner (with specialized application equipment or multiple application events) based on the site specific recommendations for each GPS-referenced sampling point to minimize entry of nutrients to surface and groundwater and improve water quality. Cost share for this incentive is limited to \$15,000 per cooperator.
- (32) Prescribed grazing involves managing the intensity, frequency, duration, timing, and number of grazing animals on pastureland in accordance with site production limitations, rate of plant growth, physiological needs of forage plants for production and persistence, and nutritional needs of the grazing animals. The goal of this practice is to reduce accelerated soil erosion and compaction, to improve or maintain riparian and watershed function, to maintain surface and/or subsurface water quality and quantity, to improve nutrient distribution, and to improve or maintain desired species composition and vigor of plant communities. Productive pastures maintain wildlife habitat and permeable green space. Cost share for this incentive is limited to \$15,000 per cooperator.
- (33) A riparian buffer means a permanent, long-lived vegetative cover (grass, shrubs, trees, or a combination of vegetation types) established adjacent to and up-gradient from watercourses or water bodies to improve water quality. Benefits may include reduced soil erosion and nutrient delivery, sedimentation, pathogen contamination and pollution from dissolved, particulate and sediment-attached substances.
- (34) 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.



- (35) A rooftop runoff management system means a system of collection and stabilization practices (dripline stabilization, guttering, collection boxes, etc.) to prevent rainfall runoff from agricultural rooftops from causing erosion where vegetative practices are insufficient to address erosion concerns and protect water quality.
- (36) 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.
- (37) 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.
- (38) 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.
- (39) 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.
- (40) Streambank and shoreline protection means the use of vegetation to stabilize and protect banks of streams, lakes, estuaries, or excavated channels against scour and erosion. This practice should be used to prevent the loss of land or damage to utilities, roads, buildings, or other facilities adjacent to the banks, to maintain the capacity of the channel, to control channel meander that would adversely affect

downstream facilities, to reduce sediment load causing downstream damages and pollution, or to improve the stream for recreation or fish and wildlife habitat.

- (41) A stream restoration 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. Cost share for this practice is limited to \$30,000 per cooperator per year at 75% cost share and to \$36,000 per year at 90%.
- (42) 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.
- (43) 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.
- (44) 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 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. This practice is only applicable to waste storage ponds and lagoons. Cost share for this practice is limited to \$75,000 per cooperator at 75% cost share and \$90,000 at 90% cost share.
  - (b) A concentrated nutrient source management System is a system of vegetative and structural measures used to manage the collection, storage, and/or treatment of areas where agricultural products may cause an area of concentrated nutrients.
  - (c) 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.
  - (d) A controlled livestock lounging area means a planned, stabilized and vegetated area in which livestock are kept for a short duration.
  - (e) 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 \$33,000 per structure at 75% cost share and \$39,600 at 90%.
  - (f) 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 \$27,500 per structure at 75% cost share and \$33,000 per structure at 90%.

- (g) 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.
- (h) Lagoon biosolids removal means removing accumulated biosolids from active lagoons to restore required treatment volume at on-going operations. The biosolids will be properly utilized on offsite farmland or processed to a value-added product, including energy production, to reduce nutrient impacts. Lagoon Biosolids Removal Incentive payments shall be limited to \$15,000 in a lifetime.
- (i) 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, mortality incinerator, and mortality gasification.
- (j) A manure composting facility is a facility for the biological treatment, stabilization and environmentally safe storage of organic waste material (such as manure from poultry and livestock) to minimize water quality impacts and to produce a material that can be recycled as a soil amendment and fertilizer substitute.
- (k) Manure/litter transportation means transporting dry litter and dry manure from livestock and poultry farms that lack sufficient land to effectively utilize the animal-derived nutrients. The litter/manure will be properly utilized on alternative land or processed to a value-added product, including energy production, to reduce nutrient impacts. Manure/Litter Transportation Incentive payments shall be limited to 3-years per applicant and \$15,000 in a lifetime.
- (l) 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.
- (m) 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. .
- (n) A solids separation from tank-based aquaculture production means a facility for the removal, storage and dewatering of solid waste from the effluent of intensive tank-based aquaculture production systems. The system is used to capture organic solids from the effluent stream of intensive fish production

systems that would otherwise flow to effluent ponds for storage and further treatment. This waste comes from uneaten feed and feces generated by fish while being fed within a tank-or raceway based fish farm.

- (o) 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.
  - (p) 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 \$35,000 per cooperator in a lifetime at 75% cost share and \$42,000 in a lifetime at 90%.
  - (q) A waste storage pond means an impoundment made by excavation or earthfill for temporary storage of animal waste, waste water and polluted runoff.
  - (r) A waste treatment lagoon means an impoundment made by excavation or earthfill for biological treatment and storage of animal waste.
- (45) A water control structure means a permanent structure placed in a farm canal, ditch, or subsurface drainage conduit (drain tile or tube), which provides control of the stage or discharge of surface and/or subsurface drainage. The management mechanism of the structure may be flashboards, gates, valves, risers, or pipes. The primary purpose of the water control structure is to improve water quality by elevating the water table and reducing drainage outflow. A secondary purpose is to restore hydrology in riparian buffers to the extent practical. Elevating the water table promotes denitrification and lower nitrate levels in drainage water from cropping systems and minimizes the effects of short-circuiting of drainage systems passing through riparian buffers. Other benefits may include reduced pollution from other dissolved and sediment-attached substances, reduced downstream sedimentation and reduced stormwater surges of fresh water into estuarine area.

This practice is not intended to be used to control water inflow from tidal influence (i.e., no tide gates).

- (46) A wetland restoration system means a system of practices designed to restore the natural hydrology of an area that had been drained and cropped.

\* To be used in conjunction with the most recent version of the APA Rules for the North Carolina Agriculture Cost Share Program for Nonpoint Source Pollution Control and the NC-ACSP Manual.

**BEST MANAGEMENT PRACTICES ELIGIBLE  
FOR COST SHARE PAYMENTS**

- (1) Best Management Practices eligible for cost sharing include the practices listed in Table 1 and any approved District BMPs. District BMPs shall be reviewed by the Division for technical merit in achieving the goals of this program. Upon approval by the Division, the District BMPs will be eligible to receive cost share funding.

**Table 1**

<b><u>Practice</u></b>	<b><u>Minimum Life Expectancy (years)</u></b>
Abandoned Well Closure	1
Agrichemical Containment and Mixing Facility	10
Agrichemical Handling Facility	10
Agricultural Pond Restoration/Repair	10
Agricultural Water Supply Pond	10
Agricultural Road Repair/Stabilization	10
Backflow Prevention System	
Chemigation	10
Fertigation	10
Conservation Cover	6
Conservation Irrigation Conversion	10
3-Year Conservation Tillage System :	3
Cover Crops	1
Critical Area Planting	10
Cropland Conversion	10
Crop Residue Management	1
Diversion	10
Field Border	10
Filter Strip	10
Grade Stabilization Structure	10
Grassed Waterway	10
Heavy Use Area Protection	10
Land Smoothing	5
Livestock Exclusion	10
Livestock Feeding Area	10
Long Term No-Till	5
Micro-Irrigation System	10
Nutrient Management	3
Nutrient Scavenger Cover Crop	1
Portable Agrichemical Mixing Station	5
Pastureland Conversion	10
Precision Nutrient Management	3
Prescribed Grazing	3
Riparian Buffer	10
Rock-lined Waterway or Outlet	10

Attachment A

Rooftop Runoff Management System	10
Sediment Control Basin	10
Sod-based Rotation	4 or 5
Stock Trail and Walkway	10
Stream Protection System	
Spring Development	10
Stream Crossing	10
Trough or Tank	10
Well	10
Windmills	10
Streambank and Shoreline Protection	10
Stream Restoration	10
Stripcropping	5
Terrace	10
Waste Management System	
Closure of Abandoned Waste Impoundment	10
Concentrated Nutrient Source Management System	10
Constructed Wetland for Land Application	10
Controlled Livestock Lounging Area	10
Drystack	10
Feeding/Waste Storage Structure	10
Insect Control System	5
Lagoon Biosolids Removal Incentive	1
Livestock Mortality Management System	
Incinerator	5
Others Systems	10
Manure Composting Facility	10
Manure/Litter Transportation Incentive	1
Odor Management System	1 to 10
Retrofit of On-going Animal Operations	10
Solids Separation from Tank-Based Aquaculture	
Production	10
Storm Water Management System	10
Waste Application System	10
Waste Storage Pond	10
Waste Treatment Lagoon	10
Water Control Structure	10
Wetlands Restoration System	10

- (2) The minimum life expectancy of the BMPs shall be that listed in Table 1. Practices designated by a District shall meet the life expectancy requirement established by the Division for that District BMP.
- (3) The list of BMPs eligible for cost sharing may be revised by the Commission as deemed appropriate in order to meet program purpose and goals.

## NC Agriculture Cost Share Program: Practice Log Summary

Program Year 2010: All funding sources

Best Management Practice	Units	Msr.	Planned	Units	Msr.	Implemented
			Cost			Cost
<b><u>Erosion/Nutrient Reduction</u></b>						
Pasture Renovation	1,530.67	Acre	\$290,505	1,265.40	Acre	\$233,333
Conservation Tillage (3 Yr.)	1,324.34	Acre	\$100,095	779.12	Acre	\$55,980
Long Term No-Till	1,809.86	Acre	\$213,508	1,579.35	Acre	\$180,888
Cover Crop	5,868.95	Acre	\$113,440	4,977.08	Acre	\$94,334
Sod-Based Rotation	656.13	Acre	\$108,661	483.17	Acre	\$80,961
Cropland Conversion - Grass	1,996.69	Acre	\$468,313	1,404.20	Acre	\$327,746
Cropland Conversion - Trees	658.54	Acre	\$94,487	506.94	Acre	\$68,232
Conservation Cover	13.50	Acre	\$2,441	10.00	Acre	\$1,890
Critical Area Planting	7.48	Acre	\$20,164	3.06	Acre	\$8,992
Crop Residue Management	7,591.20	Acre	\$113,497	4,853.92	Acre	\$68,728
Diversion	11,888.00	Feet	\$23,520	4,525.00	Feet	\$7,771
Land Smoothing	1,021.60	Acre	\$192,716	536.40	Acre	\$105,915
Terraces	31,013.00	Feet	\$20,346	23,114.00	Feet	\$12,798
Abandoned Well Closure	2.00	Units	\$1,557	2.00	Units	\$1,557
Micro-Irrigation	152,402.00	Acre	\$28,688	152,001.00	Acre	\$20,205
Pastureland Conversion To Trees	17.50	Acre	\$2,742	15.50	Acre	\$2,383
Nutrient Scavenger Crop	522.26	Acre	\$10,556	22.26	Acre	\$445
Prescribed Grazing	169.22	Acre	\$11,357	169.22	Acre	\$4,785
Ag Road Repair-Stabilization	13,966.00	Feet	\$153,412	13,218.00	Feet	\$102,175
<b><u>Drought Response</u></b>						
Irrigation Well	27.00	Units	\$111,217	22.00	Units	\$88,069
Well-Confined Animal Water Supply	26.00	Units	\$97,472	20.00	Units	\$64,284
Conservation Irrigation Retrofit	8,488.00	Acre	\$60,999	8,385.00	Acre	\$60,999
<b><u>Sediment/Nutrient Reduction</u></b>						
Grassed Waterway	100.27	Acre	\$332,368	55.83	Acre	\$170,324
Field Border	76.91	Acre	\$185,919	37.03	Acre	\$85,094
Filter Strip	3.32	Acre	\$11,033	2.83	Acre	\$8,601
Precision Nutrient Management	1,691.88	Acre	\$70,316	638.98	Acre	\$9,541
Riparian Buffer	21.10	Acre	\$16,137	4.50	Acre	\$6,875
Water Control Structure	62.00	Units	\$105,073	8.00	Units	\$10,587
Nutrient Management	1,898.50	Acre	\$45,034	1,898.50	Acre	\$37,433
Pond Renovation	36.00	Units	\$147,188	25.00	Units	\$81,688
Rock-Lined Outlet	3.00	Units	\$3,379	2.00	Units	\$549
Stream Restoration	3,233.00	Feet	\$89,127	2,283.00	Feet	\$22,237
Streambank And Shoreline Protection	2,874.00	Feet	\$76,543	126.00	Feet	\$517
Grade Stabilization Structure	12.00	Units	\$24,550	5.00	Units	\$15,021
Run-Off Management System	18.00	Units	\$31,813	7.00	Units	\$10,546
<b><u>Stream Protection</u></b>						
Trough Or Tank	413.00	Units	\$925,446	199.00	Units	\$422,234
Livestock Exclusion	308,654.40	Feet	\$543,116	83,239.40	Feet	\$133,730
Heavy Use Area Protection	59.00	Units	\$173,030	32.00	Units	\$106,090
Stream Crossing	48.00	Units	\$72,851	13.00	Units	\$40,241
Stock Trail	23.00	Units	\$112,260	13.00	Units	\$75,440
Spring Development	12.00	Units	\$17,487	6.00	Units	\$7,713
Well	124.00	Units	\$707,373	81.00	Units	\$420,890
Livestock Feeding Area	7.00	Units	\$27,211	2.00	Units	\$7,436
Municipal Tap Water Supply	1.00	Units	\$600	1.00	Units	\$563

Attachment B

**Waste Management**

**Best Management Practice**

	Units	Msr.	Planned Cost	Units	Msr.	Implemented Cost
Dry Stack	28.00	Units	\$575,259	21.00	Units	\$433,536
Incinerator	21.00	Units	\$212,745	4.00	Units	\$47,940
Feed/Waste Storage	1.00	Units	\$6,179	1.00	Units	\$6,179
Gasifier	1.00	Units	\$27,179	0.00	Units	\$0
Closure - Waste Impoundments	10.00	Units	\$149,713	9.00	Units	\$126,835
Waste Application Equip	28.00	Units	\$229,360	21.00	Units	\$162,502
Lagoon Biosolids Removal	2,653,800.00	Gallo	\$26,538	0.00	Gallon	\$0
Retrofit	3.00	Units	\$173,846	1.00	Units	\$4,525
Composter	8.00	Units	\$136,775	6.00	Units	\$123,858
Solid Set	3.00	Units	\$71,873	2.00	Units	\$48,321
Storm Water Management	1.00	Units	\$942	0.00	Units	\$0

**Agri-Chemical Pollution Prevention**

Agri-Chemical Handling Facility	4.00	Units	\$57,239	3.00	Units	\$11,401
Chemigation Backflow Prevention	4.00	Units	\$6,600	0.00	Units	\$0
Agrichemical Containment And Mixing	1.00	Units	\$10,742	1.00	Units	\$10,742

Contracts:	1,195	020	1	Total:	\$7,642,537	Total:	\$4,241,659
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	Value	Expended	Dairy	2,411
Contract \$:	\$7,623,923	\$4,225,747	Beef	11,645
Non-ACSP	\$18,614	\$18,162	Hogs	158,905
			Horses	428
Total \$:	\$7,642,537	\$4,243,909	Broilers	2,856,200
			Layers	124,425
			Turkeys	478,580
			Poultry	1,088,425
			Sheep	269
			Goats	320



**NC AGRICULTURE COST SHARE PROGRAM  
WATER QUALITY IMPROVEMENT PURPOSES OF APPROVED BMPs**

**Purpose: Stream Protection Measures**

<b>BMP</b>	<b>Reduction of applied nutrient</b>	<b>Reduction of soil loss</b>	<b>Facilitating BMP</b>	<b>Life of BMP (yrs.)</b>
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

**Purpose: Waste Management Measures – Mortality and Manure Management**

<b>BMP</b>	<b>Proper mgmt. of nutrients</b>	<b>Reduction of soil loss</b>	<b>Nutrient interception</b>	<b>Facilitating BMP</b>	<b>Life of BMP (yrs.)</b>
Closure of Waste Impoundment	√	-	-	-	10
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 Systems	√	-	-	-	10
Incinerators	√	-	-	-	5
Waste Application System	√	-	-	√	10
Tank-Based Aquaculture	√	-	-	-	10
Manure/Litter Transportation Incentive	√	-	-	-	1
Manure Composting Facility	√				10
Lagoon Biosolids Removal Incentive	√	-	-	-	1
Concentrated Nutrient Source Management	√			√	10

**Purpose: Erosion Reduction/Nutrient Loss Reduction in Fields**

<b>BMP</b>	<b>Reduction of applied nutrient</b>	<b>Reduction of soil loss</b>	<b>Life of BMP (yrs.)</b>
Conservation Tillage 3-yr	√	√	3
Long Term No-till	√	√	5
Critical Area Planting	√	√	10
Cropland Conversion	√	√	10
Water Diversion	√	√	10
Land Smoothing	√	√	10
Wetlands Restoration	√	√	10
Pastureland Conversion	√	√	10
Sod-based Rotation	√	√	4 or 5
Stripcropping	√	√	5
Terraces	√	√	10
Conservation Cover	√	√	6
Nutrient Scavenger Cover Crop	√	√	10
Cover Crop	√	√	1
Pasture Renovation	√	√	10
Micro-Irrigation System	√	√	10
Rooftop Runoff Management		√	10
Prescribed Grazing	√	√	3
Crop Residue Management	√	√	3

**Purpose: Agricultural Chemical Pollution Prevention**

<b>BMP</b>	<b>Interception of chemicals</b>	<b>Life of BMP (yrs.)</b>
Agri-chemical Handling Facility	√	10
Fertigation Back Flow Prevention	√	10
Chemigation Back Flow Prevention	√	10
Portable Pesticide Mixing Station	√	5
Agrichemical Containment and Mixing Facility	√	10

**Purpose: Sediment/Nutrient Delivery Reduction from Fields**

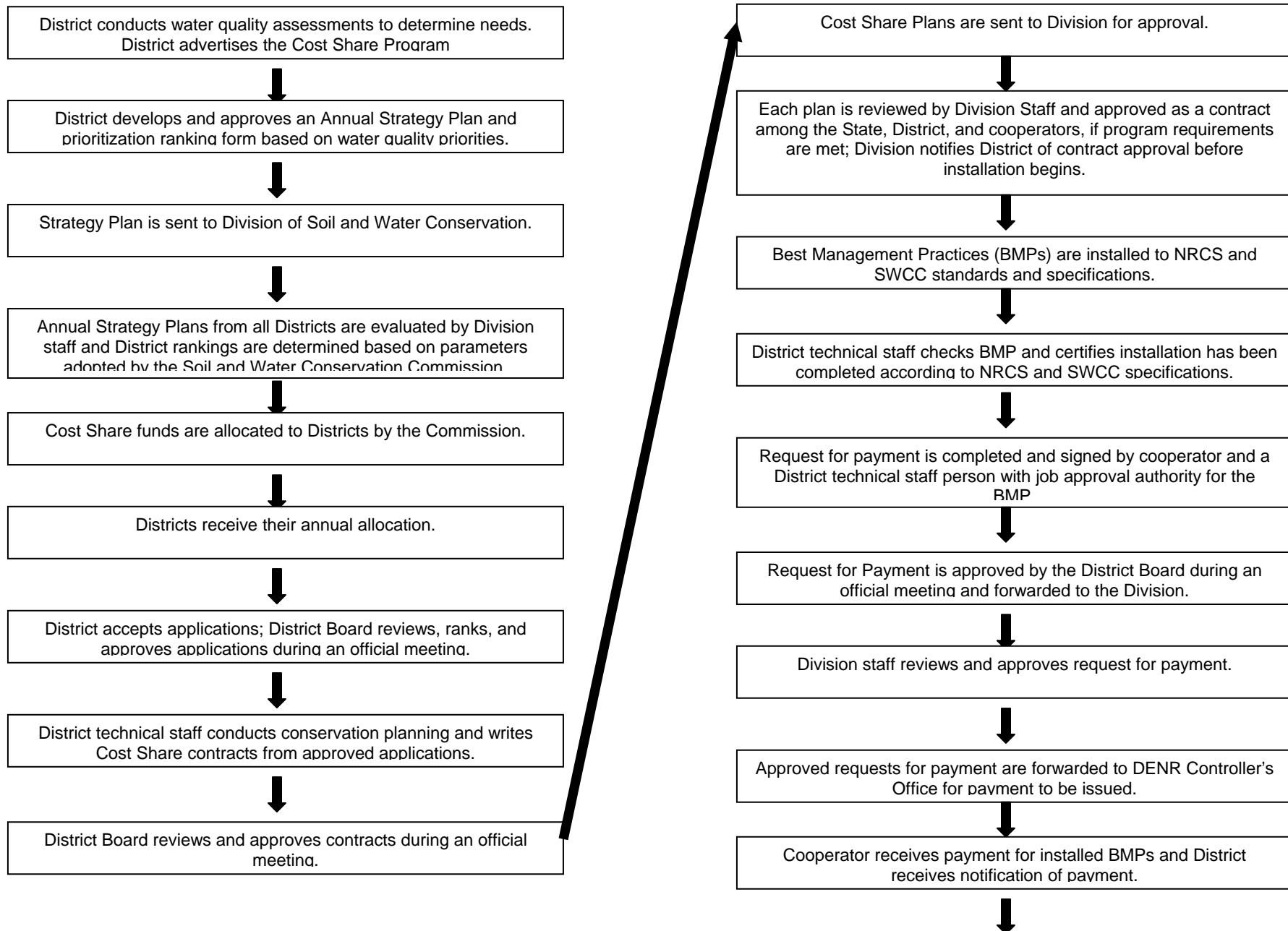
<b>BMP</b>	<b>Reduction of applied nutrient</b>	<b>Reduction of soil loss</b>	<b>Nutrient interception</b>	<b>Facilitating BMP</b>	<b>Life of BMP (yrs)</b>
Field Border	-	√	√	-	10
Filter Strip	-	√	√	-	10
Grade Stabilization Structure	-	-	-	√	10
Grassed Waterway	-	√	√	-	10
Nutrient Mgmt.	√	-	-	-	3
Riparian Buffer	-	√	√	-	10
Rock-lined Outlet	-	-	-	√	10
Sediment Control Basin	-	-	√	-	10
Water Control Structure	-	√	√	-	10
Streambank and Shoreline Protection	-	√	√	-	10
Stream Restoration		√			10
Agricultural Road Repair/Stabilization	-	√	-	-	10
Abandoned Well Closure	-	-	-	√	1
Agricultural Pond Restoration/Repair		√	√		10
Precision Nutrient Management	√			√	3

**Purpose: Drought Response Measures (Temporary BMPs)**

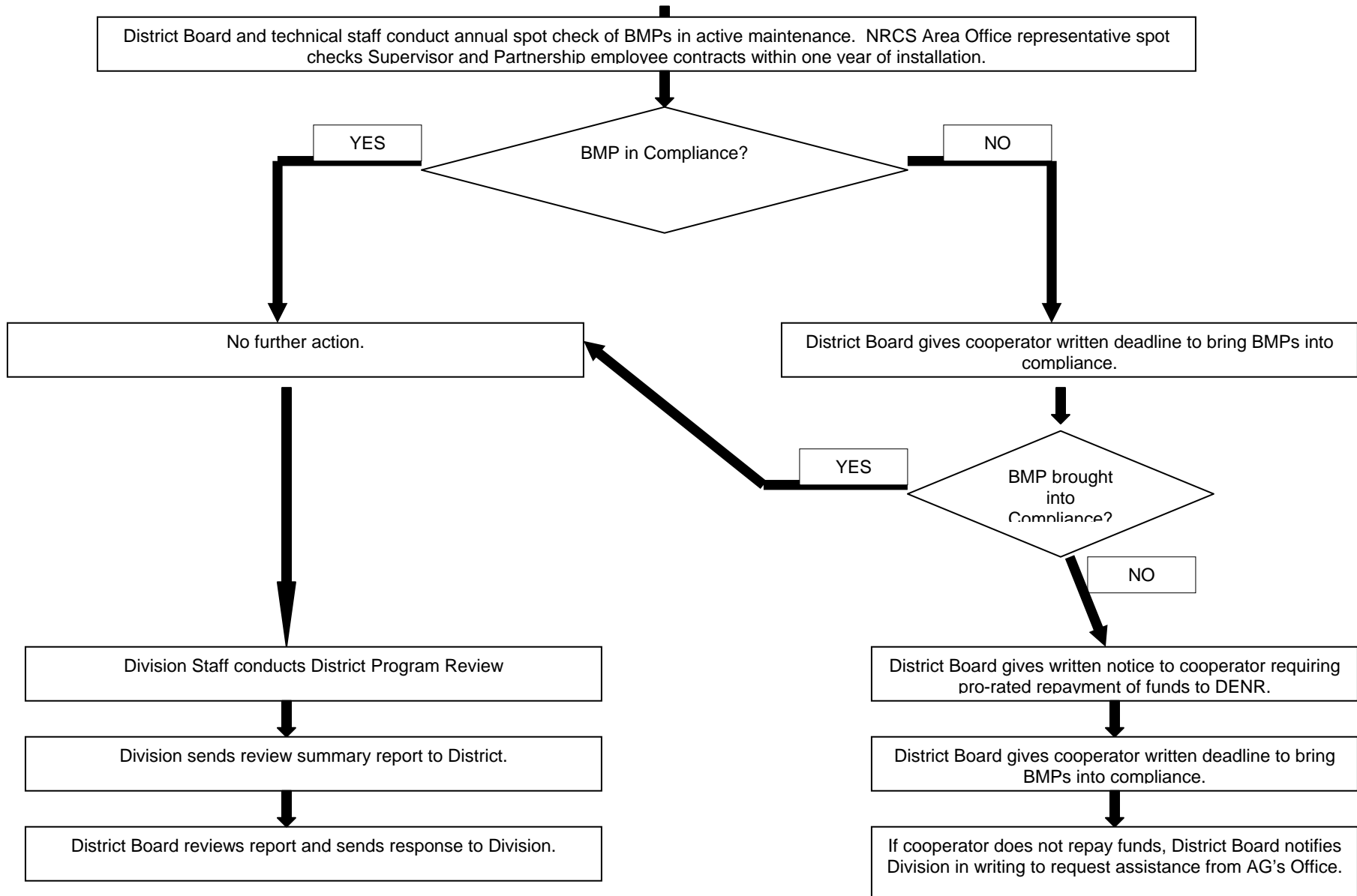
<b>BMP</b>	<b>Reduction of applied nutrient</b>	<b>Reduction of soil loss</b>	<b>Nutrient interception</b>	<b>Facilitating BMP</b>	<b>Life of BMP (yrs)</b>
Agriculture Water Supply Pond	√	√	√	-	10
Conservation Irrigation Conversion	√	-	-	√	10

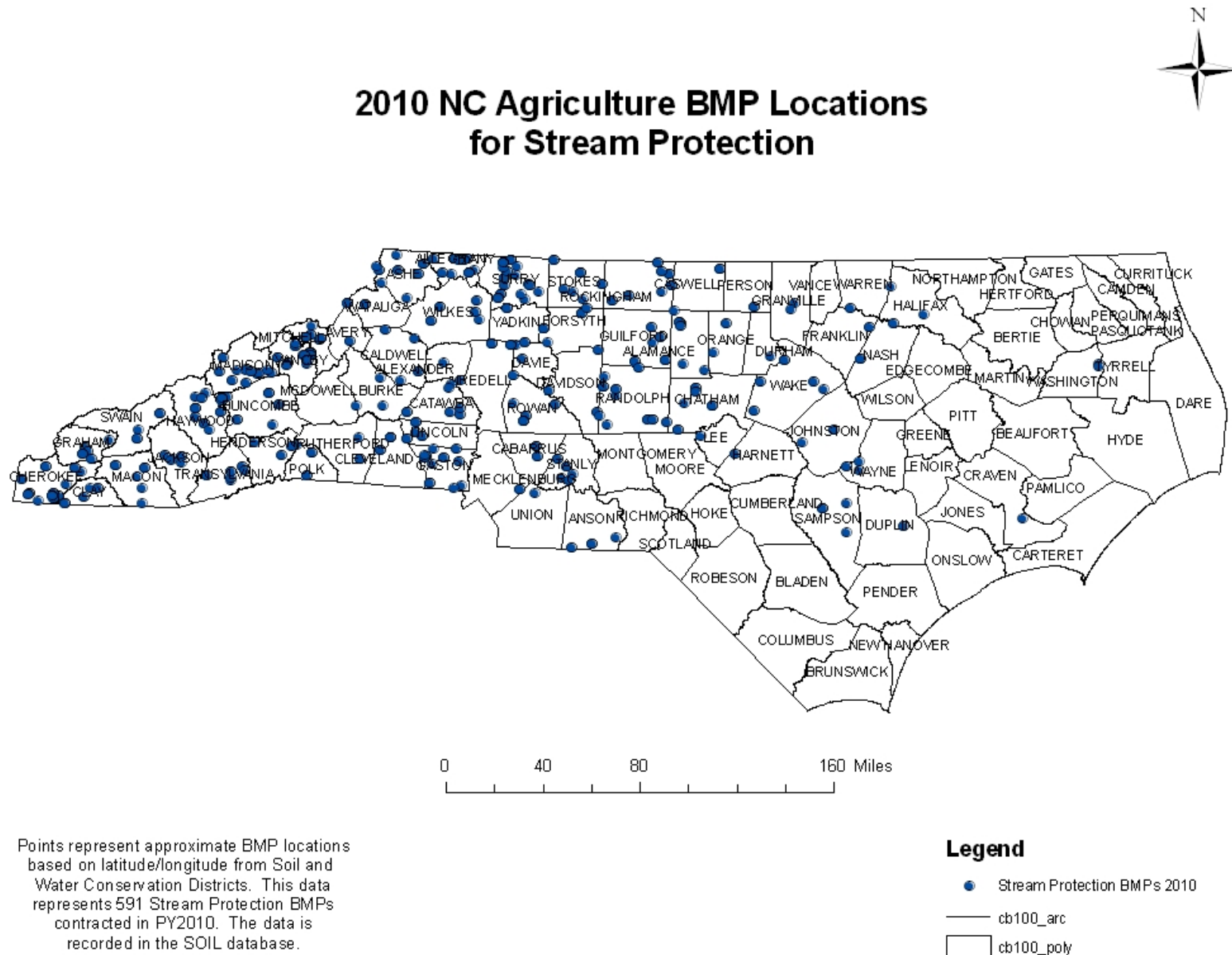
## NC Agriculture Cost Share Program

### Funding and Compliance Process



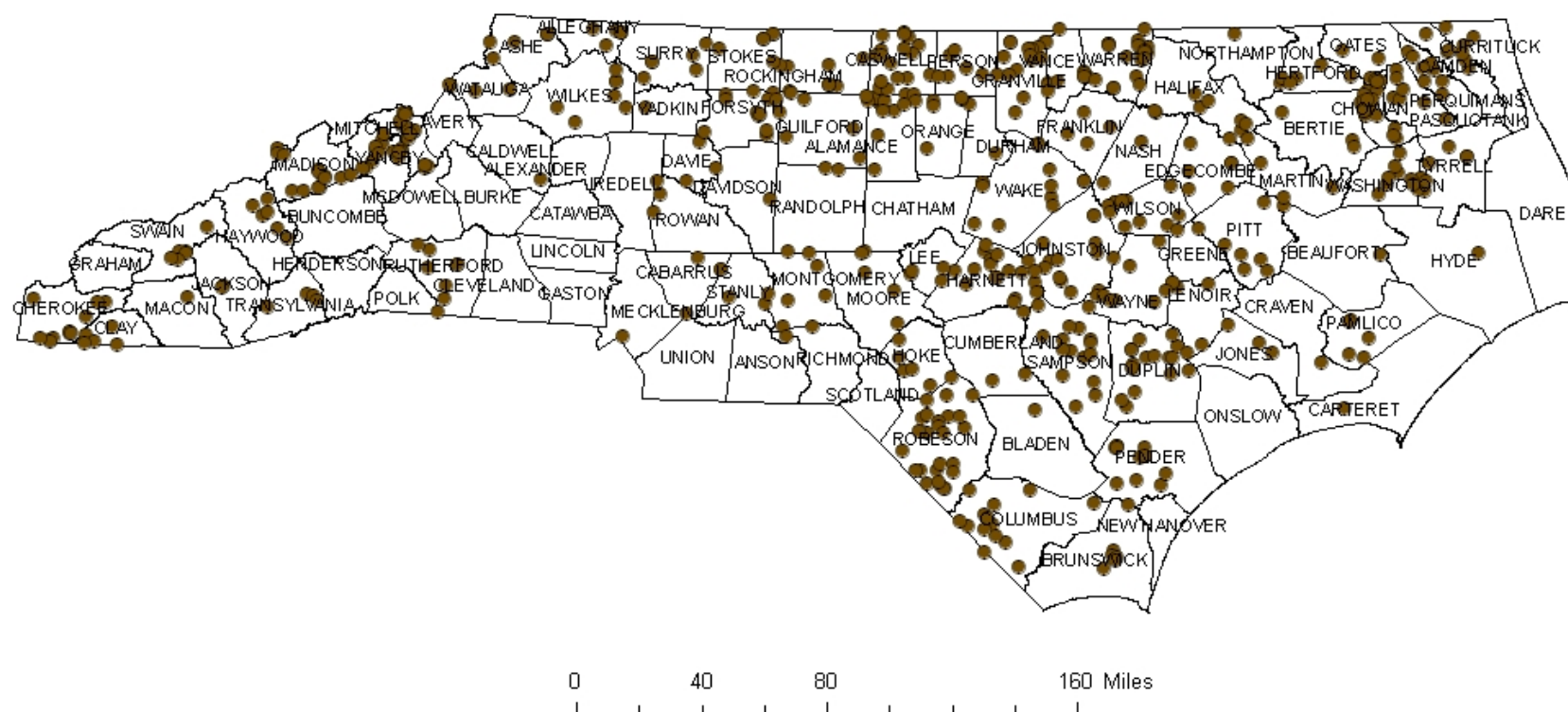
Attachment D







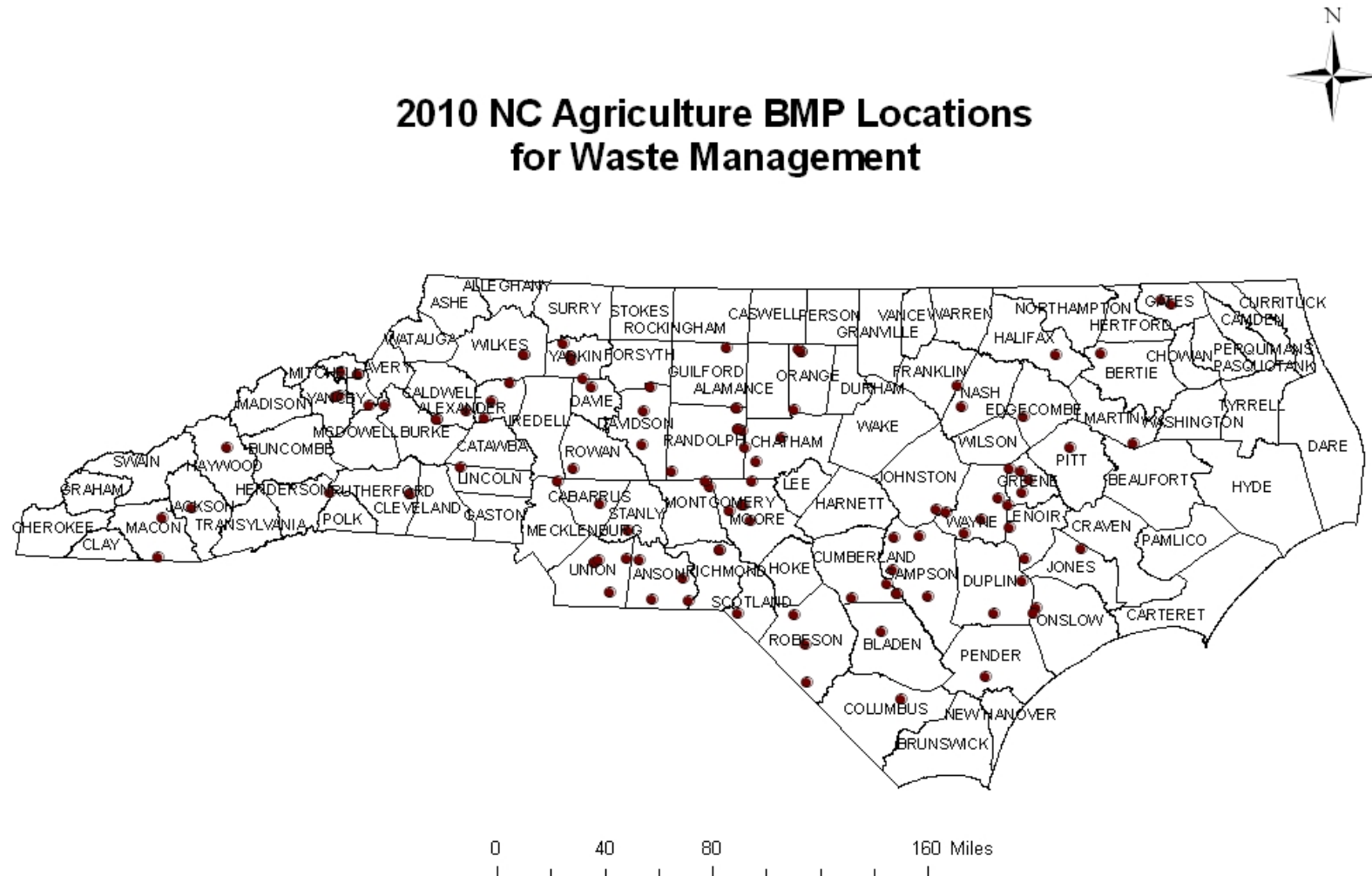
## 2010 NC Agriculture BMP Locations for Erosion/Nutrient Reduction



Points represent approximate BMP locations based on latitude/longitude from Soil and Water Conservation Districts. This data represents 573 Erosion/Nutrient Reduction BMPs contracted in PY2010. The data is recorded in the SOIL database.

### Legend

- Erosion/Nutrient Reduction BMPs 2010
- cb100\_arc
- cb100\_poly

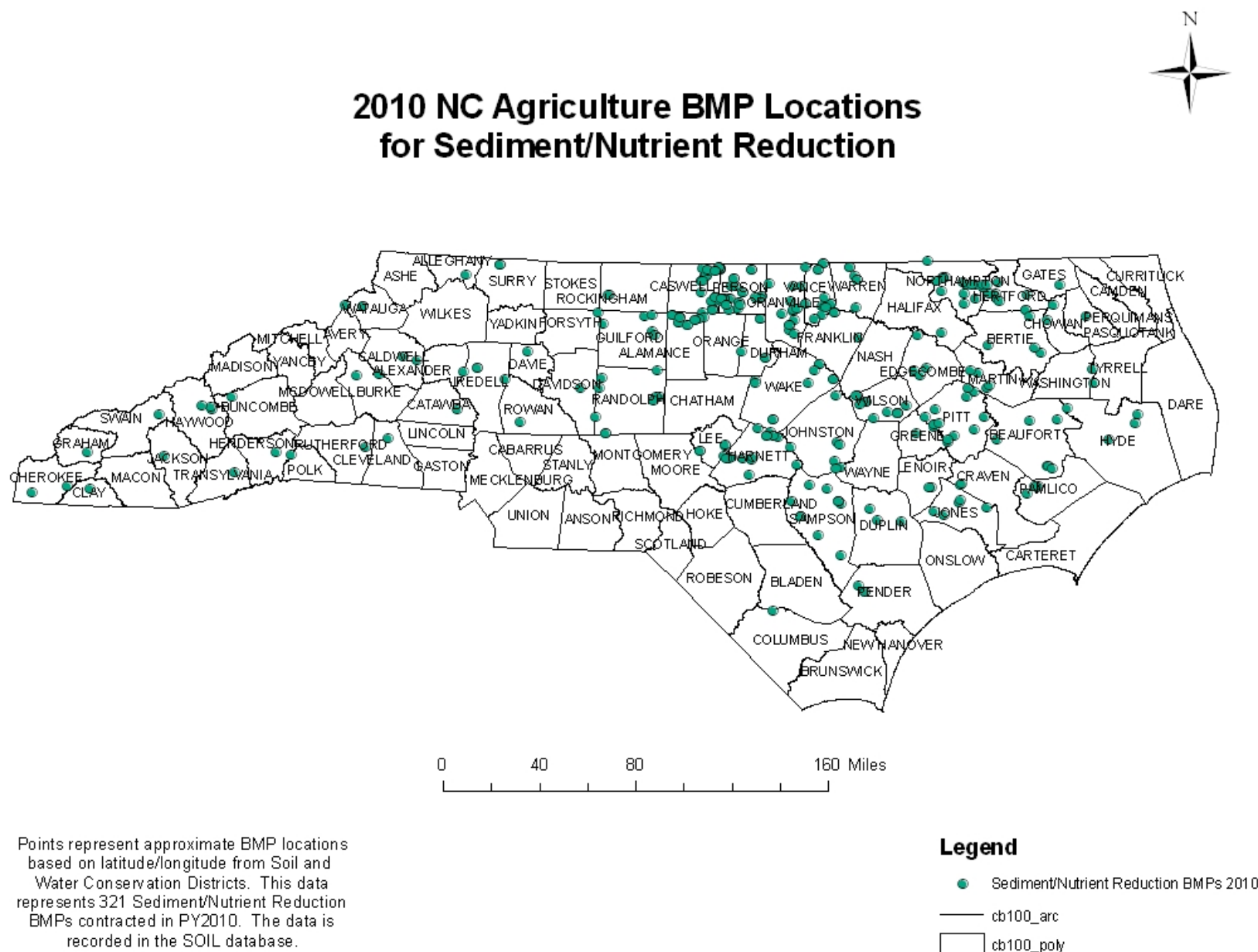


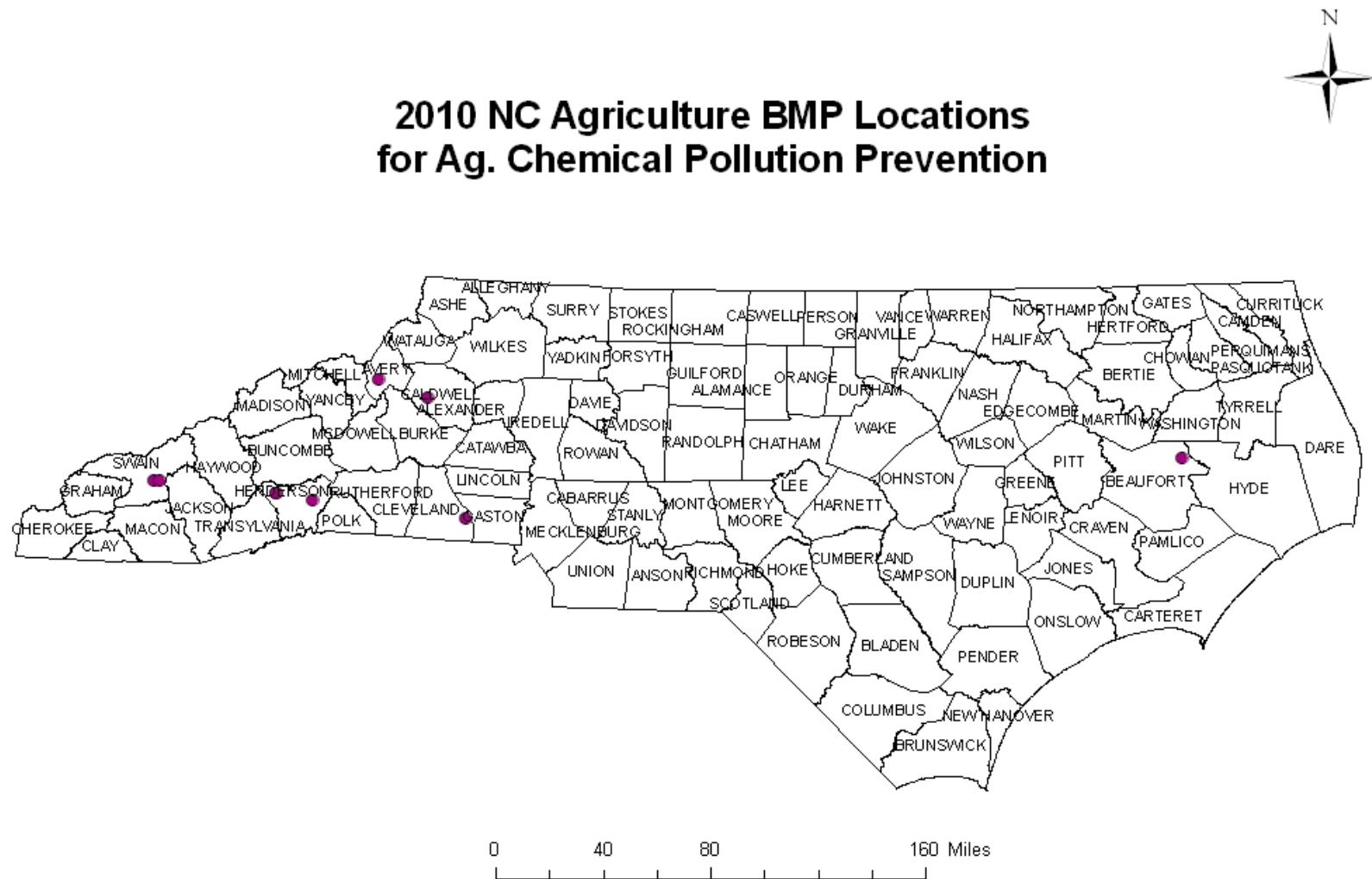
Points represent approximate BMP locations based on latitude/longitude from Soil and Water Conservation Districts. This data represents 108 Waste Management BMPs contracted in PY2010. The data is recorded in the SOIL database.

#### Legend

- Waste Management BMPs 2010
- cb100\_arc
- cb100\_poly







Points represent approximate BMP locations based on latitude/longitude from Soil and Water Conservation Districts. This data represents 9 Ag. Chemical Pollution Prevention BMPs contracted in PY2010. The data is recorded in the SOIL database.

#### Legend

- Ag. Chem. Pollution Prevention BMPs 2010
- cb100\_arc
- cb100\_poly

