



2009 - 2010 ANNUAL REPORT



ECOSYSTEM ENHANCEMENT PROGRAM

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North Carolina Department of Environment and Natural Resources

Dee Freeman, Secretary | Bev Perdue, Governor | Bill Gilmore, Director

This Annual Report is designed as primarily an electronic document. While it is possible to print the document, EEP will produce a minimum number of hard copies to meet legislative requirements and to display in EEP offices.

Cover photo: EEP's Tar River Pitts High Quality Preservation site, Granville County; photo by Tar River Land Conservancy.

I: Executive Summary

Fiscal year 2009-10 represents the N.C. Ecosystem Enhancement Program's seventh full year of working to improve North Carolina's environment while facilitating responsible economic growth for the state and its residents. EEP continues to collaborate successfully on a voluntary basis with federal, state and local governments, contractors, willing landowners and others to provide high-quality compensatory mitigation.

This vital work is based on a solid foundation of watershed planning that goes beyond the basics of environmental permitting and compliance. The work of EEP also has positive economic implications: EEP continues to outsource on a competitive basis to private-sector partners. More than \$22 million in payments were made to private sector companies working on active contracts with the program in 2009-10.

As described in the following section, several important activities were undertaken or accomplished this past year. These include: an evaluation of EEP procurement practices conducted by a team from the highly respected University of North Carolina School of Government; the execution of a new interagency agreement governing EEP operations; and the promulgation of state rules employing an actual cost method to set rates for payments made to the EEP Nutrient Offset Program.

During the past fiscal year, EEP has seen a decline in activity for all of its mitigation programs. This decline appears to be related to the overall national economic downturn in infrastructure and development. The N.C. Division of Water Quality (DWQ) has also noticed similar trends in permit activity. Coincidental with this downturn are reprogramming actions under the N.C. Department of Transportation's Transportation Improvement Program (TIP), which has delayed the development of official impact forecasts and influenced short-term mitigation programming for EEP. A new TIP has been approved by the Board of Transportation and EEP expects to increase programmed mitigation beginning early next year. Also, as directed by the General Assembly, the N.C. Department of Environment and Natural Resources (NCDENR) continues to assess whether legislation passed in 2008 and 2009 to promote the use of mitigation banks has affected the program's ability to recoup investments made in riparian buffer mitigation and nutrient offset projects.

This year's annual report spotlights EEP partnerships with federal, state and local governments, as well as nonprofit organizations, private companies and universities. Without this collaboration, EEP's ability to produce cost-effective, high-quality restoration projects would be severely compromised. An example of the program's partnerships is the successful leveraging of more than [\\$21 million in grants](#) to implement local watershed-management projects that complement EEP mitigation projects.

EEP has projects in all phases of development, from potential projects identified through the watershed-planning process, to long-term stewardship of completed projects.

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The majority of EEP's projects are built and in the phase of post-construction monitoring. During the 2009-2010 fiscal year:

- EEP staff updated plans to identify priorities for the protection and enhancement of water quality, fisheries, wildlife habitat recreational opportunities and flood prevention in the Chowan, Pasquotank and Roanoke River basins. Plans for the Neuse, Tar-Pamlico and White Oak basins will be updated by December 2010.
- EEP staff continued work on Local Watershed plans (LWPs) across the state. Six plans are in progress and in various stages of development; 28 have been completed.
- The State Property Office closed on 64 transactions associated with preservation and restoration projects, totaling 595.98 acres. Since its inception, EEP has conserved or helped to conserve 47,895 acres of land across the state.
- EEP continued to oversee a total of 548 projects in design, construction, monitoring or long-term management. Of these projects, 498 are constructed or otherwise completed (i.e. for preservation projects).
- Results of regular routine monitoring of implemented projects show that the vast majority of EEP's restoration projects are functioning as intended and meeting regulatory success criteria.

This year, EEP extended its record of carrying out its mission without a single transportation-project delay because of a lack of mitigation. Thus far, EEP has assisted NCDOT in moving forward with \$6.5 billion in transportation-infrastructure improvements. This record includes mitigation support for road projects accelerated by the federal economic-stimulus package.

EEP continues to post high levels of compliance (the percentage of regulated mitigation requirements being met successfully at a given point in time) for all of its in-lieu fee programs. The program is 100 percent compliant for NCDOT stream requirements and 99 percent compliant for NCDOT wetland requirements. Also, a significant level of advancement has been achieved for NCDOT future requirements and mitigation is in the ground and available to offset impacts that have not yet occurred. EEP's stream and wetland program for all other in-lieu fee customers has satisfied more than 98 percent of requirements assumed by the program.

This year's annual report builds upon continuing efforts to improve the program's reporting and provide greater understanding about EEP. While it is intended to satisfy all reporting requirements as defined in G.S. 143-214.13 and as associated with program operating agreements, its added intention is to meet the information needs of interested parties.

This report continues the practice established last year of supplying an online Annual Report Feedback survey for readers. Last year's survey responses indicated a positive interest in additional hyperlinks in annual reports, and an appreciation for the Key Developments section of the report. Because of the complexity of EEP's procedures and processes, readers may wish to consult the program's [website](#) for further information.

EEP anticipates continued progress in the year ahead on providing a more holistic approach to mitigation – facilitating the delivery of projects that help to drive the state's economy, and restoring, enhancing and protecting the state's wetlands, waterways and natural areas for future generations.

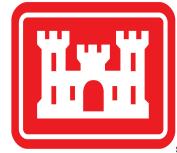
II: Key Developments in FY 2009-2010

New ILF instrument supplants old operating agreements

In July 2010, a new legal document (or [instrument](#)) for the operation and use of the Ecosystem Enhancement Program's In-Lieu Fee (ILF) programs for stream and wetland mitigation was signed by the U.S. Army Corps of Engineers (USACE) and NCDENR.

The instrument complies with federal rules governing compensatory mitigation that became effective in June 2008, and supersedes the [2003 Memorandum of Agreement](#) among USACE, NCDENR and NCDOT governing EEP operations, as well as a [1998 Memorandum of Understanding](#) between NCDENR and USACE. This new instrument conforms to national standards for compensatory mitigation and brings closer alignment between mitigation banks and in-lieu fee programs such as EEP.

EEP worked with USACE, the U.S. Environmental Protection Agency and other state and federal regulatory and resource agencies to develop the new instrument. North Carolina was one of the first in-lieu fee programs nationwide to gain approval of a new operating agreement in compliance with the new federal rules.



School of Government issues report

At the request of NCDENR, an independent analysis of EEP's outsourcing system was conducted in 2010 under the leadership of the widely respected School of Government at the University of North Carolina - Chapel Hill. NCDENR commissioned the School of Government team to provide a transparent analysis to include stakeholder input on EEP business practices.

The [study](#) included facilitated sessions with private-sector contractors, program users, regulators and environmental agencies and groups, and representatives of NCDENR and the N.C. Department of Administration. The outreach sought to uncover stakeholder interests and to identify performance measures that could be used for subsequent analyses of EEP procurement practices.

In response to the report's findings, EEP immediately provided additional reports on contracting and receipts and is revising its web site to provide more information that will be beneficial to all stakeholders in the future (see EEP Posts Financial Data Online below). More information on the study is available at a [special SOG wiki](#) page.



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Actual Cost Method implemented for Nutrient Offset fees

Session Law 2007-438 mandated that NCDENR develop and implement a plan to transition the EEP Nutrient Offset Program from a fee-based program to a program based on the actual costs of providing nutrient credits. The law required the employment of the least-cost alternative for providing nutrient-offset credits, consistent with rules adopted by the Environmental Management Commission for implementation of nutrient-management strategies in the Cape Fear, Neuse and the Tar-Pamlico river basins.

EEP compiled all of the program's receipt and cost data, including administrative and project costs to accurately calculate the program's actual costs per credit rates. Objectives identified by EEP in devising the actual cost method included:

- Accountability for all costs
- Understandable and easy to use
- Predictable and equitable rates
- Rates change with actual costs
- Applicable at various geographic scales
- Applicable to either nitrogen or phosphorus offsets

$$ActualCostRate = \frac{ActualCosts_{PresentDay}}{TotalPoundsOffset_{PresentDay}} + AdjustmentFactor$$

Rates that went into effect on Sept. 1, 2010, will be adjusted annually every July 1, and as often as quarterly if actual-cost rates increase by 10 percent or more. The rule changes were approved by the N.C. Environmental Management Commission on July 15, 2010, and the N.C. Rules Review Commission on Aug. 19, 2010.

EEP plans to closely evaluate this approach to rate setting and will consider its application to the program's other funds.

New initiatives for improved efficiency, effectiveness

Four new initiatives announced in October 2010 will guide EEP operations, including a Science Advisory Panel, improved financial data-sharing, greater efficiency in contracting and increased access to EEP for private mitigation banks. The initiatives continue the evolution of the program's mission and will dovetail with the implementation of a [new legal instrument](#) in compliance with revised [federal mitigation rules](#).

NCDENR collaborated with key stakeholders in developing the four initiatives. More information on the new initiatives may be found at the following links:

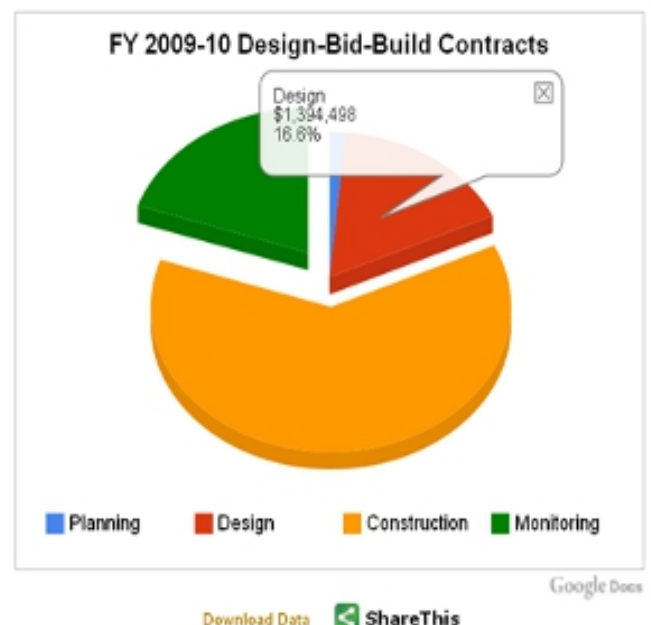
[Science Advisory Panel](#)

[Improving Financial Transparency](#)

[Expediting Contracts and Amendments](#)

[Bank Programming Initiative](#)

In addition, an initiative is underway to revamp EEP's Internet presence through the creation of an interactive website that will allow interested parties to access, query and download a variety of financial data on EEP operations at any time. The purpose of this effort is to make program information readily available for public inspection and to support a better understanding of the program's activities. A launch of the new website is anticipated to occur by early 2011.





(Click here to view the
July 2010 Aqua Kids)



EEP returns to ‘Aqua Kids’

airwaves

EEP’s stream-restoration work in a Western North Carolina state park appeared in a July 2010 broadcast of [Aqua Kids](#), an internationally syndicated educational television show that promotes environmental action by young people. The episode featured EEP Monitoring section stream specialists exploring a stream-restoration project at [Stone Mountain State Park](#) in Wilkes and Alleghany counties, where they examined the restoration, hydrology and water quality of the East Prong of Roaring River, a stream-restoration project jointly sponsored by EEP, the park and N.C. State University.

The project restored about two miles of stream within the park. Prior to the state buying the land for the state park in the 1960s, the stream had been straightened, and gravel mining was conducted in a downstream portion. The Baltimore-based production company also filmed an examination of mountain-bog habitat and the endangered bog-turtle, featuring NCDENR employees from the Museum of Natural Sciences and the Natural Heritage Program.

Aqua Kids first featured EEP in an episode on the maturation of stream-restoration projects in 2009. One project included in the episode is a part of the new Carvers Creek State Park in Cumberland County, a partnering project among the N.C. Division of Parks and Recreation, The Nature Conservancy and Fort Bragg.

Legislative action brings changes to ILF programs

On July 24, 2009, [Session Law 2009-337, An Act to Promote the Use of Compensatory Mitigation Banks](#) took effect and applied to all ILF permit applications submitted on or after that date. As a result, NCDENR developed [a policy](#) for partners and customers on how the department’s Division of Water Quality and EEP, two NCDENR agencies whose policies and procedures are affected by the law, would carry out its implementation.

The law stipulated that for potential EEP ILF customers other than government entities, the use of EEP as a mitigation provider is only an option when the applicant has demonstrated that credits from a mitigation bank are not available or not approved for use by DWQ, USACE and/or local government for the required compensatory mitigation. When bank use is approved, applicants are required to make direct contact with appropriate banks to determine credit availability prior to accessing EEP. If appropriate bank credits are available, access to EEP ILF programs is prohibited for non-governmental entities. Information on the existence of such banks can be found [on the DWQ website](#). All requests to use the EEP must be accompanied by a [signed compliance form](#) verifying knowledge of and compliance with Session Law 2009-337.

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III: EEP Programs

EEP is an initiative within NCDENR aimed at improving the environment while facilitating responsible economic development. EEP restores streams, wetlands and riparian buffers where the need is greatest by working with local and state partners, including willing landowners. NCDOT and other developers voluntarily use EEP to move their projects forward in a timely and affordable manner.

EEP provides mitigation services through four different ILF programs:

- 1) NCDOT Stream and Wetland;
- 2) Statewide Stream and Wetland;
- 3) Riparian Buffer Mitigation; and
- 4) Nutrient Offset

Eligibility to participate in an EEP program is a joint decision made by the developer, EEP and the regulatory agencies. Mandates from the N.C. General Assembly recently affected eligibility for participation in any of EEP's ILF programs (see [Key Developments](#)). Each of the mitigation programs operate as an ILF program in which applicants make payments to EEP in lieu of providing mitigation themselves, or by other means. Upon payment, EEP assumes the full legal responsibility for planning, developing and implementing the required types and amounts of mitigation. After successful payment, applicants are no longer liable for the mitigation requirement.

In FY 2009-2010, activity in all of EEP's programs was down from the previous fiscal year. Additional details on these programs are provided below.

1) NCDOT Stream and Wetland Program:

A 2003 Memorandum of Agreement (MOA) among NCDENR, NCDOT and the USACE outlined procedures for how NCDOT utilizes EEP as an ILF program for NCDOT's offsite stream and wetland mitigation needs, and specified performance metrics for the delivery of that mitigation. In February of each year, NCDOT provides EEP with its mitigation request in the form of a forecast of future impacts to aquatic resources for the seven-year Transportation Improvement Program (TIP) list. EEP secures the mitigation needed by NCDOT following protocols outlined in the Tri-Party MOA. EEP uses Fund 2984 to track payments and expenditures for this program.

In FY 2009-10, NCDOT received 34 permits that required stream and/or wetland mitigation from EEP to offset impacts associated with TIP and NCDOT division level projects across the state. Since the Tri-Party MOA mandated advance programmatic mitigation for NCDOT needs, payment for mitigation does not occur in the same manner as in the Statewide Stream and Wetland Program. (The [new instrument](#) maintains the advancement schedule.) NCDOT makes quarterly invoice payments to EEP based on the actual mitigation projects in development throughout the state to meet all of NCDOT's present and future anticipated needs. Of the 34 permits that were received during this fiscal year, 27 permits had mitigation requirements from both USACE (Section 404) and the DWQ (Section 401) and seven permits had mitigation requirements only from USACE. None of the 34 permits issued had mitigation requirements from the N.C. Division of Coastal Management. For the 34 permits, EEP provided 16,570 stream mitigation credits and 82.28 wetland mitigation credits.

2) Statewide Stream and Wetland Program:

The Statewide Stream and Wetland Program provides applicants of Section 404 Permits, Section 401 Water Quality Certifications, and/or Coastal Area Management Act permits the option to satisfy compensatory-mitigation requirements for wetland and stream impacts in all 17 North Carolina river basins through payment into EEP's ILF program. Protocols for mitigation delivery under this program are specified in a Memorandum of Understanding (MOU) between NCDENR and USACE. Payments made into the Stream and Wetland ILF Program are deposited into Fund 2981. [Stream and wetland payment data](#) are now available on EEP's website.

In FY 2009-10, 87 payments were made into the Statewide Stream and Wetland Program. Stream and Wetland ILF payments totaled \$ 8,932,989.5. Of this amount, 25 payments resulted from requirements from both USACE (404) and DWQ (401), 55 projects had requirements from USACE only, and seven had requirements from DWQ only. Payments represented 18,263 feet of stream and 62.38 acres of wetlands.

3) Riparian Buffer Mitigation Program:

The Riparian Buffer Mitigation Program is an option to meet compensatory-mitigation requirements associated with riparian-buffer impacts in the Neuse, Tar-Pamlico and Catawba River basins, and the Randleman Reservoir and Jordan Lake watersheds in the upper Cape Fear River basin. Payments are made to the Riparian Buffer Restoration Fund (Fund 2982) according to the regulatory schedule of fees for buffers. [Payment data for the Riparian Buffer Program](#) are available on EEP's website.

In FY 2009-10, EEP received payments for 271,428 square feet (6.2 acres) of buffer mitigation. At the close of the fiscal year, EEP had accepted responsibility for 669 acres of buffer-mitigation requirements cumulatively since the program's inception in the applicable river basins.

4) Nutrient Offset Program:

The Nutrient Offset Program is an option to meet compensatory-mitigation requirements associated with nutrient-offset requirements in the Neuse, Falls Lake and Tar-Pamlico Nutrient Management Strategies. EEP uses Fund 2982-9829 to track payments and expenditures for this program. [Nutrient Offset payment data](#) are now available on EEP's website.

During FY 2009-10, nutrient-offset payments were made to offset nutrient loading from 63 development projects authorized by the Durham, Nash, Pitt and Wayne county governments, and the municipalities of Cary, Durham, Goldsboro, Greenville, Havelock, Kinston, Raleigh, Rocky Mount, Tarboro, Washington and Wilson.

Payments were for 12,265 pounds of nitrogen reduction in the Neuse River basin, 4,214 pounds of nitrogen reduction in the Falls Lake watershed and 17,777 pounds of nitrogen reduction and 631 pounds of phosphorus reduction in the Tar-Pamlico River basin.

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IV: Partnerships, Coordination and Collaboration

Partnerships/Coordination/Collaboration

EEP relies heavily on coordination and collaborative partnerships with public and private entities at the local, state and federal levels to fulfill its mission of producing high-quality, cost-effective restoration, enhancement and preservation projects based on watershed planning. Relying on local watershed plans (LWPs) and associated recommendations, EEP continues to work with local stakeholders and funding programs to ensure that the plans not only generate projects to satisfy mitigation needs, but also serve as a resource for communities working to implement watershed improvements.

In fiscal 2009-10, LWP stakeholders, including regional councils of government, counties, municipalities, universities and nonprofit organizations reported about \$21 million in leveraged funds for projects located in EEP local watershed planning areas. A list of grant applicants, funding sources, total funding and date received is included as Appendix A-iii.

Federal Partnerships

EEP partners with federal agencies through all stages of project development. Federal partners play an important role as stakeholders in the watershed-planning process, project review and implementation and monitoring. EEP coordinates with the USACE, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service (USFWS), the U.S. Geological Service (USGS), and Natural Resources Conservation Service (NRCS), among others. Partnerships with these agencies enable EEP to build upon strategies and initiatives occurring at a national level. Examples include:

Little Tennessee River habitat restoration. As part of its Franklin-to-Fontana LWP effort, EEP is collaborating with the Little Tennessee Watershed Association (LTWA), NRCS and USFWS on several initiatives to study impacts to the river and restore habitat for federally listed species. The Franklin-to-Fontana LWP area is focused on a 23-mile section of the river, which hosts one of the most diverse aquatic communities in the region, including a number of rare, threatened and endangered fish and mussel species. Barriers to migration of the federally threatened spotfin chub and other small fish species have been identified and the partnership has three barrier-replacement projects either implemented or in the planning stages. Further efforts will continue upstream of Lake Emory in 2010. EEP is aiding in study design, data collection and analysis, as well as the development of a barrier-replacement strategy.

Sediment-loading study. In an effort to understand sediment loading in the Little Tennessee River and the role that sediment contaminants may play in the decline of federally listed and other rare mussels, USFWS, USGS, Western Carolina University and EEP began in 2008 to develop a three-year study plan in coordination with researchers from N.C. State University. In 2010, USFWS funded the first phase of this study; WCU and USGS researchers are collecting sediment samples from Lake Emory and the Little Tennessee River in order to determine sediment sources, loading rates and contaminant levels.

State Partnerships

State-agency partnerships provide technical knowledge of local resources, landowner contacts, shared data, watershed restoration and preservation alliance and contracting capabilities. Through collaboration with DWQ, the N.C. Division of Soil and Water Conservation (DSWC), the N.C. Clean Water Management Trust Fund (CWMTF), the N.C. Division of Parks and Recreation (DPR), the Albemarle-Pamlico National Estuary Program (APNEP) and the N.C. Wildlife Resources Commission, EEP is able to incorporate the skills and expertise of NCDENR partners and maximize project benefits by addressing the natural-resource goals of multiple divisions. EEP continues to partner with NCDENR divisions daily on watershed-planning and project-implementation efforts.

EEP is partnering with DSWC to install cattle-exclusion fencing, wells and watering troughs in association with stream- and wetland-restoration projects, working with local soil and water conservation districts (SWCD). In 2009-2010, EEP contracted more than \$250,000 for improvements to 15 EEP projects and has worked with 10 different SWCDs across North Carolina: Alamance, Alleghany, Buncombe, Cabarrus, Cherokee, Guilford, Macon, McDowell, Randolph and Yancey. The following are examples of this partnership:

Travis, Tickle and Little Alamance LWP. EEP is currently implementing four stream- and wetland-enhancement and preservation projects identified in this LWP, and Alamance County SWCD actively participated as a stakeholder. The partnership has installed cattle-exclusion fencing, alternative watering sources and stream crossings in association with these projects to address water-quality concerns and help ensure the long-term viability of the projects.

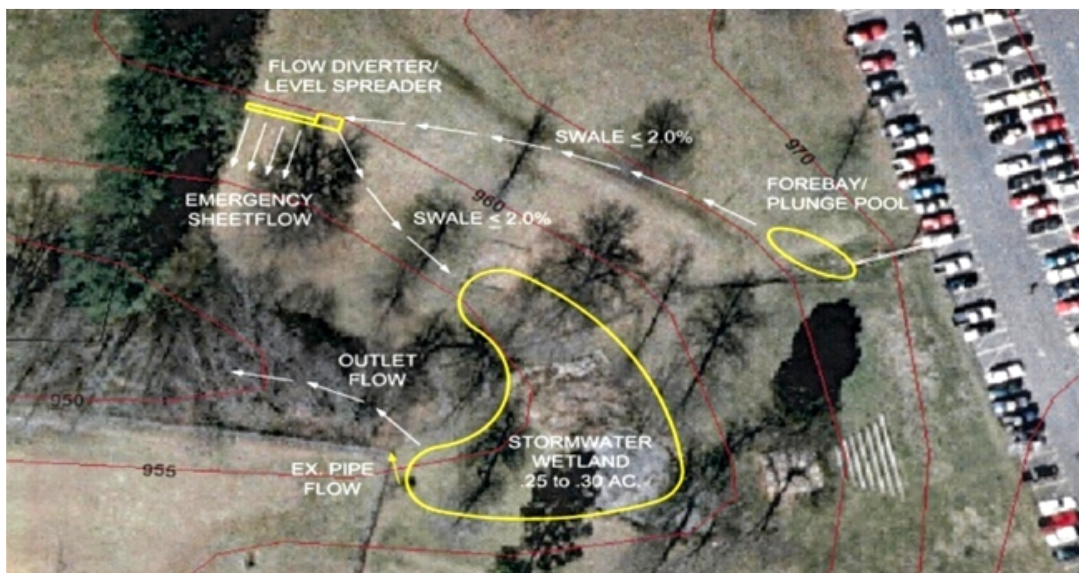
New Bern stormwater wetland. EEP staff assisted CWMTF with reviews of grant applications to identify projects located in EEP priority watersheds, thereby increasing opportunities for watershed improvement. EEP and CWMTF are also partnering with the city of New Bern and N.C. State University on the Simmons Street Stormwater Wetland. EEP acquired a conservation easement from the city to construct a 25-acre stormwater wetland to capture storm flows and provide treatment to stormwater before it enters the Neuse River estuary less than one mile downstream.

Local Partnerships

Local governments provide invaluable input in the watershed-planning and implementation process, including technical and local knowledge and landowner contacts and donation of easements, among others. Daily communication has resulted in valuable partnerships benefitting both EEP and local stakeholders with respect to technical capabilities, shared data, policy and technical guidance and project implementation. Collaborative efforts allow local partners to address watershed-impairment challenges in their area, and provide EEP with the tools needed to implement cost-effective restoration projects where most needed.

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Indian Creek and Howard's Creek LWP.

EEP worked closely with Lincoln County as part of this initiative in the lower Catawba River basin. In 2010, the county adopted the Indian & Howard's Creek Watershed Management Plan, thereby endorsing the consensus stakeholder recommendations contained within the plan. The Stormwater Management & Local

Ordinance Review team, consisting of representatives from EEP, the Lincoln SWCD, the Lincoln County Planning Department and others, began to identify candidate sites for stormwater BMP projects, one of which – at West Lincoln High School in the upper Indian Creek sub-watershed [see figure] – was awarded a \$40,000 federal grant. The project will include construction of an outdoor classroom for environmental education, including the training of students in water-quality sampling, watershed processes and wetland ecosystems, thereby increasing awareness and understanding of watershed-protection practices.

Mecklenburg County environmental education. EEP is partnering with Mecklenburg County on the UT to Clarke Creek project, a stream- and wetland-restoration project in the Upper Rocky River LWP. The project is located on a nature preserve owned by Mecklenburg County and EEP has developed a conservation easement that meets program requirements while serving the interests of the nature preserve. Mecklenburg County and EEP staff have coordinated efforts to provide an outdoor classroom experience for students of two schools adjacent to the nature preserve. EEP staff will participate in county-sponsored educational field days with elementary- and middle-school students. The project is currently in the conceptual plan phase.

Nonprofit Partnerships

EEP partners with a number of nonprofit organizations across the state in an effort to build upon existing or planned conservation efforts. Federal, state and local nonprofit organizations are invited to participate in EEP's local watershed-planning efforts and often play an important role in implementing watershed-improvement projects that EEP is unable to fund. The N.C. Coastal Federation, local watershed coalitions and land trusts are important partners and have proven successful in obtaining grant funding (see Appendix A-iii). Examples include:

Rockefeller Farm. EEP partnered with The Nature Conservancy (TNC) and DPR on a stream- and wetland-restoration project on the site of a new state park in the Cape Fear basin. The Cumberland County project consists of approximately 7,400 feet of stream restoration, 1,900 feet of stream enhancement and approximately 100 acres of wetland restoration and enhancement. EEP purchased a conservation easement from TNC, to which the Rockefeller family donated the property, and has worked closely with TNC and DPR to design a project that complements both longleaf pine-restoration efforts as well as the design of the new Carvers Creek State Park. EEP completed construction on this project in April 2010.

Dam removal. EEP serves with American Rivers and other resource professionals on the N.C. Dam Removal Task Force to study and set priorities for dam removals across the state. Targeted investigations of possible dam removals are underway on the lower Cape Fear, Upper Neuse, Chowan and Roanoke basins. EEP is advocating within the group for expanding the scope of task-force objectives to include aquatic-organism barrier removal.

Private Partnerships

EEP continues to outsource project design, construction and monitoring and relies heavily on private- sector partners to implement its high-quality mitigation projects. During the fiscal year, EEP entered into contracts with private-sector companies totaling more than \$17 million.

As part of a continuous process-improvement cycle, EEP has augmented communication with representatives of the American Council of Engineering Companies/North Carolina and the N. C. Environmental Restoration Association.

These two trade organizations represent the interests of environmental consulting firms, contractors and mitigation-banking companies, all of which are critical to EEP's success. Key actions identified and underway in collaboration with these groups include:

American Council of Engineering Companies/North Carolina.

- Restructuring a steering committee to work on common issues.
- Establishment of the following working groups:
 - o Process improvements and communication.
 - o Construction management and administration.
 - o New contracting means and methods.

N.C. Environmental Restoration Association.

- Improving templates and specifications for requests for proposals.
- Evaluating programming needs in consideration of existing banks.
- Coordination of process changes associated with [Session Law 2009-337](#).

Academic Partnerships

In an effort to help build upon and advance the science of stream restoration, EEP partners with universities and state agencies to evaluate restoration approaches and to apply lessons learned to future projects. EEP is collaborating with DWQ and universities to evaluate restoration projects across the state.

NCSU partnership. In Randolph County, EEP is partnering with the NCSU Department of Biological and Agricultural Engineering (BAE) and DWQ to evaluate pre- and post-construction stream stability, water quality and biological data associated with restoration and enhancement approaches along the 7,900-foot Heath Dairy stream project. Pre-construction monitoring on the Heath Dairy project began in 2007 and the project is expected to go to construction in January 2011. BAE received grant funding in 2010 to conduct three years of post-construction monitoring. Collection and publication of data collected at project sites can inform both EEP and the larger stream-restoration industry as to the effectiveness of different stream-restoration approaches at achieving watershed-improvement goals.

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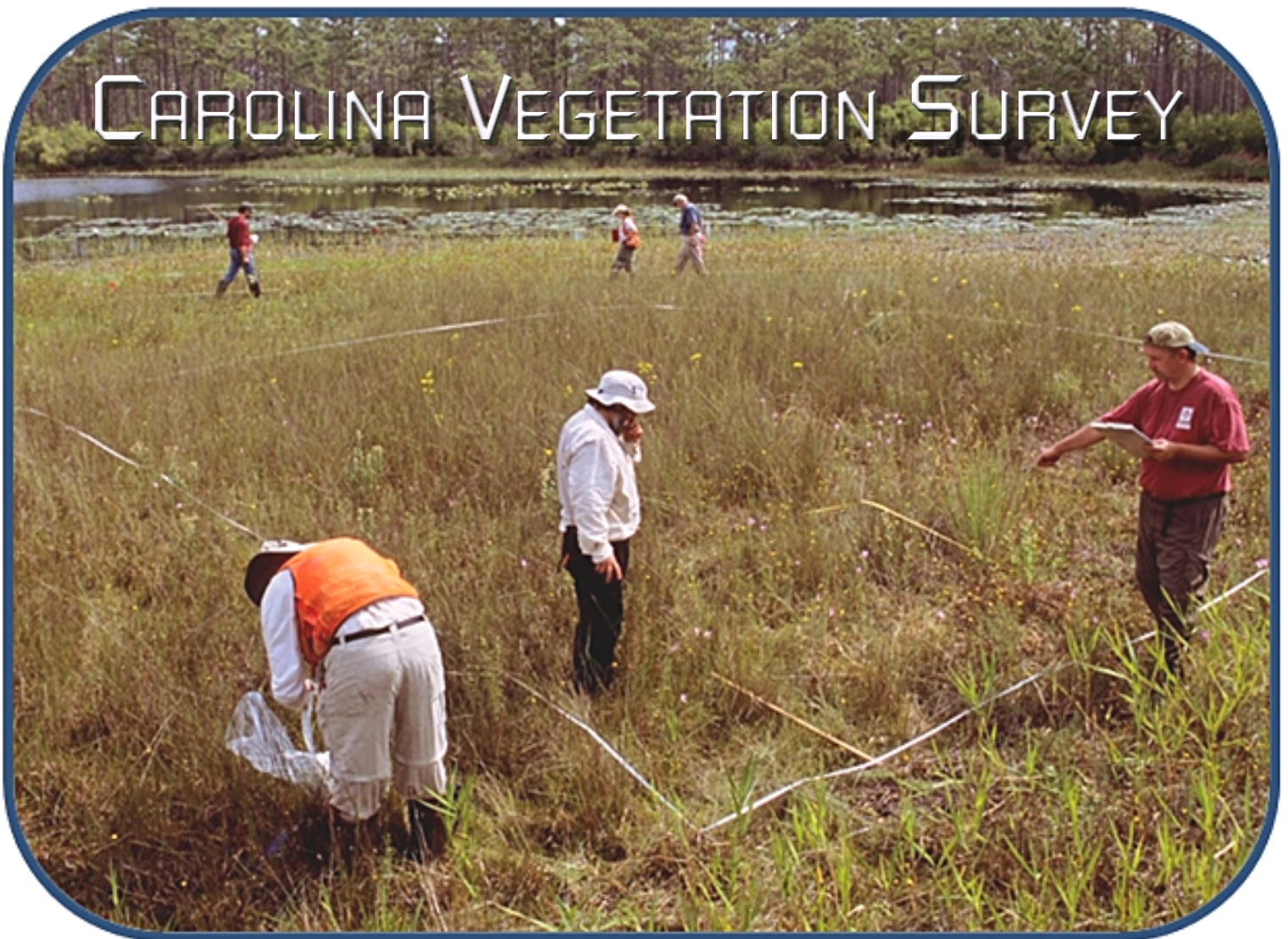
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Carolina Vegetation Survey (CVS) partnership. CVS is a collaborative, multi-institutional program established in 1988 to document and disseminate information on the composition and status of the natural vegetation of the Carolinas for purposes of biodiversity inventory, monitoring of environmental impacts, assessment of conservation status and restoration guidance. In 2005, CVS and EEP established a collaborative program to increase the efficiency and effectiveness of compensatory mitigation in North Carolina. The collaboration was designed to benefit EEP in two ways: 1) access to a database of high-quality, quantitative data on site-specific reference conditions for natural communities; and 2) more effective and efficient strategies to monitoring the vegetation component of restoration projects. CVS continues to provide newer, better and more comprehensive tools to assist in all phases of EEP's mitigation program from project design to generation of reports for oversight groups. During FY 2009-10, CVS used several EEP projects in a demonstration of how CVS tools can be used to create better restoration plans. The results of this exercise were used to develop a strategy for future partial automation of restoration target creation, which in turn should lead to reduced contractor costs and increased quality of work.





IMPAIRED STREAM

RESTORATION UNDERWAY

RESTORATION COMPLETE

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IV: EEP Watershed Planning and Mitigation Project Delivery

The development and delivery of high-quality mitigation projects by EEP involves activities related to watershed planning, property acquisition, project implementation, monitoring and stewardship.

Watershed Planning

EEP's enabling legislation (NC 143-218.8) and the new federal compensatory-mitigation rule (33 CFR Part 332) require EEP to implement watershed-planning-based restoration and preservation projects. In accordance with the new federal regulations, all EEP projects will be implemented using a watershed-planning approach, with exceptions requiring approval by the Interagency Review Team (IRT) comprised of state and federal regulators. These requirements are founded on the widely held conviction of water-resource professionals that projects based on watershed planning will provide the best environmental return on investment.

Watershed planning is used to determine the best locations for watershed-restoration projects based on an analysis of watershed needs. EEP does this by conducting both River Basin Restoration Priority (RBRP) planning and Local Watershed Planning. [More information about EEP watershed planning](#), including documents searchable by county or river basin and contact information for EEP planners in each area, is available on the EEP website.

In FY 2009-10, EEP re-evaluated its watershed-planning processes to ensure compliance with the new federal rule, increase consistency among regions and improve communication with the public about watershed-planning efforts.

Based upon this re-evaluation, EEP updated its watershed-planning processes for both RBRPs and LWPs. EEP's adherence to the watershed approach outlined in the 2008 federal rule is documented in the Compensation Planning Framework (CPF) included as Appendix I of EEP's [In Lieu Fee Instrument](#). (Note: Detailed watershed-planning procedures were posted to EEP's website in October 2010.)

EEP strives to have LWPs and their associated recommendations fully implemented, and therefore continues to work with local stakeholders and funding programs to ensure that the plans not only satisfy mitigation needs, but also serve as a resource for communities working to implement watershed improvements. Section IV of this report highlights key partnerships with other state and local entities that are vital to the watershed-planning-based project mission of EEP in terms of maximized resources, minimized costs and optimal buy-in from stakeholders.

River Basin Restoration Priority Plans

EEP develops RBRPs for each of the 17 river basins by conducting a detailed screening for each eight-digit catalog unit (CU) within a river basin. RBRPs list restoration goals for each CU within a river basin and identify targeted local watersheds (TLWs), 14-digit hydrologic units that have a balance of problems, assets and opportunities based upon data analysis and stakeholder input. RBRPs outline where watershed restoration or protection is most needed, and identify watersheds to carry out conservation through both restoration and preservation of natural resources.

This year, EEP staff updated RBRP documents for the Chowan, Pasquotank and Roanoke River basins. RBRP documents for the Neuse, Tar-Pamlico and White Oak basins will be updated by December 2010. All [RBRP documents](#) are posted on the EEP website, searchable by river basin or county.

Local Watershed Plans

Local Watershed Planning merges identified TLWs with projected impacts from development projects (primarily, NCDOT road projects) to determine where future mitigation investments can provide the greatest benefit for the state. The development of LWPs is typically a four-phase process: preliminary watershed characterization (Phase I); detailed assessment (Phase II); development of a watershed-management plan, including identification of potential project sites within a project atlas (Phase III); and implementation (Phase IV). However, rapid or abbreviated plans are also used when the mitigation-compliance timeline is compressed, or if detailed analyses are not necessary to identify the most ecologically beneficial projects.

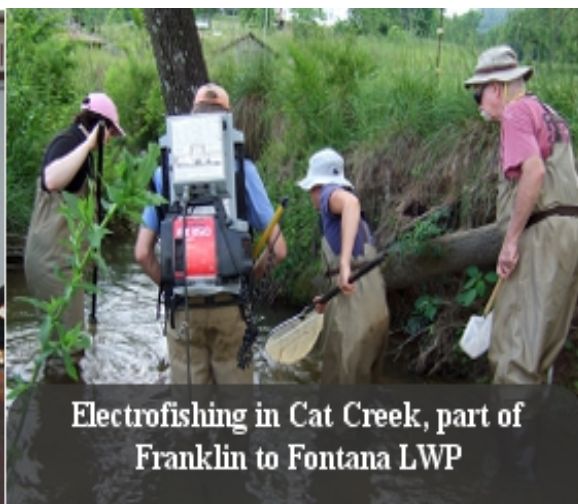
EEP supports watershed plans developed by other state, federal, tribal and/or local government agencies or appropriate non-governmental organizations that demonstrate the six key elements outlined in the Compensation Planning Framework included as part of EEP's ILF Instrument. In FY 2009-10, EEP developed guidance for organizations seeking approval and support from EEP on watershed-planning initiatives. This guidance is available by contacting EEP and will be posted on EEP's website. Once an LWP is approved, EEP may augment the existing plan and will work to implement projects identified in the watershed plan as mitigation needs develop.

In the Catawba River basin, EEP is building upon three existing watershed plans (the Hunting Creek LWP, a Section 319-funded plan developed by the Carolina Land and Lakes Resource Conservation & Development Council; the Muddy Creek LWP, developed by the Muddy Creek Restoration Partnership; and EEP's Lower Creek LWP) in an effort to meet increasing mitigation needs with existing watershed-planning resources. In the Neuse River basin, EEP is contracting development of a project atlas and Phase IV landowner outreach for five existing LWPs in the Upper Neuse. The plans of focus include Lick Creek LWP, developed by the Upper Neuse River Basin Association (UNRBA); Ellerbe Creek LWP and Lake Rogers LWP, both developed by UNRBA and EEP through an EPA Wetlands Program Development Grant; and Little Lick Creek LWP and Upper Swift Creek LWP, developed by EEP.

LWPs are defined as completed by EEP at the end of Phase III with the production of a watershed management plan and project atlas (listing of identified restoration opportunities). To date, EEP has completed 28 watershed plans. Phase IV focuses on outreach and implementation of projects derived from the LWP process. LWPs are designed such as that they result in a suite of watershed-restoration recommendations (including but not limited to mitigation opportunities) that can be implemented by a myriad of public and private entities over an extended period of time. A summary of all LWPs completed to date and the status of Phase IV efforts is included as [Appendix A-i](#).



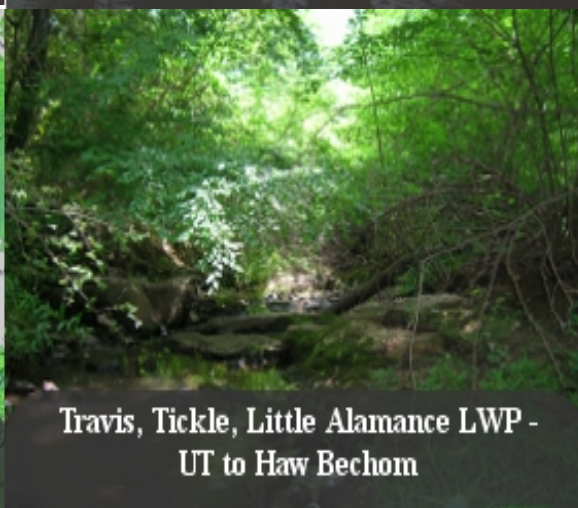
Great Coharie Creek LWP
Stakeholder Meeting



Electrofishing in Cat Creek, part of
Franklin to Fontana LWP



Overview of Indian & Howard Creek
LWP Area



Travis, Tickle, Little Alamance LWP -
UT to Haw Bechom

EEP is continuing work on LWPs across the state. Six plans are in progress and in various stages of development. [Appendix A-ii](#) presents a summary of ongoing LWPs; these are efforts that haven't yet resulted in a final watershed management plan or project atlas. [Fact sheets](#) summarizing EEP's local watershed planning efforts and links to associated timelines and reports are available on EEP's website.

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Property Acquisition

All properties connected to EEP mitigation projects are protected in perpetuity through property purchase, or more commonly, a conservation easement. During FY 2009-10, the State Property Office closed on 64 transactions associated with preservation and restoration projects, totaling 595.98 acres. Forty-four of the closed sites were acquisitions of conservation easements, two were fee simple acquisitions, 16 were temporary construction easements and one was a right-of-entry. Two transactions were modifications of conservation easements. All properties that closed between July 1, 2009, and June 30, 2010, are shown in [Appendix D \(i\)](#). Landowners formally agreed to give EEP the right to acquire an easement or property for 21 properties, listed in Appendix D (ii) ([Properties Optioned](#)).



EEP keeps an inventory of all properties acquired since the inception of the Wetlands Restoration Program in 1996; more than 47,895 acres have been purchased or donated. The full inventory of these acquisitions is presented in [Appendix D \(iii\)](#).

Project Implementation

EEP's objective is to produce high-quality watershed restoration and preservation projects (stream, wetland, stormwater and other best management practices, or BMPs) that meet regulatory mitigation requirements with respect to type, quality and compliance schedule in the most cost-effective way, while maximizing environmental return for North Carolina. The environmental returns from implemented projects are maximized through the watershed-planning-based approach to project implementation discussed earlier in this section.

Stream and Wetland Restoration Project

This stream and wetland restoration project is an effort undertaken by the state of North Carolina to mitigate for road and development impacts within this watershed. The ultimate goal of this project is a healthier stream and wetland ecosystem, and improved water quality.



For more information please contact the NC Ecosystem Enhancement Program at (919) 715-0476 or go to www.nceep.net

EEP utilizes design-bid-build (DBB) and full delivery (FD) contracting methods to implement projects. Both of these project-delivery methods continue to be critical to EEP's success in meeting the state's mitigation needs. As of FY 2009-10, EEP has 548 projects in design, construction, monitoring or long-term management. Of these

projects, 50 are currently in design and the remainder are already constructed or otherwise completed (e.g., preservation projects). EEP continues to target project implementation in watershed-planning areas through both the DBB and FD procurement methods. In an effort to continue to improve its ability to provide compensatory mitigation in the watersheds of greatest need and communicate watershed priorities to stakeholders throughout the state, EEP is updating its watershed-planning procedure manual and intends to post it on the website in early 2011.

Monitoring and Project Closeout

After mitigation projects have been constructed, they are monitored against project-success criteria to determine if they are performing as intended. At times, if success criteria are not being achieved, it is necessary to conduct maintenance on specific aspects of a project to ensure its success. If success criteria have been met after at least five years of monitoring, EEP proposes the project for closeout. Closeout occurs when regulatory agencies evaluate the project's performance and validate the type and amount of credit yield for the project. Once a project has been approved for closeout it transfers into long-term management either through the NCDENR Stewardship Program or another approved entity. EEP also conducts project-related research when feasible in order to promote overall improvements in restoration science, as well as the success of existing and future projects.

Monitoring for Projects Success

In FY 2009-10, EEP had 233 projects (both DBB and FD) in some phase of monitoring or closeout. Most projects were in monitoring years one through five. These projects totaled 883,917 linear feet of stream and 9,843 acres of wetland restoration, enhancement and preservation. [Monitoring reports](#) for all DBB projects are posted on the EEP website.

Key criteria evaluated on EEP restoration projects include stream geomorphic parameters, vegetation density and wetland hydrology. Reports indicate that more than 90 percent of measured stream geomorphic parameters are meeting success criteria.

Vegetation success was approximately 80 percent and some supplemental planting is planned. Hydrologic monitoring of wetland gauges showed that approximately 78 percent were exhibiting expected results.

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Maintenance and Repair

Rehabilitation of small-scale ecosystems requires continual maintenance and repair until the systems can achieve equilibrium naturally, typically through vegetative growth. In the past fiscal year, EEP has focused on maintenance of project sites threatened by exotic plant species. Staff identified target species of concern and coordinated with private firms to identify, map and treat the specified plants. Twenty-six restoration projects were treated in FY 2009-10. In addition, staff have identified and mapped areas of low survival and stem density for recommended supplemental planting efforts. Supplemental planting is expected to occur on approximately 25 sites in 2010-11.

Project Closeout

In 2010, the 31 projects proposed for closeout totaled 115,357 linear feet of stream restoration and enhancement, 937 acres of wetland restoration and enhancement and 233 acres of riparian-buffer restoration.

Project Research

Through its research program, EEP seeks to evaluate restoration activities and outcomes to improve overall project and program success, enhance cost efficiencies and support the advancement of restoration science. To accomplish these activities, EEP's research model uses university researchers, consultants and cooperative agreements with other state and federal agencies. Primary focus areas for EEP's research initiatives include project and program improvement, functional assessment, catchment studies and restoration methods. Examples of research initiatives in which EEP is currently engaged have been provided in the Partnerships section of this report (see [Academic Partnerships](#)).

Long-term Stewardship

Federal regulations require that compensatory mitigation sites be protected in perpetuity. Pursuant to the memorandum of agreement between EEP and the NCDENR Division of Conservation, Planning and Community Affairs, the first transfer of responsibility for the long-term protection of a restored site from EEP to the NCDENR stewardship program occurred in April 2010.

The NCDENR Stewardship Program is charged with upholding restrictions required by conservation easements or deed restrictions for projects that have been approved by regulatory agencies as having met compensatory mitigation success criteria.

The sites will be monitored at a frequency that will ensure the long-term

protection of the streams, wetlands and riparian areas. All project boundaries must be marked with permanent markers and be free of violations or encroachments prior to conveyance to the Stewardship Program. Approximately 100 additional projects that were initiated by the Wetlands Restoration Program or EEP are expected to be transferred to the Stewardship Program during the next year. The Stewardship Program is already overseeing the long-term protection of 100 high-quality preservation sites that were transferred in previous fiscal years. The remaining large high-quality preservation sites are being managed by other natural resource agencies. More information on the [Stewardship Program](#) may be found on the NCDENR website.



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Financial Status of Program Funds

EEP has four separate ILF mitigation programs, each operating independently and maintaining its own financial fund accounts under which revenues are collected, expenditures are made and funds are encumbered toward contracts for the planning and delivery of mitigation projects. EEP does not receive any appropriations from the General Assembly.

Revenues collected by EEP through its four mitigation programs are used to implement mitigation projects that will provide maximum environmental benefits to the state's natural resources. A small part of EEP's revenues are used to administer the program.

EEP may apply for and receive grants that may supplement non-mitigation efforts such as restoration-technology research, restoration training, environmental-resource information and educational outreach. The four mitigation programs are:

1. NCDOT Stream and Wetland Program
2. Statewide Stream and Wetland Program
3. Riparian Buffer Mitigation Program
4. Nutrient Offset Program.

The sections below provide details for each program's complete financial status for FY 2009-10. Common terms used in each of the sections are defined in Table 1 on the following page.

Table 1. Definitions for terminology used the description of fund status.

Beginning Balance	The amount of cash in the fund account at the beginning of FY 2009-10
Receipts	The amount of money collected during FY 2009-10
Expenditures	The amount of money spent during FY 2009-10
Ending Cash Balance	The amount of cash in the Fund Account at the end of FY 2009-10
Encumbered Cash -Current Projects	The amount of cash encumbered for contracts for project delivery
Unencumbered Cash Balance	The amount of cash not encumbered at the end of FY 2009-10
Cost to Complete Requirements	The amount of money necessary to complete program requirements
Net Accounts Receivable	The net amount of outstanding receipts that will be collected over time
Estimated Value of Unused Credits	The current estimated value of unused credits available for sale
Overall Fund Status	The sum of all financial assets and liabilities

NCDOT Stream and Wetland Program (Fund - 2984)

This program applies only to stream and wetland mitigation supplied to NCDOT. At the request of NCDOT, payments made for mitigation production are programmed on a cash-flow basis. As a result, EEP invoices NCDOT for the actual cost for the work being processed to include administration, payments made to engineers, contractors and FD providers. EEP invoices NCDOT on a quarterly basis and secures only those funds required to cover anticipated operating costs for the upcoming quarter. Future-year obligations are guaranteed to be paid in accordance with an MOA between NCDOT and NCDENR. The current total amount of NCDOT obligations are listed as the “Net Accounts Receivable.” This information is reported quarterly during routine invoicing processes. Also, as a matter of normal business practice, the NCDOT Inspector General’s office audits the financial files at EEP quarterly and has had no significant findings in more than 20 inspections. In addition, no discrepancies have been found in each of the Federal Highway Administration’s annual audits of EEP.

The NCDOT Stream and Wetland Program has been a national leader in producing mitigation credits available in advance of impacts, the primary objective of this program. The goal is to produce sufficient mitigation credits necessary to offset impacts from the implementation of the entire NCDOT TIP in advance of the permitting phase of those projects. By 2015 mitigation projects will be designed, constructed and monitored for at least two years prior to the letting of any specific TIP project. To date, the NCDOT Stream and Wetland Program has more than 750,000 stream credits and more than 10,000 wetland credits ready to use for the future NCDOT transportation projects.

Table 2. Status of Fund 2984

Beginning Balance	\$2,283,920.76
<i>Receipts</i>	\$24,651,482.41
<i>Less: Expenditures</i>	<u>(\$23,844,451.60)</u>
Ending Cash Balance	\$3,090,951.57
<i>Less: Encumbered Cash Current Projects</i>	<u>(\$46,280,522.87)</u>
Unencumbered Cash Balance	(\$43,189,571.30)
<i>Less: Cost to Complete Requirements</i>	<u>(\$19,843,269.29)</u>
<i>Subtotal</i>	(\$63,032,840.59)
Total Net Accounts Receivable	<u>\$63,032,840.59</u>
<i>Grand Total</i>	\$0.00

Statewide Stream and Wetland Program (Fund 2981)

This program is a voluntary, receipt-based ILF program available to the general public. [All payments collected \(receipts\)](#) and expenditures for this program are made from the Statewide Stream and Wetland Fund. Land-disturbing activities that require Section 404 or Section 401 permits often require compensatory mitigation as specified by USACE or DWQ. The general public, including commercial and residential developers, and governmental agencies including municipalities and military installations have three primary options for satisfying their mitigation needs: 1) they may produce the mitigation themselves; 2) they may purchase credits from a mitigation bank; or 3) they may request that EEP satisfy their mitigation requirement. (Note: EEP is not an option for nongovernmental entities when mitigation banks have available credits). Upon acceptance of a mitigation requirement and subsequent payment, EEP provides the off-site compensatory mitigation necessary to satisfy the regulatory requirement. The work may consist of restoring, enhancing and/or protecting streams and wetlands.

The availability of this program helps the general public by providing a service that is cost-effective and simplifies the permitting processes. [EEP's fees for the program](#) are listed on the EEP website.

The program is currently sound but has seen a steady decrease in cash balances as the cost of completing existing projects and requirements is paid out. The recent downturn in the economy, coupled with the effects of Session Law 2009-337 that prevents non-governmental entities from purchasing credits from EEP in certain cases, has had an effect on the fund. A new condition identified during FY 2009-2010 is that the projected cost of completing all existing projects and requirements exceeds the cash and accounts receivable. Counterbalancing this condition, the fund has unused and unobligated credits valued at approximately \$30 million that may be applied to customers seeking mitigation in the areas where those assets exist. The program will continue to closely monitor projected expenditures and revenues related to this fund over the next year and will consider what actions may be necessary to protect its integrity.

Another issue that EEP will closely monitor over the next fiscal year is the rate at which the current accounts receivable are collected. For this fund, accounts receivable are comprised mostly of NCDOT payments associated with an agreement between NCDOT and EEP's precursor, the Wetlands Restoration Program. Under that agreement, NCDOT agreed to pay the actual cost of mitigation associated with payments made to the Wetlands Restoration Program.

The projects with which those payments are associated are in the process of being completed. As each project is completed, EEP and NCDOT determine the final amount of additional payment or reimbursement necessary for that project based on the original receipt and actual cost of that project. The rate of these collections is based on the rate at which these projects are deemed completed by the regulatory agencies. Payments from NCDOT will be made over the next several years as projects are completed. The cash flow of expenditures and collections for this fund will be closely monitored over the next few years to ensure that sufficient cash integrity is retained.

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Table 3. Status of Fund 2981

Beginning Balance	\$22,089,542.85
<i>Receipts</i>	\$12,632,593.85
<i>Less: Expenditures</i>	<u>(\$20,005,499.73)</u>
Ending Cash Balance	\$14,716,636.97
<i>Less: Encumbered Cash Current Projects</i>	<u>(\$32,174,890.81)</u>
Unencumbered Cash Balance	(\$17,458,253.84)
<i>Less: Cost to Complete Requirements</i>	<u>(\$13,148,188.52)</u>
<i>Subtotal</i>	(\$30,606,442.36)
Total Net Accounts Receivable	<u>\$28,000,000.00</u>
<i>Grand Total</i>	(\$2,606,442.36)
Estimated Value of Program's Unused Mitigation	<u>\$30,000,000.00</u>
<i>Overall Program Status</i>	\$27,393,557.64

Riparian Buffer Mitigation Program (Fund - 2982)

This program [collects payments](#) and makes expenditures from the state's Riparian Buffer Fund for the Neuse, Tar-Pamlico and parts of the Catawba and Cape Fear River basins. Applicants seeking permits for unavoidable impacts to protected buffers along stream systems may elect to produce the mitigation themselves, purchase credits from a mitigation bank or pay EEP to produce the mitigation and satisfy permit requirements. However, under Session Law 2009-337, non-governmental entities may not utilize the Riparian Buffer Mitigation program if a mitigation bank has credits available.

The program's expenditures include the costs associated with mitigation production (contract engineering, construction, land acquisition and long-term protection of mitigation sites) and the administrative costs of implementing the program. The types of projects produced consist of re-establishment and protection of buffers (primarily involving the planting of vegetation) along degraded streams and riverbanks in the protected basin. The availability of this program helps the general public by providing a service that is cost-effective and simplifies the permitting processes. The fee for a square foot of buffer mitigation was set at \$0.96 when the program started and has remained unchanged.

The program is currently sound. Even though the program has cash reserves above the costs of completing existing projects and program requirements, the reserve is a necessary safety factor since the monitoring periods on most of the projects in the program are not complete and unforeseen costs sometimes materialize during this period. Furthermore, two new program areas are being implemented in the Falls Lake and Jordan Lake watersheds. The cost of implementing projects in these new areas is expected to be higher than previously experienced in other areas of the state. The rate of collections in the Falls and Jordan Lake areas also is not expected to completely cover the cost of implementing the first round of projects for the first few years. In general, it can take dozens of payments to fully fund a single riparian-buffer mitigation project. Thus, the current cash reserve is expected to be consumed during the development of these first few projects.

Table 4. Status of Fund 2982

Beginning Balance	\$9,767,957.88
<i>Receipts</i>	\$6,359,546.32
<i>Less: Expenditures</i>	<u>(\$6,837,223.33)</u>
Ending Cash Balance	\$9,290,280.87
<i>Less: Encumbered Cash Current Projects</i>	<u>(\$1,052,330.44)</u>
Unencumbered Cash Balance	\$8,237,950.43
<i>Less: Cost to Complete Requirements</i>	<u>(\$4,992,344.13)</u>
<i>Subtotal</i>	\$3,245,606.30
Total Net Accounts Receivable	<u>(\$301,903.16)</u>
<i>Grand Total</i>	<u>\$2,943,703.14</u>
Estimated Value of Program's Unused Mitigation	\$223,314.10
<i>Overall Program Status</i>	\$3,431,353.39

Nutrient Offset Program (Fund – 2982 Account -9829)

The Nutrient Offset Program [collects payments](#) and makes expenditures from the state's Nutrient Offset Account. It has been in existence for the Neuse River basin since 1998, but in March 2006 the Tar-Pamlico River basin was added. The Falls Lake and Jordan Lake watersheds are also currently being added as nutrient-program areas. Like all of EEP's other mitigation programs, this program is a voluntary program that provides an option to the regulated community.

Applicants seeking permits for construction-related impacts to upland areas may elect to undertake additional onsite measures to meet nutrient-reduction requirements, purchase nutrient reductions from a private mitigation bank or pay a fee to EEP to produce the mitigation. (Note: Session Law 2009-337 established that nongovernmental entities may not elect to use EEP's Nutrient Offset Program if mitigation banking credits are available.)

The types of projects produced by EEP may consist of BMPs (e.g., stormwater retention structures and stormwater wetland projects) or vegetated buffers that will reduce nitrogen and phosphorus loading into river basins. The program's expenditures include the costs associated with mitigation production (contract engineering, construction, land acquisition and long-term protection of mitigation sites) and the administrative costs of implementing the program. The availability of this program helps the general public by providing a service that is cost-effective and simplifies the permitting processes.

The overall financial condition of this program is sound. During the last fiscal year, new rules were implemented that changed the program's nutrient fees to an actual cost basis. As the program moves forward, the fee rates charged for nutrient will be based on the actual costs of the program and will be automatically updated annually (or quarterly if the costs increase by 10 percent or more). The [rates](#) are specific to the

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costs and receipts collected in multiple regions. The condition of the program is similar to the Riparian Buffer Program in that the projected cash balance is a necessary safety factor, since most of the projects in the program have not completed the monitoring period and unforeseen costs sometimes materialize during this period. Furthermore, the Falls Lake and Jordan Lake watersheds are newly established nutrient-program areas and the cost of implementing projects in these new areas is expected to be higher than previously experienced in other areas of the state. Also, the rate of collections is not expected to completely cover the cost of implementing the first round of projects for the first few years. In general, it can take more than 50 payments to fully fund a single nutrient-mitigation project. Thus, the current cash reserve is expected to be consumed during the development of these first few projects.

Table 5. Status of Fund 2982-9829

Beginning Balance	\$9,917,195.72
<i>Receipts</i>	\$1,142,048.91
<i>Less: Expenditures</i>	<u>(\$2,994,939.01)</u>
Ending Cash Balance	\$8,064,305.62
<i>Less: Encumbered Cash Current Projects</i>	<u>(\$3,789,201.86)</u>
Unencumbered Cash Balance	\$4,275,103.76
<i>Less: Cost to Complete Requirements</i>	<u>(\$2,195,134.99)</u>
<i>Subtotal</i>	\$2,079,968.77
Total Net Accounts Receivable	<u>(\$296,762.44)</u>
<i>Grand Total</i>	\$1,783,206.33
Estimated Value of Program's Unused Mitigation	<u>\$2,377,132.82</u>
<i>Overall Program Status</i>	\$4,160,339.16

Project Costs

The total cost of a mitigation project is the sum of the costs of individual development phases, and may not be known precisely until the project has been completed, which can take seven to 10 years. Individual development phases include land acquisition; project design; project construction; maintenance; monitoring for project success; and long-term stewardship of the perpetually protected property. In addition, a small amount of program funds are associated with EEP staff time to oversee contracting, project delivery, quality assurance and administration. It is important to recognize that specific project costs per credit do not represent the program's overall cost per credit. Overall costs would include all other costs incurred by the program such as administrative, watershed planning, feasibility studies, terminated projects, etc. The cost per credit numbers detailed below are limited to specific projects costs implemented during the last Fiscal Year.

EEP employs two primary outsourcing methods to deliver mitigation:

- The FD program procures compensatory mitigation by issuing requests for proposals (RFPs) through the state Department of Administration. Each RFP specifies the river basin and CU within which mitigation is being sought, and the amount and type of mitigation needed (i.e., buffer, stream and/or wetland). Offerors are required to submit both a technical proposal and a cost proposal for each prospective submittal.

The technical proposal details 1) the experience, qualifications and financial stability of the firm submitting the proposal; 2) the geomorphologic features of the site that make it suitable for restoration; and 3) the conceptual plan for restoring the site to a more natural, stable condition, both physically and biologically. The cost proposal provides a unit cost per mitigation credit for the submittal. Qualifying proposals are evaluated based on the technical merits of the proposed restoration and the overall per-unit cost. Firms associated with selected proposals enter into a contract with EEP to convey a conservation easement to the state on the project area; develop and implement a restoration plan; and monitor the project for a minimum of five years to verify that the restoration meets established success criteria.

- The DBB program utilizes on-call design and consulting service authorizations to contract with private design and consulting firms for professional services for all stages of project development, including watershed planning, environmental resource investigations; restoration-site design and construction management; and post-construction monitoring. All construction contracts are awarded through a qualified competitive-bidding process.

EEP Project Costs for FY 2009-10

Average per-unit costs of project implementation for the last fiscal year have been determined by examining both FD and DBB contracts. Project costs this year were less than those of previous years, in large part because the economic landscape has driven construction costs below anticipated expenses for this project component.

Although this year's projects costs were less than expected, the overall program costs in the program continue to increase due to a number of factors such as extended monitoring periods and standards, changing regulatory policies, increasing maintenance and stewardship costs, and increasing inventory overhead associated with increasing services to the entire state.

In FY 2009-10, EEP procured the following types and amounts of mitigation for which average forecasted costs are presented. Forecasted costs reflect the current economic environment, and this fiscal year construction costs are running more than 30 percent below normal year averages.

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The costs below represent the specific project costs associated with the projects initiated this year, and do not reflect the overall program cost per credit for all projects and program costs.

- 69,451 stream mitigation units (\$276 per unit);
- 69.3 riparian wetland mitigation units (\$67,962 per unit);
- 11.5 non-riparian wetland mitigation units (\$64,412 per unit); and
- 203.1 buffer acre units (\$18,112 per unit)

EEP continues to take measures to produce cost-effective mitigation through actions such as training contractors on wetland- and stream-construction techniques. [A course taught in collaboration with N.C. State University](#) has been offered several times in recent years, including October 2009. As understanding improves, cost efficiencies are provided through increased competition, and improved quality in project implementation is promoted.

Cost Analysis of Private Mitigation Banks

Reporting requirements of G.S. 143 214.13 require EEP to compare the cost of mitigation of EEP projects and private mitigation banks. To obtain the data necessary to accomplish this task, EEP sent a web-based survey requesting restoration cost information to the sponsor of each approved bank in North Carolina. [Appendix F](#) includes a listing of banks that were requested to respond and a copy of the survey distributed.

All private mitigation bank sponsors were contacted by e-mail. The sponsors of those banks were requested to complete the brief survey found in the appendices. Two responded during FY 2009-10. A summary of the results is found in the table below.

Table 6. Total Encumbered Contracted Services FY 2009-10

Bank Name	CU	Credit Types	Total Credits	Sold	Remaining	Cost Per Credit
Hofmann Forest Wetland Mitigation Bank	03030001 03020106	Non-Riparian Wetland	282	64.31	217.69	Credit price set to EEP in-lieu fee price
Little River Farm Bank	03020201	Nitrogen	39,322.9	978	38,344.90	\$20-\$22 per lb of N
		Riparian Buffer	5 acres	0	5 acres	\$40,000-\$45,000/ acre

Contract Data

EEP uses two contracting methods to address the tasks necessary to plan, implement and monitor natural-systems restoration projects. This section provides information regarding the number and types of contracts currently active and awarded during FY 2009-10 for FD and DBB procurement methods. In addition, data on payments made to vendors in these different programs is provided. EEP has also recently added comprehensive contract data to its website and will update the information quarterly for interested parties.

EEP also utilizes NCDENR and federal agencies to provide planning, design, construction and monitoring services. This approach constitutes approximately five percent of the DBB process, and is authorized by NCDENR as described in the N.C. Administrative Code (see [N.C. General Statute 143-59](#)).

Total Contracted Services

In FY 2009-10, the state awarded 51 new contracts to support EEP full-delivery, watershed-planning, project-implementation, monitoring and maintenance activities. The value of these new contracts was \$17,276,492. The following table describes the contract amounts by activity. Construction, monitoring and design activities account for the majority of the work engaged.

Table 7. Total Encumbered Contracted Services FY 2009-10

Contract Service	Amount
Total Watershed and Project Planning Services (2)	\$122,495
Total Design Services (16)	\$1,394,498
Total Construction Services (20)	\$5,238,605
Total Monitoring Services (8)	\$1,660,084
Total Full Delivery (5)	\$8,860,810
Total (51)	\$17,276,492

FY 2009-10 Payments to Vendors

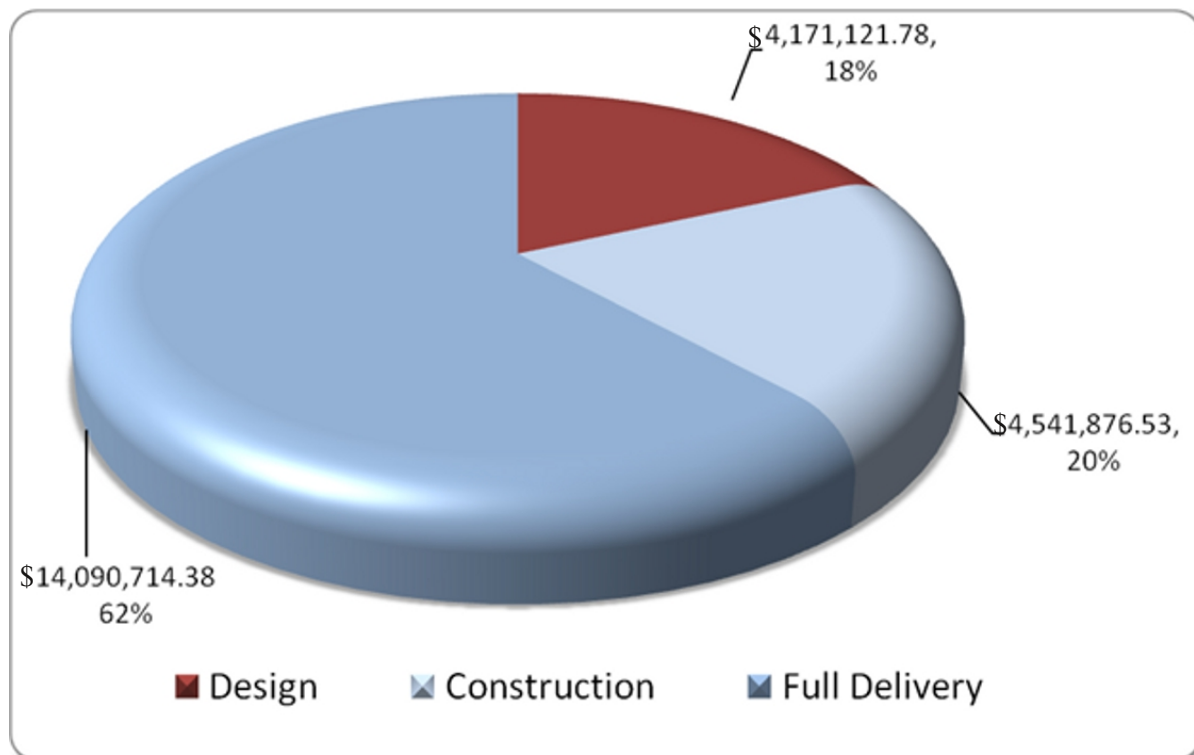
EEP continues to contract with many vendors to support the implementation of the hundreds of projects within the program. This fiscal year, payments to vendors totaled \$ 22,904,012.69. Figure 7 illustrates payments by broad contract type: Full Delivery, Design and Construction.

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[Appendix C](#) provides a listing of payments made by EEP categorized by contract type and vendor.

Figure 1: FY 2009-10 –Vendor Payments by Contract Type



VI. Program Compliance and Inventory

This section provides detailed tables and charts regarding mitigation assets, permit requirements and permit compliance. EEP tracks and is accountable for mitigation production in 17 river basins and 54 watersheds under 15 mitigation categories. EEP is required to track and apply credit assets to permit requirements by program, mitigation type and mitigation location. For simplicity and ease of understanding, all assets summarized below have been converted from physical quantities (feet of stream, acres of wetland, square feet of buffers and pounds of nutrients) into mitigation credits.

(Note: A complete listing of asset and credit tables by river basin and CU can be found in [EEP's 4th Quarterly Report FY 2009-10](#).)

The inventory includes a summary of the total amount of mitigation credits produced in the program to date (gross assets), as well as the amount of unused advanced-mitigation credits currently available in the programs (net assets). Unused credits are advanced mitigation in that they have been developed in advance of environmental impacts. Program inventory is broken into the four ILF programs described earlier in this report. *Note that "Applied Credits" can be greater than "Mitigation Due (credits)" because of additional permit-specific conditions and/or because of debits made to requirements before they are due.*

NCDOT Stream and Wetland Program

NCDOT Stream and Wetland Program Inventory

The NCDOT Stream and Wetland Program under EEP established a model for ILF programs nationwide, and is a national leader in producing mitigation in advance of impacts. The advancement of mitigation ahead of permitted impacts is environmentally preferable and an important tenet of the agreement among NCDOT, NCDENR and USACE, which has allowed NCDOT to move forward with approximately \$6.5 billion in road-development projects without delays associated with compensatory mitigation since 2003.

The charts on the following page represent the program's inventory status at the end of FY 2009–10. The NCDOT Stream and Wetland Program's gross inventory totaled 1,068,409 stream credits and 11,315 wetland credits. The vast majority of these credits is unapplied and available for future permit requirements.

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Figure 2: NCDOT Stream and Wetland Program Inventory
1,068,409 Total Stream credits (Gross)

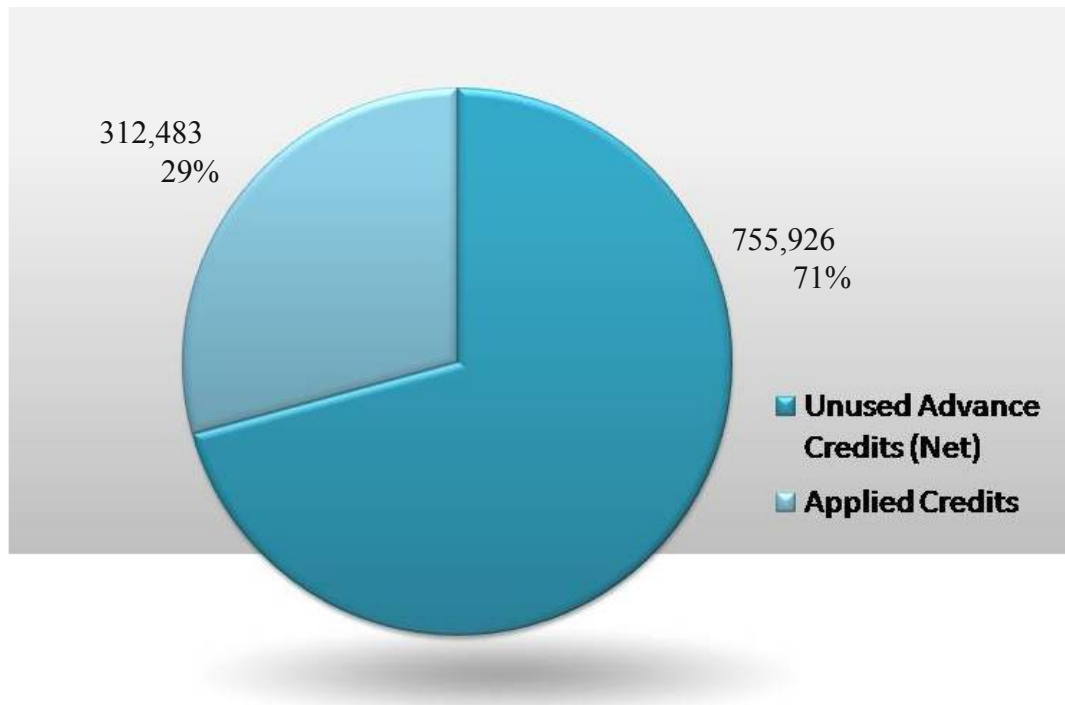
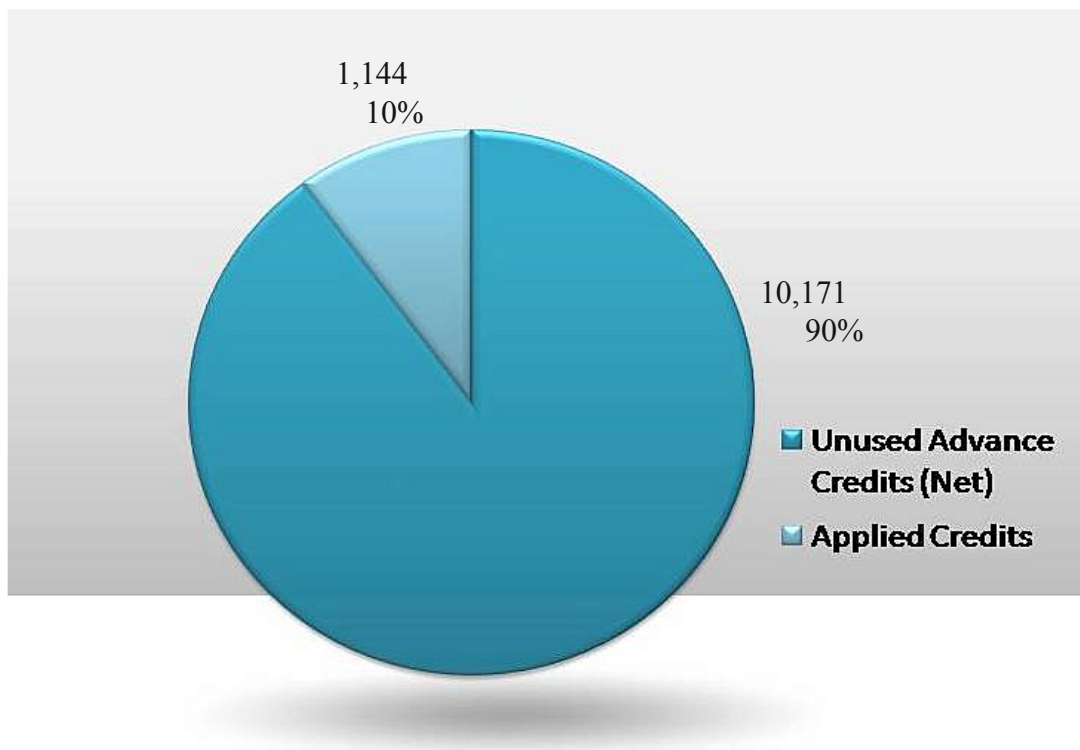


Figure 3: NCDOT Stream and Wetland Program Inventory
11,315 Total Wetland credits (Gross)



NCDOT Stream and Wetland Requirements and Compliance

The NCDOT Stream and Wetland Program continued to achieve excellent compliance at meeting its permit requirements during FY 2009-10. The table below summarizes these results.

Table 8: NCDOT Stream and Wetland Requirements - FY 2009–10

NCDOT Program Type	Stream	Wetland
Mitigation Due (credits)	277,389	721
Mitigation Met	277,389	720
Mitigation Not Met	0	1
Compliance	100 %	99.86%

Statewide Stream and Wetland Program

The Statewide Stream and Wetland Program began under legislation passed in 1996 and is the oldest ILF program in North Carolina. In some cases, pursuant to Session Law 2009-337, this voluntary program is available to developers who do not wish to do the mitigation themselves or cannot access a mitigation bank. The program does not receive any appropriations and operates on customer receipts. Details about the program's receipts and requirements are available [online](#). At the end of FY 2009–10 the Statewide Stream and Wetland Program's gross inventory totaled 528,063 stream credits and 1,307.17 wetland credits. The charts below represent the program's inventory status of applied and unused advance mitigation at the end of FY 2009–10.

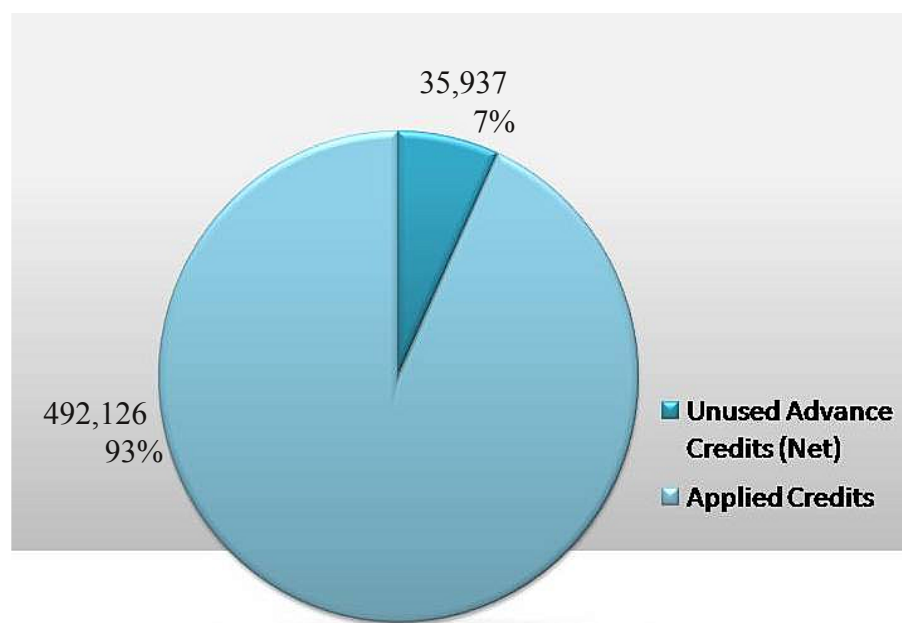
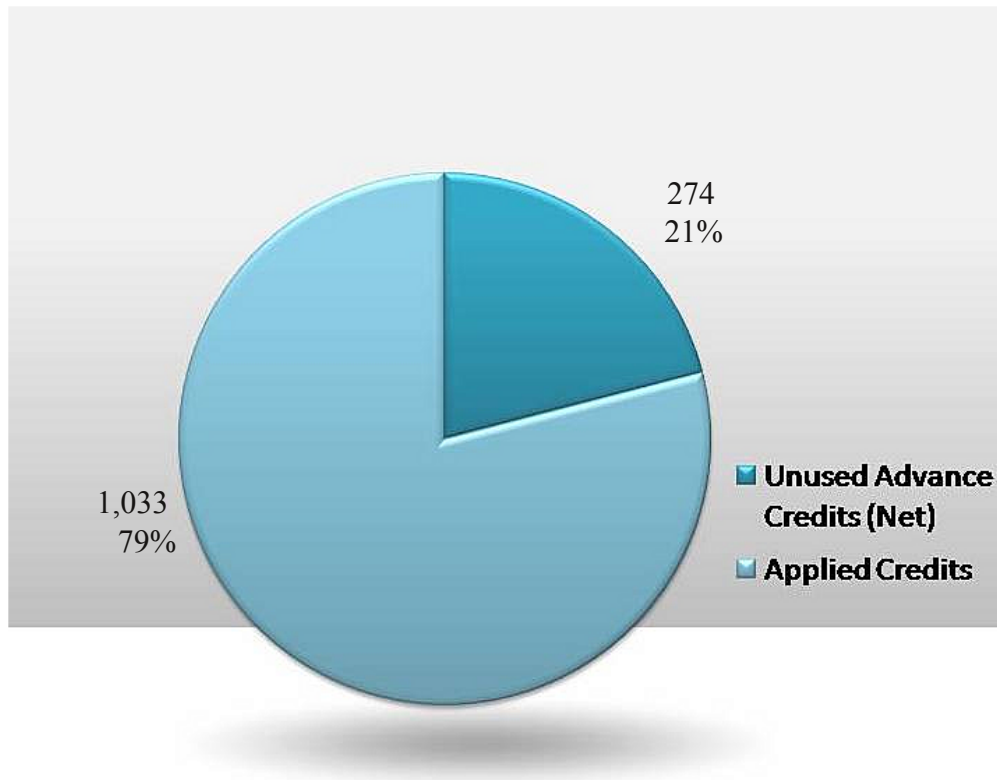
Figure 4: Statewide Stream and Wetland Program Inventory
528,063 Total Stream credits (Gross)[Table of Contents](#)[Executive Summary](#)[Key Developments](#)[EEP Programs](#)[Partnerships](#)[EEP Watershed Planning and Mitigation Project Delivery](#)[Watershed Planning](#)[Property Acquisition](#)[Project Implementation](#)[Monitoring and Project Closeout](#)[Research](#)[Long-Term Stewardship](#)[Program Financial Information](#)[Financial Status of Program Funds](#)[Project Costs](#)[Contract Data](#)[Program Inventory and Compliance](#)[NCDOT Stream and Wetland](#)[Statewide Stream and Wetland](#)[Riparian Buffer Mitigation](#)[Nutrient Offset](#)[Summary Remarks and Future Direction](#)[Annual Report Feedback](#)[Appendices](#)

Figure 5: Statewide Stream and Wetland Program Inventory
1,307.16 Total Wetland credits (Gross)



Statewide Stream and Wetland Requirements & Compliance

The Statewide Stream and Wetland Program continued to achieve excellent compliance at meeting its permit requirements during the FY 2009-10. The table below summarizes these results.

Table 9: Statewide Stream and Wetland Requirements - FY 2009–10

Statewide Program Type	Stream	Wetland
Mitigation Due (credits)	485,575	767
Mitigation Met	478,319	755
Mitigation Not Met	7,256	12
Compliance	98.51 %	98.47%

The Statewide Stream and Wetland Program also measures compliance by percentage of permits satisfied; for FY 2009-10, compliance stands at 96.69 percent. EEP continues to implement projects to address all of EEP's permit requirements.

Riparian Buffer Mitigation Program

The EEP Riparian Buffer Mitigation Program started in 1999 in the Neuse River basin. The program later expanded to the Tar-Pamlico and Catawba River basins and a portion of the Cape Fear basin (Randleman Watershed). This mitigation option is also now available to permit applicants who are required to comply with 2009 legislation requiring riparian buffer mitigation in the Jordan Lake and Falls Lake watersheds.

Before accessing the program, developers must verify compliance with Session Law 2009-337 and other rules that govern when EEP's ILF program may be an option for satisfying compensatory mitigation.

Inventory of Gross Asset Status (Credits)

The table below summarizes the Riparian Buffer Mitigation Program's inventory, permit requirements, compliance and available (unused) advance mitigation at the end of FY 2009–10. Overall, compliance remained good throughout the fiscal year and finished at 84.22 percent overall, with 100 percent compliance in the Catawba and 98.52 percent compliance in the Neuse basins, and 91.21 percent compliance in the Tar-Pamlico basin. The Cape Fear basin has one permit that is lowering the overall program compliance rate. This one permit represents 90 percent of the unmet requirements across all river basins. EEP has initiated twice previously a project sufficient to satisfy this permit, but discovered legal constraints each time that made these projects unfeasible. EEP plans to issue a new request for full-delivery proposal in 2010 to satisfy this permit requirement. Several new riparian-buffer restoration projects are expected to be acquired during the first quarter of FY 2010-11, which should bring compliance even higher. Furthermore, the program's sound financial status should allow program compliance to remain high well into the future.

Table 10: Riparian Buffer Mitigation Program Summary

Riparian Buffer	Cape Fear	Catawba	Neuse	Tar Pamlico	Grand Total
Mitigation Due (credits)	7,891,216.60	110,583.00	18,634,429.93	2,326,492.58	28,962,722.11
Mitigation Met	3,799,818.04	110,583.00	18,359,079.78	2,122,069.75	24,391,550.57
Mitigation Not Met	4,091,398.56	0.00	275,350.15	204,422.83	4,571,171.54
Compliance	48.15%	100.00%	98.52%	91.21%	84.22%
Advanced Mitigation	0.00	107,217.00	0.00	0.00	107,217.00

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Nutrient Offset Program

EEP's Nutrient Offset Program assists developers and others who must comply with Neuse and Tar- Pamlico nutrient-management strategies and are unable to meet their reduction requirements onsite. The voluntary program allows developers to choose to make a payment to EEP rather than construct mitigation onsite. EEP then becomes responsible for the nutrient reduction and implements projects to meet the nutrient-reduction needs. EEP accepts payments for nitrogen reduction in the Neuse basin and nitrogen and phosphorus in the Tar-Pamlico basin, the Falls Lake watershed and (as of September 1, 2010) in the Jordan watershed. The status of the Nutrient Offset Program is shown in Table 11 below.

Table 11: Nutrient Offset Program Summary

Nutrient Offset	Neuse Nitrogen	Tar Pamlico Nitrogen	Tar Pamlico Phosphorus	Grand Total
Mitigation Due (credits)	1,339,893.09	33,827.77	2,975.09	1,376,695.94
Mitigation Met	1,339,893.09	28,528.04	2,651.03	1,371,072.16
Mitigation Not Met	0	5,299.73	324.06	5,623.79
Compliance	100.00%	84.33%	89.11%	99.59%
Advanced Mitigation	44,298.80	118,269.30	6,839.41	169,407.51

VII. Summary Remarks and Future Direction

In FY 2010-11, EEP will continue to provide a valuable service to the state of North Carolina by facilitating responsible economic development and maximizing the environmental benefits of mitigation investments. As the program's many projects continue to mature, emphasis will grow in the area of project monitoring and regulatory closeout. Project construction will also be a focal point, as many projects that were designed in recent years move into this development phase. Additional areas of interest for FY 2010-11 include:

Increasing Level of Mitigation Advancement

EEP's operating agreements require that in the year 2015, all mitigation provided to offset unavoidable impacts from the implementation of NCDOT road projects will have been constructed and monitored for two years. EEP has made great strides toward meeting this milestone with over 700,000 linear feet of stream mitigation credits and over 1,400 acres of wetland credits available for offsetting future impacts from development.

As shown in Figures 6 and 7 below, these available credits are also in an advanced stage of maturity with over three-quarters being in either post-construction monitoring or in stewardship.

Figure 6: Maturity of Advanced Stream Mitigation Credits
791,863 credits available

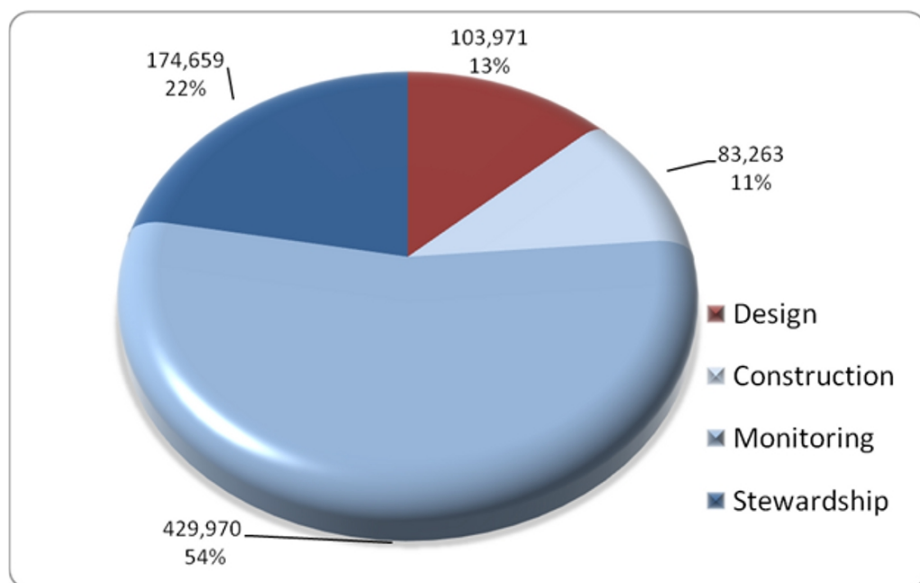


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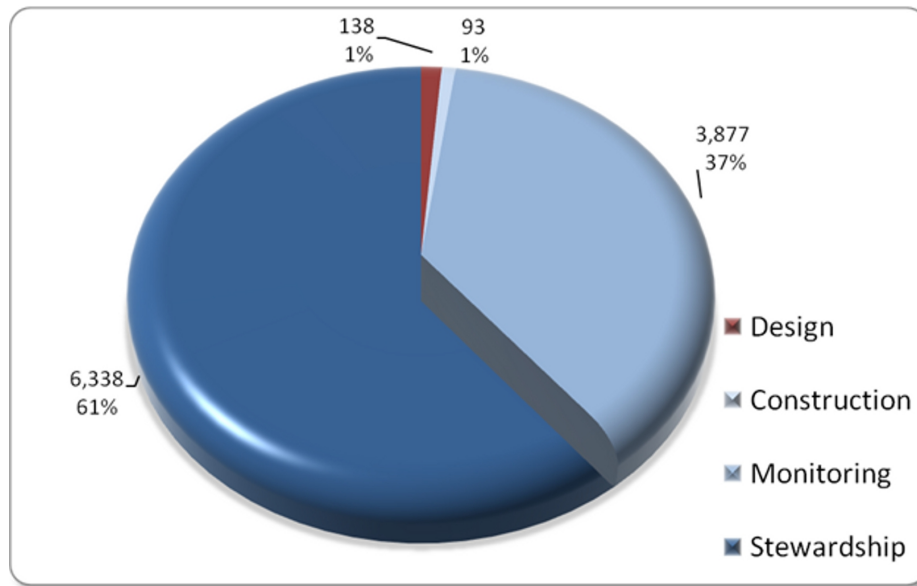
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Figure 7: Maturity of Advanced Wetland Mitigation Credits
10,466 credits available



Application of New Procedures

During FY 2010-11, EEP will apply new procedures to facilitate the implementation of the program's new operating agreement. Several important changes will govern program operations including:

- The application and accounting of advance credits as defined by the federal mitigation rule (33 CFR Part 332, and 40 CFR Part 23) and allocated in the program's instrument;
- Implementation of new procedures for the review of new projects initiated under the provisions of the instrument; and
- The tracking and approval of release schedules for credits generated by the program's mitigation projects, and the subsequent application of released credits.

In addition, the annual report for FY 2010-11 will include additional or modified components to meet new reporting protocols specified in the instrument.

Continuous Program Improvement

NCDENR leadership and EEP management will continue to evaluate program operations in terms of identifying ways to improve program functions and services. During FY 2010-11, actions will be taken to build on program successes and to address identified challenges. These actions will be reported through the program's website and will be summarized in the FY 2010-11 annual report.

Annual Report Feedback (Note: Please use the latest standard pdf reader to submit form.)

The Ecosystem Enhancement Program strives to provide quality reporting. EEP this year builds on last year's effort in reporting (based on feedback from last year's Annual Report Feedback form) with the goal of providing a more informative and reader-friendly report.

The following questionnaire gives you the opportunity to help EEP continue to improve the clarity and usefulness of its reports. Thank you for reading the annual report, and for taking an interest in the program.

1. Select the affiliation with which you most identify:

- | | |
|-------------------------------|--------------------------------------|
| a. Environmental organization | f. Landowner doing business with EEP |
| b. Engineering/Construction | g. NCDOT board member |
| c. Mitigation Bank | h. NCDOT employee |
| d. Regulatory community | i. NCDENR employee |
| e. ILF customer | j. Other |

2. Do you have a desire for more or fewer hyperlinks?

- a. More
- b. Fewer

3. This 2009-10 report highlighted EEP partnerships by making that topic its own section. Would you like more information on how EEP partners?

- a. Yes
- b. No

4. Select the section of greatest interest to you:

- a. Executive Summary
- b. EEP Programs
- c. Key Developments
- d. Watershed Planning & Mitigation Project Delivery
- e. Program Financial Information
- f. Program Inventory & Compliance
- g. Summary Remarks & Future Direction

5. In addition to the standard charts and tables historically provided in EEP annual reports, this year a summary balance sheet is provided. Did you find this format helpful?

- a. Yes
- b. No
- c. I did not notice the balance sheets, please [show that information](#).

VIII: Appendices click on each to download or [Download Full Appendix File](#)

A. Local Watershed Planning

- i* Local Watershed Plans - Completed through Phase III
- ii* Local Watershed Plan Initiatives in Progress
- iii* Summary of Funding Leveraged in EEP Local Watershed Planning Areas

B. Program Credit Assets

- i* NCDOT Statewide Stream and Wetland Program Gross Assets (Not including HQP Gross Credits)
- ii* NCDOT Statewide Stream and Wetland Program High Quality Preservation Gross Assets
- iii* Statewide Stream and Wetland Program Gross Assets
- iv* Riparian Buffer Program Gross Assets
- v* Nutrient Offset Program Gross Assets

C. Contracts & Payments

- i* Contracts Awarded by Contract Type
- ii* Full Delivery Contracts
- iii* Vendor Payments

D. Property Information

- i* Properties Closed
- ii* Properties Optioned
- iii* Cumulative Properties

E. Monitoring and Closeout

- i* Projects in Monitoring
- ii* Projects in Closeout

F. Private Mitigation Banking Survey

