2011-12 ANNUAL REPORT

Ecosystem Enhancement Program

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(click below to select section)

North Carolina Department of Environment and Natural Resources

Dee Freeman, Secretary
Beverly Perdue, Governor
Suzanne Klimek, Acting Director

This annual report is designed as primarily an electronic document. It features interactive applications using Web technologies that will invite reader participation in EEP's work.

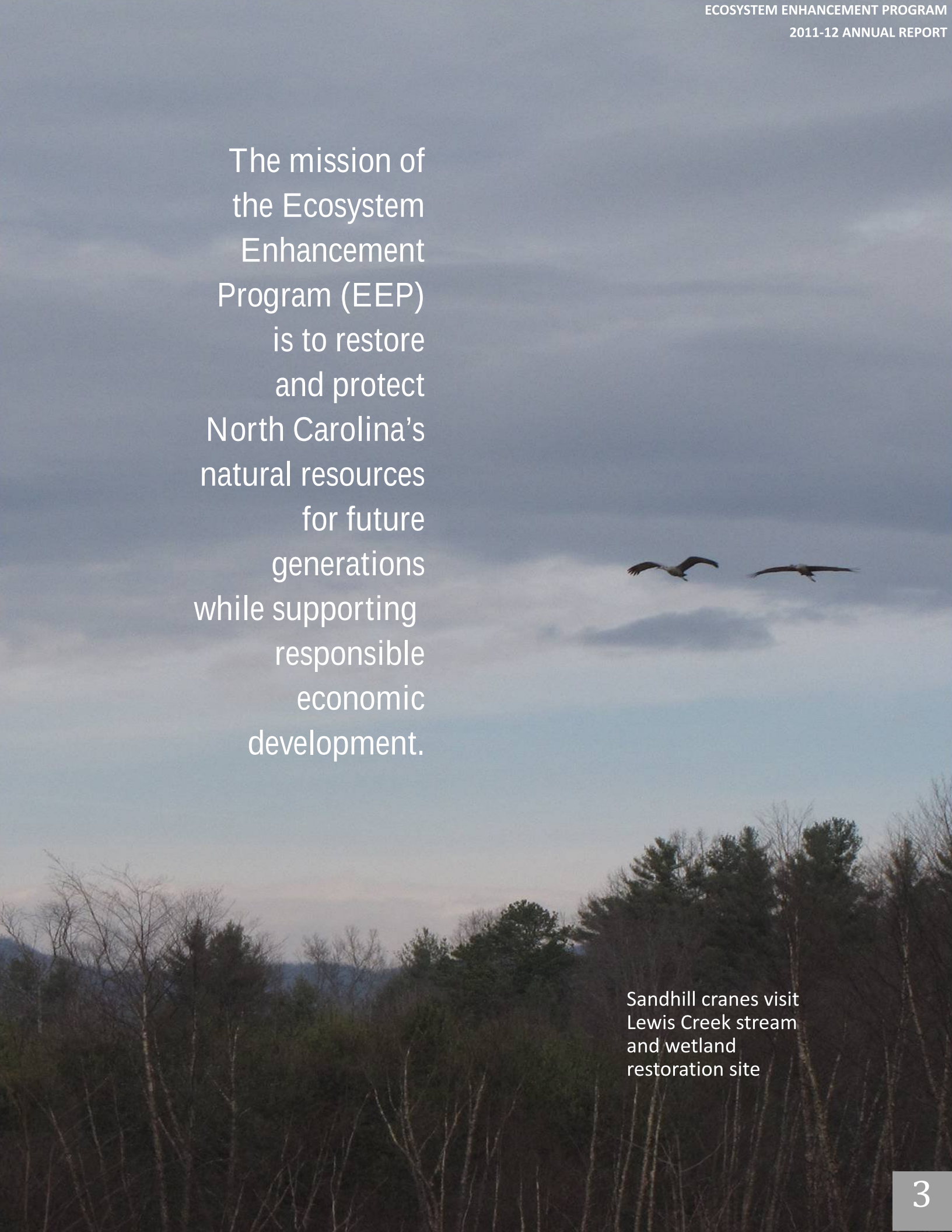
Access:
http/portal.ncdenr.org/web/eep

Front Cover: Pilot Mountain, as viewed from the Pilot Creek subwatershed in EEP's Ararat Local Watershed Planning Area (Surry County).

Back Cover: Site of EEP's stream restoration project on Unnamed Tributary to Bald Creek - French Broad River Basin (Yancey County).

Cover photos by Hal Bryson

The mission of the Ecosystem Enhancement Program (EEP) is to restore and protect North Carolina's natural resources for future generations while supporting responsible economic development.



Sandhill cranes visit Lewis Creek stream and wetland restoration site

Message from the Director

Thank you for taking the time to review the Ecosystem Enhancement Program's Annual Report for the 2011-12 fiscal year. This report has many links to Internet resources and is intended to be used interactively: I encourage you to look closely at the details contained in this document as well as the substantial amount of information and data we routinely share through our website. The field of compensatory mitigation is not without its complexities, but EEP strives to present critical information about the program in an understandable and transparent manner, so that those who are interested can access it with ease.

The past year is consistent with previous years in many ways. EEP continues to take steps to improve its efficiency and effectiveness, achieve high rates of compliance with regulatory requirements, provide an important service to its customers and share information with key stakeholders and other entities that seek to evaluate the program's success. The program also continues to work closely with and rely heavily on the private sector to accomplish its work. In the past fiscal year EEP made payments to vendors in excess of $22 million which is supporting more than 1,000 green jobs in our state.

In the past year, EEP has seen the positive results of actions taken in fiscal 2010-11 related to efficiency and effectiveness. Organizational adjustments have improved overall oversight of mitigation project delivery, both in terms of technical outcomes and in relation to procurement processes. These organizational adjustments have also solidified critical processes such as those related to the regulatory closeout of projects that have been through successful monitoring. The Science Advisory Panel has developed and begun implementation of a work plan that will support the improvement of restoration outcomes. Also, the program's updated website is full of data on program operations, further increasing EEP's transparency. EEP will continue to build on the momentum generated through these efforts to improve its operations.

This year, EEP is managing nearly 600 projects to satisfy requirements associated with more than 11,400

Photo by Brian Sorrell

permits for stream, wetland and riparian buffer impacts as well as 2,200 total approvals related to nutrient-reduction requirements. The program maintains its commitment to implementing projects in priority areas that are identified through watershed planning. An increasing focus of the program is the regulatory closeout of projects. As our mitigation projects mature over the course of several years, a final assessment by regulatory and resource agencies takes place to solidify the credit yield for each project. Many more of EEP's projects are reaching this stage, and 196 projects had been successfully closed out by the agencies as of June 30, 2012.

I am pleased to report that a recent survey with program customers demonstrates that the voluntary service that we provide in North Carolina is highly valued. Customers continue to report a high rate of satisfaction with their interactions with EEP. Moreover, EEP's largest customer, the N.C. Department of Transportation, continues to have no permit delays associated with compensatory mitigation, allowing that agency to more successfully deliver more than $13.7 billion in transportation projects since 2003. I'm also proud to report that our program completed 988 days without a work-related injury.

In May, the Program Evaluation Division (PED) of the N.C. General Assembly began an assessment of EEP that had been scheduled for several years and we were happy to cooperate fully. Unfortunately, some high priority assessments were added to the PED workload during the legislature's 2012 session and our evaluation has been delayed until early 2013. But as we began the process with the PED, we found that all of the readily available data that EEP has to offer, including what is available through our website, is helpful to the division and any other groups that examine the program.

Also in May, I was asked to serve as acting director of EEP until the end of the calendar year. Leadership in the N.C. Department of Environment and Natural Resources (NCDENR) recognized the need for someone to serve as the acting director because of significant administrative workloads, but also knew that it was prudent to delay the formal hiring process for the director position until the state has navigated the pending change of administration when Gov. Bev Perdue leaves office. I have been with EEP since its inception and am proud of this organization's accomplishments. I am happy to serve during this interim period and welcome any inquiries people may have about our program.

Sincerely,

Suzanne Klimek, acting director

Newfound Creek stream restoration site

Highlights of FY 2011-12

The Ecosystem Enhancement Program is a North Carolina Department of Environment and Natural Resources (NCDENR) initiative created by an agreement among the U.S. Army Corps of Engineers, the N.C. Department of Transportation (NCDOT) and NCDENR in 2003. The program integrated the former Wetlands Restoration Program, which was created by North Carolina general statutes in the mid-1990's to provide stream and wetland mitigation as an in-lieu fee (ILF) program in North Carolina, with existing compensatory-mitigation activities being carried out by NCDOT. In July 2010, USACE and NCDENR became signatories to a new instrument for EEP's operations that complies with federal rules that became effective in 2008 and supersedes previous agreements between these agencies. EEP remains governed by federal and state laws and agreements as it delivers watershed-based mitigation guided by watershed planning.

The fiscal 2011-12 EEP Annual Report fulfills legal and regulatory reporting requirements and presents an overview of the accomplishments and status of EEP during the period. It gives a selection of program highlights and provides links to more detailed information found on the EEP web portal.

New to the program's annual report this year are features interspersed throughout the report that focus on specific projects and collaborators. The four ILF programs (NCDOT Stream and Wetland Mitigation Program, Statewide Stream and Wetland Mitigation Program, Riparian Buffer Mitigation Program, and the Nutrient Offset Program) are briefly described, then reports are provided from the planning, project management, property and science and analysis sections of EEP. Program financial information follows, and the report concludes with a characterization of the status of program assets and compliance with regulatory requirements.

Review of documents at Moore's Fork field site visit

Closeout Process Takes Center Stage

The life of restoration and enhancement projects implemented by EEP follows a natural progression, from watershed planning to property acquisition, then from project implementation to monitoring. After projects are monitored to determine whether regulatory standards are being met, a point comes where state and federal regulatory and resource agencies are asked to give a final sign-off to the type and magnitude of mitigation credits produced. This part of a project's life cycle is typically referred to as closeout. As more and more of EEP projects have matured over the history of the program, closeout has become an important focus.

Closeout is a regulatory review process that follows the planning, implementation and monitoring of EEP mitigation projects, and determines the actual credits a site will generate for compensatory mitigation. During closeout, the Interagency Review Team of state and federal regulators evaluates projects based upon defined success criteria included in mitigation plans. They finalize the amount and type of credits that can be realized for each project according to applicable standards.

In fiscal 2011-12, 32 more of EEP's nearly 600 projects statewide reached the closeout stage. Thirty projects were proposed for closeout in FY 2010-11 and about 40 additional projects are expected to be ready for closeout during the coming year (FY 2012-13). Since EEP's establishment nine years ago, 258 projects have completed the monitoring stage and have been or are being proposed for closeout. The closeout process represents a joint effort of EEP project and property managers, scientists and analysts, as well as private-sector mitigation providers. Of the projects that have been proposed for closeout, 10 still have minor contingencies (a contingency may be supplemental planting, an easement issue, or some minor stream repair) which must be addressed before the agencies will give final approval. A closer look at two projects that closed out during fiscal 2011-12 can be found in the EEP project features on Chavis Park (page 30) and Stillhouse Creek (page 34).

Suzanne Klimek appointed acting director of EEP

Effective May 1, Suzanne Klimek accepted a temporary appointment as acting director of EEP. NCDENR leadership is postponing the process of filling the position permanently in consideration of the upcoming change of administration through the election for governor. Klimek is expected to serve as acting director through the end of the 2012 calendar year, after which she will return to her role within EEP as an environmental program consultant supporting the program on issues related to state and federal policies and regulations and other important initiatives.

Science Advisory Panel Develops Work Plan

During fiscal 2011-12, EEP worked closely with NCDENR's Science Advisory Panel to support the identification of specific issues the panel will evaluate to promote better restoration outcomes in the state.

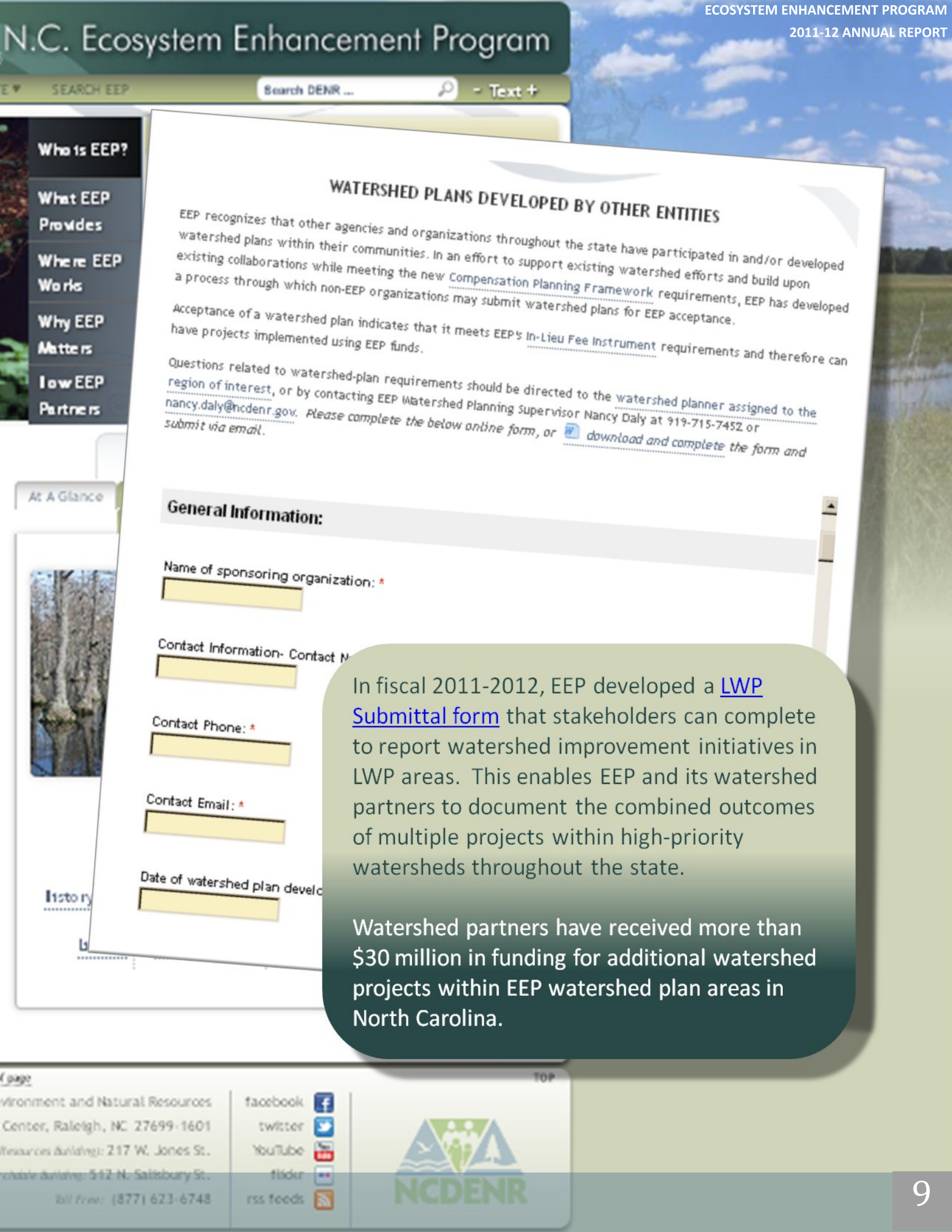
The panel, formed in 2011, is comprised of volunteer professional members with specialties in aquatic-resource restoration practices. In March 2012, the panel finalized its work plan for the year, focusing on three important issues:

- Making better use of existing data collected for stream restoration projects to express outcomes in functional terms;
- Supporting better decision making in the application of tools for measuring sediment transport; and
- Improving the evaluation of hydrology for wetland-restoration projects.

The work plan offers more detailed descriptions of these issues and strategies to address these priorities.

Implementation of New Tools on Portal

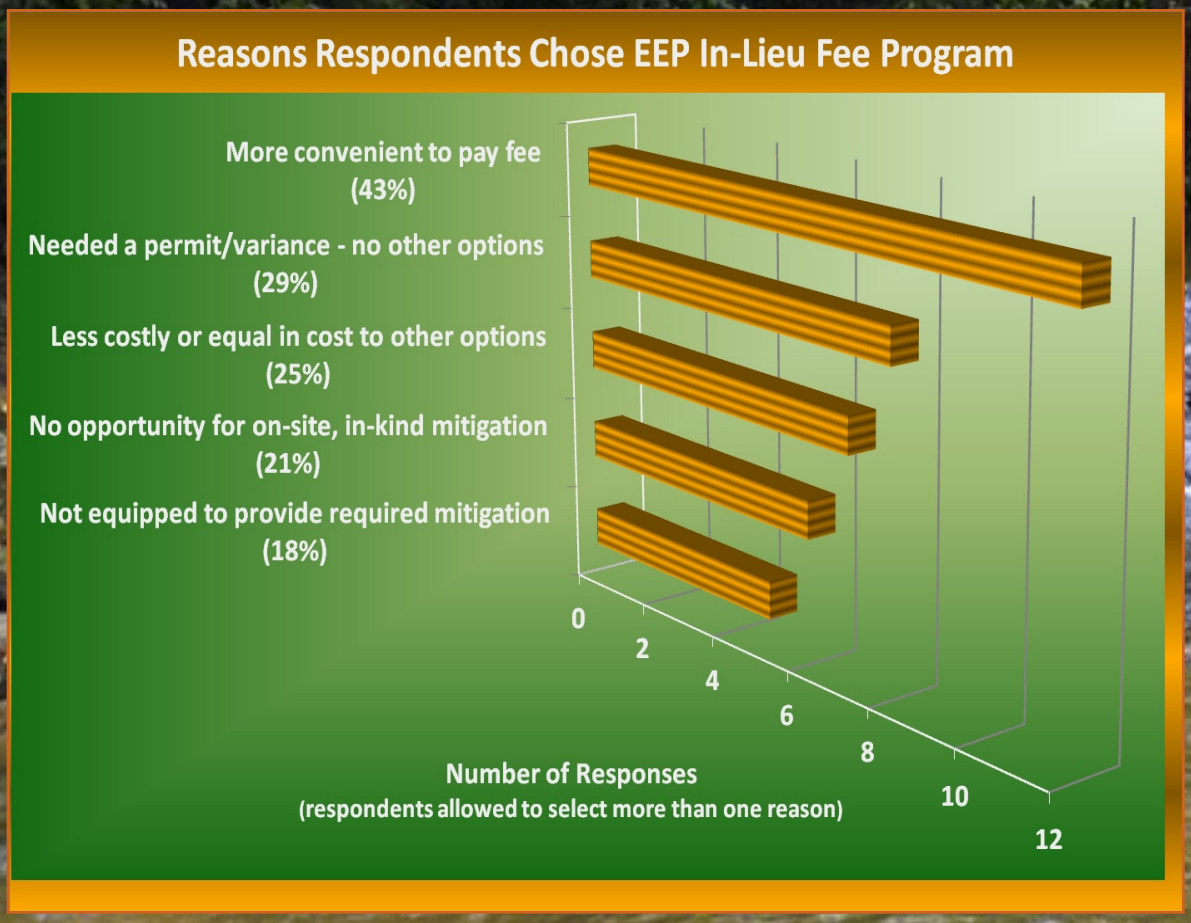
Business partners are now able to search for resources related to doing business with EEP from a single search index. The index provides access to forms, templates and guidance documents. Go to Design-Bid-Build Templates & Guidance Documents or Full Delivery Templates & Guidance resources to explore this new feature on the EEP portal.



In fiscal 2011-2012, EEP developed a LWP Submittal form that stakeholders can complete to report watershed improvement initiatives in LWP areas. This enables EEP and its watershed partners to document the combined outcomes of multiple projects within high-priority watersheds throughout the state.

Watershed partners have received more than $30 million in funding for additional watershed projects within EEP watershed plan areas in North Carolina.

In-Lieu Fee Program Customers are Satisfied



Tom's Creek

EEP's ILF program customers again registered overall satisfaction with the program's performance and fee schedule in the fiscal 2011-12 customer-satisfaction survey. Survey questions can be found in Appendix A-1.

Of the responses received in the online survey, 100 percent were satisfied and more than 60 percent responded they were extremely satisfied. More than 60 percent of participants responded that the fee paid was very reasonable, and that it would have cost more to do the mitigation without using the program. The survey results are presented in detail in Appendix A-2.

When asked why they chose to use the program, the most frequent response was that it was simply more convenient to pay the fee and let EEP provide the mitigation. However, more than a quarter of the respondents also indicated they were in need of rapid permit approval; similarly, about one quarter responded that the program was less costly or equal in cost to other mitigation options. One-fifth indicated they had no opportunity for onsite, in-kind mitigation, and almost the same proportion responded that they were not equipped to provide the mitigation required.

More than two-thirds of the respondents have visited the EEP website, and 95 percent reported being able to easily find the information they were seeking. Almost two-thirds of respondents were aware of the mitigation request form on the website; within that group, two-thirds responded that they had used the request form.

All respondents agreed they would use or recommend their clients use the ILF program in the future. Comments received from the survey respondents praised EEP staff for being timely, courteous, helpful, knowledgeable, responsive and excellent. The ILF program was described as being "very reliable" and the experience of working with EEP was described as "great."

Park Projects Bring Many Benefits to North Carolina

During the past 10 years, EEP helped protect more than 50,000 acres of natural areas in the state for future generations. More than 26,000 acres are managed by state agencies and many are open to the public.

EEP contributed to the addition of 3,000 acres to the Eno River, Haw River and Mayo River state parks and the Lower Haw River State Natural Area.

In addition to state parks, EEP funding helped expand state game lands by nearly 21,000 acres.

A total of 46 EEP project sites are in park lands, including many in urban settings, and 17 project sites are in state game lands.

This annual report features brief profiles on five project sites in parks or preserves: Stillhouse Creek, Little Alamance Creek, Chavis Park, UT to Jumping Run and Lewis Creek.

From hiking, canoeing, bird-watching and nature studies to hunting and fishing, access to land conserved through EEP provides many economic, education and health benefits.

EEP Planning Profile

Degraded stream channel within a priority subwatershed

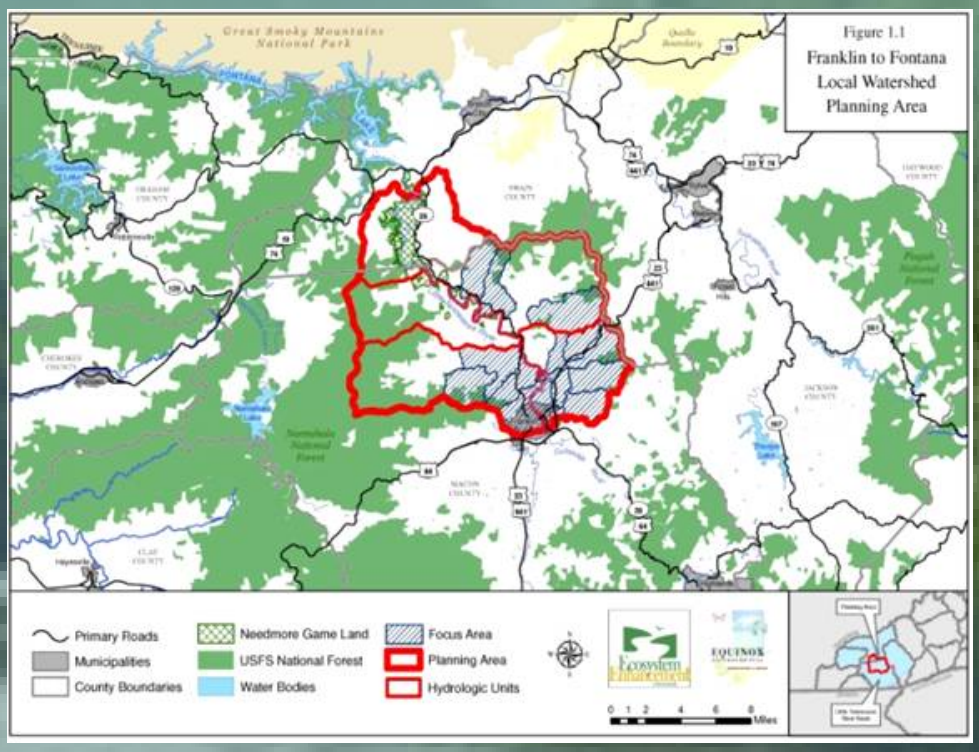
EEP planning staff worked with key watershed stakeholders in the upper Little Tennessee River basin (Macon and Swain counties) to complete the Franklin to Fontana Watershed Management Plan in July 2011. The plan is based on watershed-assessment work and stakeholder meetings conducted from early 2008 through spring 2011. The stakeholder team included representatives from the following organizations and individuals:

- Little Tennessee Watershed Association
- Land Trust for the Little Tennessee
- Macon County Soil & Water Conservation District
- Macon County Planning Board
- N.C. Cooperative Extension Service
- N.C. Natural Heritage Program, N.C. Wildlife Resources Commission
- N.C. Division of Water Quality
- N.C. Department of Transportation
- U.S. Fish & Wildlife Service
- Southwestern RC&D
- Western Carolina University
- Coweeta Hydrologic Laboratory
- Town of Franklin
- Tennessee Valley Authority
- Duke Energy
- Macon County public schools

Members of the Franklin-to-Fontana LWP Local Advisory Committee

Franklin-to-Fontana Watershed Plan Completed and Implementation of Recommendations is now underway

The study area captured 154 square miles of the Little Tennessee River watershed, including tributaries downstream of the Cullasaja River to Lake Fontana. A 56-square mile area with the lowest (most at-risk) level of ecological function became the focus for addressing the most important watershed problems. Major stressors identified in the focus area for which specific watershed management and project recommendations were developed included a lack of woody riparian vegetation; channel modification; excessive sediment and nutrient inputs; bacterial contamination; stormwater runoff; tomato farming pesticides and barriers to fish passage.



A total of 36 specific management recommendations were developed by the collaborative stakeholders, culminating in the final Watershed Management Plan. Recommendations ranged from on-the-ground projects to broader policy and institutional measures, and also include improving education and research and assessment priorities for the upper Little Tennessee basin. The planning effort supported a joint NCDOT-EEP effort to allow the removal of barriers to aquatic organism passage to receive mitigation credit with the approval of state and federal regulatory agencies. More information on the Franklin to Fontana LWP is available on EEP's web portal.

Little Tennessee River near the Needmore conservation tract

North State Environmental Services

Good Jobs

Good Habitat

North State Environmental Service's EEP Projects:

601 West
Charles Creek
Deep Creek
Five Mile Branch
Gray Farm
Holly Grove
Jones Creek
Lick Creek
Little Bugaboo
Lyle Creek
Morgan Creek
North Fork Mountain Creek
Scaly Bark
Silas Creek
South Fork
UT to Barnes
UT to Mill Branch
Valley Fields
Wolf Pond

Morgan Creek
Stream Restoration

Ararat River
Restoration
for Pilot View

Business Collaborator

In 2001, North State Environmental was a small construction company specializing in erosion control, landscaping and the relatively new field of stream and wetland restoration. Owner Darrell Westmoreland had seven employees, and that year the company built its first mitigation project: 2,200 linear feet of Lyle Creek in Catawba County. Since that time, North State has completed 19 projects for EEP, restoring more than 23 miles of streams and 230 acres of wetlands in 16 counties across the state.

The love of nature and quality construction drove North State to find its niche in stream restoration. As Westmoreland says, "Where else can you have such an amazing impact on the environment and still play with big toys?"

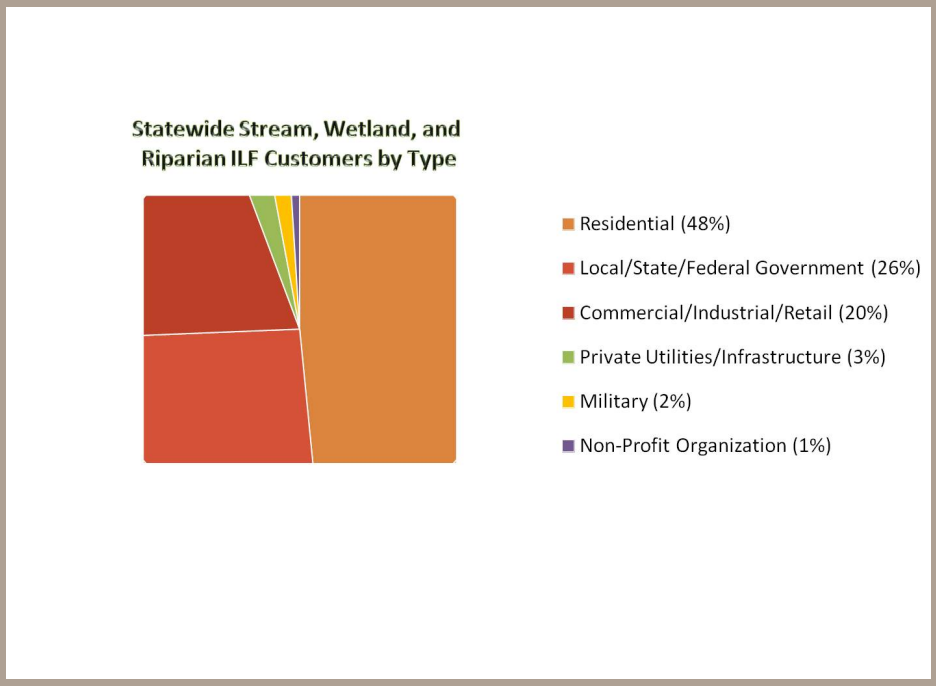
The Winston-Salem business now employs 45 people as equipment operators, estimators, project managers, foremen, laborers and associated support professionals, and is recognized nationwide for its specialized construction techniques for sensitive stream sites. North State is also a multiple award winner, having been recognized for business success (Business North Carolina and American Council of Engineering Companies/North Carolina) and its environmental stewardship (N.C. Wildlife Federation/National Wildlife Federation Governor's Award as Business Conservationist of the Year, 2009).

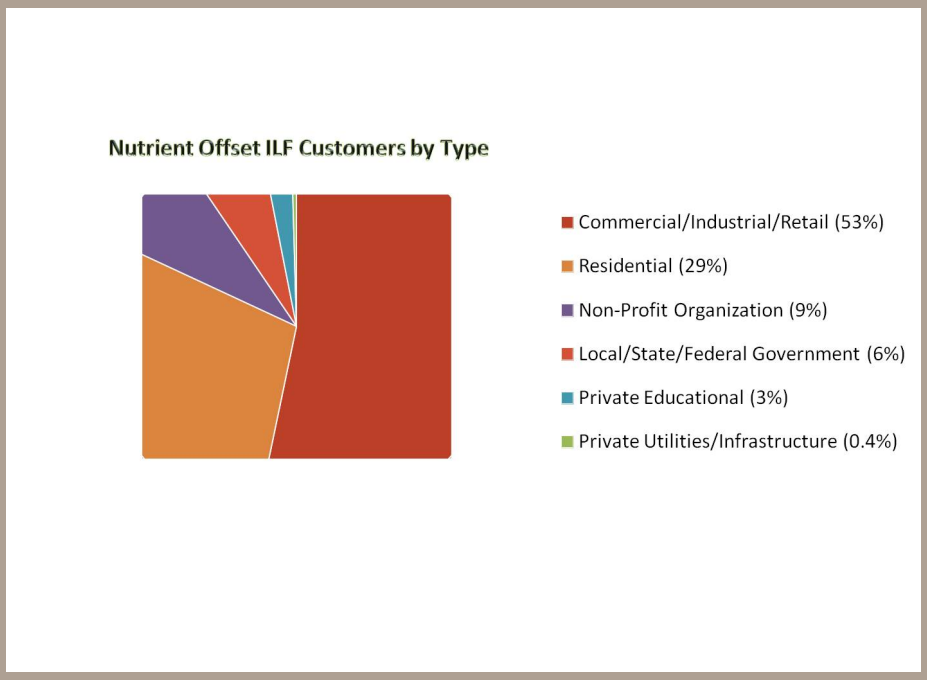
EEP is proud to partner with companies like North State Environmental that provide good jobs for people, as well as good habitat for wildlife.

North State ENVIRONMENTAL

EEP In-Lieu Fee Programs

EEP has four separate ILF programs that help private and public developers satisfy compensatory mitigation needs. Each program operates independently and maintains a separate financial account to track revenues, expenditures and contracted planning and delivery of mitigation projects. ILF programs are receipt-based and receive no appropriations from the General Assembly.





In-Lieu Fee Program Customers

EEP's ILF programs include NCDOT Stream and Wetland; Statewide Stream and Wetland; Riparian Buffer Mitigation; and Nutrient Offset. Eligibility to participate in an EEP program is a joint decision made by the developer, EEP and the regulatory agencies (legislation in recent years has affected eligibility in various ways for participation in EEP's ILF programs).

In each of the mitigation programs, applicants make payments to EEP instead of providing mitigation themselves. Upon payment, EEP assumes the full legal responsibility for planning, developing and implementing the required types and amounts of mitigation, and applicants are no longer liable for the mitigation requirement.

The process assists developers by providing a reliable, fast and economical option to satisfy compensatory-mitigation requirements. The process also helps the environment by allowing North Carolina to target mitigation to the areas of the state that will benefit greatest from the implementation of mitigation projects.

N.C. Department of Transportation's Stream and Wetland ILF Program

The NCDOT Stream and Wetland Program stands as a national leader in producing mitigation credits in advance of unavoidable environmental impacts -- the primary objective of the program. The goal is to produce sufficient mitigation credits to offset impacts from the implementation of the entire NCDOT seven-year Transportation Improvement Program (TIP) in advance of the permitting phase of roadway 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. The NCDOT Stream and Wetland Program has more than 720,000 unused stream credits and more than 9,600 wetland credits ready for implementing the TIP. As a result of this innovative model, since the inception of EEP no NCDOT highway project has been delayed because of mitigation not being completed as required under the federal Clean Water Act.

Each February, NCDOT provides EEP with a programmatic mitigation order by forecasting NCDOT's future mitigation needs for the TIP. EEP secures the mitigation needed by NCDOT following the timelines prescribed in EEP's 2010 ILF Instrument. As each transportation project is permitted, EEP becomes responsible for providing the offsite mitigation associated with the transportation project.

In fiscal 2011-12, EEP helped NCDOT obtain permits for 57 NCDOT transportation projects requiring stream and/or wetland mitigation. For the 57 permitted projects, EEP provided 42,213 stream mitigation credits and 17.5 wetland mitigation credits.

Statewide Stream and Wetland Program

This program is a voluntary, receipt-based ILF program available to the public. It provides applicants for Clean Water Act Section 404 permits, Section 401 Water Quality certifications and/or Coastal Area Management Act permits a compensatory-mitigation option for unavoidable impacts to wetlands and streams. The NCDOT may also participate in this program for select projects not included in the NCDOT Stream and Wetland Program.

Permit applicants such as commercial and residential developers, governmental agencies including municipalities and military installations typically have three options for satisfying mitigation requirements: 1) permittee-provided mitigation, which involves identification and development of a mitigation site at the impact site or another location; 2) the purchase of credits from an approved mitigation bank; or 3) a request that EEP satisfy the mitigation requirement. (Note: EEP is no longer an option for private developers and most local governments when mitigation banks have available credits, in accordance with S.L. 2011-343. While EEP provides mitigation in all 17 North Carolina river basins, applicants who wish to participate in EEP's ILF program must first verify compliance with S.L 2011-343 prior to requesting to use EEP as a mitigation provider).

Once an applicant's request has been accepted and permitted and the applicant is ready to move forward on development of the project, payment is submitted to EEP. Upon payment, the liability for a mitigation requirement is transferred from the developer to EEP. EEP then provides the necessary stream or wetland restoration, enhancement and/or preservation to satisfy the requirements according to the 2010 In-Lieu Fee Mitigation Instrument.

The availability of this program provides the public a service that is predictable, reliable and cost-effective, and one that expedites the regulatory processes. All payments collected (receipts) and expenditures for this program are administered through the Statewide Stream and Wetland Fund. Stream and wetland payment data are available on EEP's web portal and are updated biannually. In fiscal 2011-12, EEP received 64 payments into the Statewide Stream and Wetland Program totaling $5,634,487.09, representing 6,887 stream credits and 65.8 wetlands credits.

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 and expenditures are managed in the Riparian Buffer Restoration Fund. Payment data for the Riparian Buffer Program are available on EEP's website.

In fiscal 2011-12, EEP received 11 payments for 266,476 square feet (6.1 acres) of buffer mitigation totaling $257,474.88. Whereas historically private and commercial developers represented the most frequent customer type, approximately 90 percent of the requirements this year came from units of local government, while six percent came from NCDOT; only three percent came from private developers. Development projects supported by this program include local-government infrastructure projects such as roads and utilities, as well as private residential development projects. EEP has accepted responsibility for 692 acres of buffer mitigation requirements since the program's 2003 inception in the applicable river basins.

Nutrient Offset Program

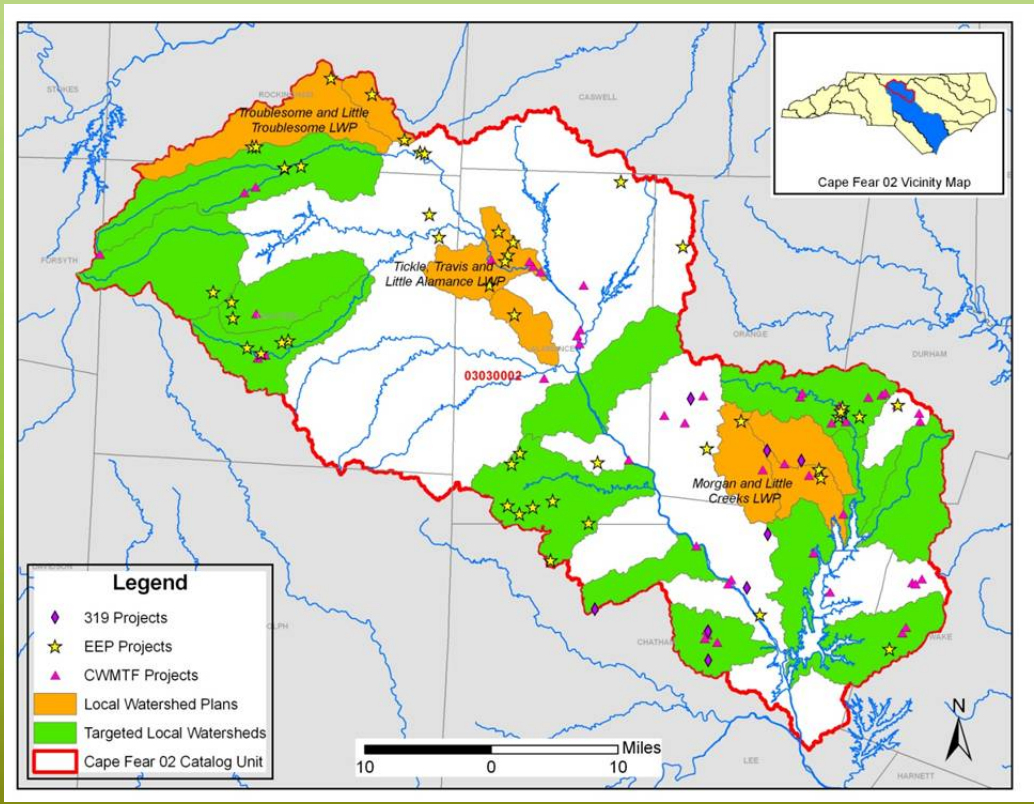
The Nutrient Offset Program is an option to meet compensatory mitigation requirements associated with nutrient loading regulations under the Neuse, Falls Lake and Tar-Pamlico nutrient management strategies. Applicants seeking stormwater approvals for construction-related impacts to upland areas may elect to undertake additional on-site measures to meet nutrient-reduction requirements, purchase nutrient reductions from a private mitigation bank or pay a fee to EEP to take responsibility for the mitigation. (Note: Session laws 2009-337 and 2011-343 established that nongovernmental entities, including most local governments, may not elect to use EEP's Nutrient Offset Program if private mitigation banking credits are available).

EEP received 83 nutrient-offset payments during the fiscal year totaling $673,047.98 to offset nutrient loading for development projects authorized by Nash, Orange, Pitt and Wake counties and the municipalities of Durham, Greenville, Henderson, Oxford, Raleigh, Rocky Mount, Tarboro and Washington. Payments covered 78 pounds of nitrogen reduction in the Neuse River basin; 4,222 pounds of nitrogen reduction and 360 pounds of phosphorus reduction in the Falls Lake watershed; and 26,359 pounds of nitrogen reduction and 1,221 pounds of phosphorus reduction in the Tar-Pamlico River basin.

Development projects supported by this program include schools, churches, charitable organizations and medical facilities, as well as commercial and residential development projects. Eighty-six percent of payments came from private developers. Nutrient Offset Program payment data and fee schedules are available on EEP's web portal.

Jordan Lake Watershed

Combined Project Efforts



An example of the benefits of combined project efforts in EEP priority planning areas is evident in the Jordan Lake watershed (Cape Fear 03030002 Cataloging Unit, or Cape Fear 02) of the Cape Fear River basin, which has 20 Targeted Local Watersheds and three Local Watershed Plans (LWPs: Troublesome and Little Troublesome Creek; Tickle, Travis and Little Alamance; and Morgan and Little Creek). EEP has implemented 38 projects in the TLWs, four of which proceeded to closeout in 2012 as shown in the map above. EEP projects in this watershed total more than 24 miles of stream and 190 acres of wetlands in these priority planning areas.

In addition, LWP partners have received greater than $4.6 million in grant funding from multiple funding agencies including the N.C. Clean Water Management Trust Fund (CWMTF) and the N.C. Division of Water Quality's 319 Program (Appendix B-3). The Cape Fear 02 experience demonstrates the value of focusing projects through multiple procurement methods and working with stakeholders on their efforts to improve conditions in targeted watersheds. As the rules to protect Lake Jordan are implemented, these and other agencies will be coordinating efforts to measure overall improvements to water quality in the watershed and the lake.

Little Alamance Creek Stream Restoration

Alamance County

With the snip of a pair of ceremonial scissors and hearty applause from about 50 onlookers on May 2, 2012 the city of Burlington and EEP celebrated the enhancement of a portion of Little Alamance Creek flowing through City Park. Speeches and a walking tour of the project marked the occasion before a gathering that included an environmental class from nearby Elon University and state Sen. Rick Gunn, of Burlington.

EEP and the city of Burlington partnered to build a 2,600 linear-foot restoration project in the popular park. The stream is a tributary of the Haw River, which flows into Jordan Lake, an important drinking-water source for the region. The enhancement project is designed to improve water quality and habitat in the creek and to lessen the effect of floodwaters on the park ecosystem. A stormwater treatment system was installed for surface runoff treatment, and sedimentation through bank erosion is combated through a reconstruction of the stream channel and planting of a new vegetative buffer.

Project Participants and Collaborators

City of Burlington
Arcadis Engineering (design)
Shamrock Environmental (construction)

Completed 2012

Above: Ribbon Cutting Event
Left: No Mowing Zone Marker
Right: Level Spreader BMP

EEP Project Profile

"We are gathered here today on the bank of Little Alamance Creek to celebrate the culmination of a project that has resulted not only in the cultivation of a healthier stream, but also in a lasting collaborative relationship with the Department of Environment and Natural Resources," Mayor Ronnie Wall said. Wall also serves on the N.C. Board of Transportation, which funds a significant portion of EEP's budget for its mitigation needs.

"This project did not commence when the heavy machinery arrived last fall," said David Knight, an assistant secretary with the N. C. Department of Environment and Natural Resources. "There's more to it than that."

Knight was referencing a stakeholder process that began in 2006 to examine the health of the creek's watershed, along with two adjoining rural watersheds. "The key thing was to get everyone involved, and the city could not have proved to be a better partner," Knight added.

EEP Watershed Planning and Mitigation Projects

Visit to Cline Farms subdivision

Visit to Grace Farms

View of West Lincoln High School stormwater wetland

Interpretive sign at West Lincoln High School stormwater wetland

Stakeholder site visits and a partner's BMP project within the Indian & Howard Creek Local Watershed Plan

EEP delivers high-quality mitigation projects by implementing strategic watershed planning, property acquisition, project implementation and long-term stewardship.

Watershed Planning

EEP uses watershed planning to determine the best locations for mitigation projects based on an analysis of watershed needs. EEP does this by conducting River Basin Restoration Priority (RBRP) planning and developing local watershed plans (LWPs). The importance of these methods was strengthened in 2008 when the U.S. Army Corps of Engineers and the Environmental Protection Agency implemented new regulations requiring all ILF programs to locate new stream and wetland mitigation projects using watershed planning.

To improve the selection of the most environmentally beneficial projects, EEP in November 2011 issued a request for proposals (RFP) for stream and wetland mitigation in the upper Cape Fear River basin which awarded points for projects that addressed planning-identified goals and objectives. Based upon the results of this RFP (currently in review), EEP will apply lessons learned to future RFPs. More information about EEP watershed planning, including documents searchable by river basin and contact information for EEP planners, is available on EEP's web portal.

River Basin Restoration Priority Plans

River Basin Restoration Plans (RBRPs) identify targeted local watersheds (TLWs), where watershed restoration or protection will provide significant watershed benefits. EEP, its partners and other resource agencies participate in the development of RBRPs and implementation of projects within the TLWs. Concentrating efforts to maximize the improvement and sustainability of aquatic resources is a fundamental principle of EEP watershed planning. RBRP documents are posted on the EEP web portal, searchable by river basin.

By statute, EEP must develop RBRPs at least every five years for each of the state's 17 river basins. EEP coordinates with the N.C. Division of Water Quality regarding water-quality monitoring data updates and basinwide planning schedules to

develop priorities. EEP produces RBRPs by conducting a detailed screening analysis for each eight-digit catalog unit (CU) within a river basin. In addition to using remotely-sensed data, EEP visits each major watershed to field-verify data and meet with local experts, including resource professionals from other agencies. RBRPs list restoration goals for each major watershed within a river basin and identify TLWs, which are smaller watersheds that have an appropriate mix of challenges, assets and opportunities that will support watershed improvement.

A total of 399 projects within EEP's project inventory (70 percent of all implemented projects) were initiated or are currently located in TLWs. More than 400 miles of stream, 8,500 acres of wetland (riparian, nonriparian and coastal marsh) and 900 acres of buffer are in priority TLWs. EEP is developing modifications to the RBRP planning process so that plan products are more conducive to full-delivery outsourcing and to increase utility for mitigation banks and other end-users. Next year's annual report will include details on how the process will be modified.

Local Watershed Plans

Local watershed planning focuses participants' efforts to determine where future mitigation investments can provide the greatest benefit for the state's aquatic resources through a careful examination of data and potential opportunities for projects to improve watershed conditions.

The development of local watershed plans is typically a four-phase process:

- Preliminary watershed characterization (Phase I);
- Detailed assessment (Phase II);
- Development of a watershed management plan, that includes a project atlas of potential watershed improvement projects (Phase III); and
- Implementation of identified projects and recommendations (Phase IV).

Stakeholders representing local interests and expertise participate extensively in the local watershed planning process, often bringing current knowledge to the table and helping promote watershed improvement activities beyond the formal reach of the LWP. Projects identified in LWPs include opportunities that will contribute to the overall restoration and protection of watersheds. These may be pursued by plan participants and others without necessarily providing mitigation, as EEP projects do.

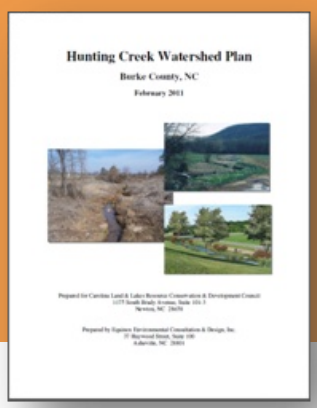
Through its engagement with local citizens and landowners, EEP also supports watershed plans developed by other state, federal, tribal and/or local government

Hunting Creek Local Watershed Plan Adoption

In October 2011, EEP accepted the Hunting Creek Local Watershed Plan (LWP) for use in implementing mitigation projects through the Compensation Planning Framework. The Hunting Creek Partnership, a collaboration of local government, state agencies, local institutions and interested citizens addressing water quality impairment and habitat in Burke County, initiated the plan in 2008.

Funding for the Hunting Creek LWP assessment and plan development was provided through Clean Water Management Trust Fund, an Environmental Protection Agency Section 319 grant administered through the N.C. Division of Water Quality (DWQ), and EEP and DWQ (in-kind expenditures for watershed assessment/monitoring). The Carolina Land & Lakes Resource Conservation & Development Council provided administrative coordination and oversight of the funded tasks.

The process culminated in the production of two major documents developed by Equinox Environmental: Hunting Creek Watershed Assessment & Best Management Practices Evaluation (Equinox, November 2009) and the Hunting Creek Watershed Plan (Equinox, February 2011). In addition, EEP provided support for the development of a project atlas in 2009 that identified potential stream (and riparian buffer) restoration/ enhancement sites and preservation parcels.



agencies or non-governmental organizations that demonstrate the six key elements outlined in the Compensation Planning Framework included as Appendix I of EEP's ILF Instrument. This process allows EEP to save resources (cost and time); support active local-watershed efforts across the state; and maximize watershed uplift by implementing projects that support other watershed-improvement initiatives.

LWPs are defined as completed by EEP at the end of Phase III with the production of a watershed-management plan and project atlas that details mitigation and other opportunities for improvement and protection of the watershed. At the close of fiscal 2011-12, EEP had completed 30 plans. A total of 105 projects are in LWP areas; a summary of plans completed and the status of Phase IV efforts is included as Appendix B-1.

Phase IV focuses on outreach and implementation of projects derived from the planning process, often with the involvement and support of stakeholders who participated in plan development. The plans are designed so they result in a suite of watershed-restoration recommendations (such as changes to local ordinances and public education to improve stormwater management) that can be implemented by a myriad of public and private entities over an extended period. Watershed partners use LWPs to leverage funding from the Clean Water Managment Trust Fund, N.C. Division of Water Quality Section 319 grant program, and other sources. In fiscal 2011-12, EEP developed a form (see page 9, above) that stakeholders can complete to report watershed- improvement initiatives in LWP areas. This enables EEP and its watershed partners to document synergy of multiple projects within high priority watersheds statewide. To date, watershed partners have received more than $30 million in funding for additional watershed projects within EEP watershed plan areas (Appendix B-3).

EEP is continuing work on watershed analysis across the state, with five plans in various stages of development. Three other plans are on hold due to decreases in mitigation needs. Appendix B-2 presents a summary of the ongoing plans, efforts that have yet to result 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 portal. A clickable map, also on the portal, shows the current EEP planning areas and provides an alternative path to information on specific plans.

Property Acquisition and Protection

All compensatory-mitigation projects require some form of land protection to ensure that the environmental benefits are conserved not only for the duration of the project, but in perpetuity. EEP most commonly acquires conservation agreements from landowners who volunteer to participate in EEP's mitigation projects. In fiscal 2011-12, two major focus areas for EEP have been the preparation of projects for closeout and long-term stewardship, and the development and implementation of policies and practices to facilitate cost-effective permanent protection of those projects.

Land Acquisition

During fiscal 2011-12, the State Property Office closed and recorded 47 transactions totaling more than 300 acres associated with EEP's enhancement or restoration projects, including 25 permanent conservation easements.

Six transactions were temporary construction easements, three modifications or amendments of conservation easements, six dispositions, releases or technical corrections of conservation easements, one right of access and five requirements for notices of sale. All properties that closed during fiscal 2011-12 are shown in Appendix C-I. Landowners formally agreed to give EEP the right to acquire a conservation easement on five parcels associated with Design-Bid-Build projects, listed in Appendix C-II.

A full inventory of all properties acquired for compensatory mitigation since the inception of the Wetlands Restoration Program in 1996 is presented in Appendix C-III. EEP and its partners have acquired nearly 50,000 acres of conservation land or conservation easements.

Protection

Although EEP compensatory mitigation sites are now primarily acquired through the Full Delivery contracting process, the state still holds the conservation easements for both Full Delivery and Design-Bid-Build projects, and must assure long-term stewardship. Since EEP has outsourced a larger amount of acquisition processes to the private sector, emphasis has shifted to quality assurance of protection requirements for new projects; resolving outstanding property issues to meet regulatory agency standards and long-term stewardship standards for old projects; and preventing and resolving landowner concerns or issues (e.g., encroachment) for both. Also, as the number of projects managed by EEP has matured and federal and state requirements have evolved, EEP has prioritized the improvement of existing guidelines, and developed new guidelines to address new requirements and integrated lessons-learned to improve cost-effective permanent protection of projects.

During the fiscal year, EEP has implemented many improvements to increase the effectiveness, efficiency and transparency of land acquisition and protection processes and mechanisms. EEP revised conservation-area boundary design and marking techniques; developed and posted on the portal an interactive map with links to survey plats, recorded conservation easements and other deeds for easy

Boundary marking at
Big Harris Creek

QR code

Piglets at Wells Creek

Haw River Slopes

Examples of EEP property protection devices, challenges and successes

use by staff, the private sector, regulatory agencies and the general public; completed portfolios of recorded documents for 483 projects to date; posted electronic renderings of project boundaries on its portal for 478 projects, and installed permanent boundary markers for 155 projects.

EEP also developed new conservation-area sign templates which include a quick response, or QR, code to allow users of electronic devices such as smart phones to access the state's websites and contact agencies to find out more about projects, report possible violations, or ask questions about projects. Additional work is underway to allow direct access to project specific information from the field. To learn about more improvements to protection of EEP projects, visit the Watershed Planning & Property Protection pages on the EEP portal.

Project Management

EEP project managers work closely with private landowners, municipalities, professional consulting firms, general contractors and government agencies overseeing all aspects of stream, wetland and buffer compensatory-mitigation projects throughout North Carolina. They oversee design, construction, monitoring and closeout activities for all EEP projects to assure the best possible sites are being implemented within the budgets established for each project. They coordinate with EEP's watershed planning staff to concentrate efforts and implement large-scale projects within Local Watershed Planning areas and Targeted Local Watersheds that exhibit the greatest need. Project managers also identify opportunities to improve the functions of North Carolina's aquatic and terrestrial resources.

In fiscal 2011-12, EEP used two primary contracting methods for outsourcing the design, construction and monitoring of restoration projects needed to meet compensatory-mitigation compliance obligations: Design-Bid-Build (DBB) and Full Delivery (FD). Both methods are critical to EEP's success in meeting the state's mitigation needs. Mitigation banks are eligible to compete for contracts by participating in EEP's Requests for Full Deliveries. A more detailed description of contracts executed and payments made to contractors during the period can be found in the Program Financial Information section of this report and additional data concerning contracts and payments for project implementation are provided in the appendices. A list of EEP's nearly 600 projects can be found in Appendix H-1.

Monitoring

Federal and state regulations require monitoring of mitigation projects. The monitoring period generally ranges from five years to seven years, though some periods can be shorter or longer. The purpose of monitoring is to review a project's viability over successive years; correct deficiencies in vegetation, hydrology or stability; and nurture a site that will benefit ecosystem function on a wider scale into perpetuity. During fiscal 2011-12, EEP monitored 138 projects for key performance variables. Each monitoring year, EEP evaluates stream stability, wetland hydrology and vegetative performance in order to provide a programmatic overview of success based on attainment of regulatory performance standards.

For fiscal 2011-12, the 138 monitored projects comprised more than 1 million linear feet of stream, more than 6,000 acres of wetland restoration, enhancement and preservation and nearly 500 acres of riparian buffer. These projects are listed in Appendix D-1. The monitoring results indicated that EEP's projects are meeting their success criteria and projects are being approved and closed out by the regulatory agencies. As more projects have been implemented and monitored, EEP has begun investigating new and exciting features to better understand the long-term ecological benefits these projects produce. In the coming years, EEP intends to implement additional investigations into water-quality monitoring, as well as biological studies of the small organisms living at the bottom of streams (called "macrobenthos"), and water-catchment modeling to evaluate how projects implemented in a watershed-planning context affect ecological uplift.

Closeout

Closeout is the process by which the regulatory agencies give final approval to projects and validate the number of mitigation credits generated. In coordination with state and federal regulatory agencies through the IRT, EEP proposed 32 projects for closeout during fiscal 2011-12. These projects are shown in detail in Appendix D-2 and comprise nearly 120,000 linear feet of stream, more than 1,000 acres of wetlands, and 45 acres of riparian-buffer restoration. For fiscal 2012-13, EEP intends to propose the closeout of an additional 39 projects for closeout.

The closeout process is a period of intense coordination, data gathering and data verification. During this process, EEP rigorously checks all data, debits and correspondence related to a site. EEP relies heavily upon reports and data produced throughout the life of the project by private-sector design consultants, mitigation bankers, surveyors, construction firms, scientists and other project partners. EEP works closely with regulators to consider current regulations and those regulations in place when the project began.

Forty projects met technical success criteria and were approved by regulatory agencies for conveyance to long-term stewardship during the fiscal year. Fifteen of those projects were conveyed to the NCDENR Stewardship Program. Conservation easements or fee simple deeds for the other 25 sites are held in the name of non-profits or the N.C. Department of Transportation, and the responsibility for long-term stewardship lies with those entities.

EEP Project Profile

DWQ demonstrating stream water quality monitoring using benthic macroinvertebrate sampling during Earth Day 2012 at Chavis Park

Chavis Park Stream Restoration

Wake County

In cooperation with the city of Raleigh, this 2,500-foot stream project restored a section of Garner Branch in Chavis Park. A tributary of Walnut Creek, a 303(d)-listed (degraded or threatened) stream, the tributary had experienced severe bank erosion as a result of urban runoff and contributed large sediment loads to Walnut Creek.

The project restored a degraded, incised urban stream to a stable condition, restored woody vegetation to the riparian buffer, reduced sediment input to the creek from eroding banks and improved the recreational opportunities in this city park. The project also helped improve the aesthetic quality of the stream as it flows through Chavis Park. The initiative complemented EEP's work to restore another tributary of Walnut Creek in Raleigh's Kentwood Park.

Closed out 2012

Project Participants and Collaborators

City of Raleigh
Becky L. Ward Consulting, Ecological Consultants (design)
White Oak Construction Corp. (construction)
Tower Engineering Professionals (vegetation and bioengineering)
Natural Areas Ecosystem Management (monitoring)
KCI Associates (monitoring)
Robert J. Goldstein & Associates (monitoring)
N.C. State University – Biological and Agricultural Engineering (monitoring)
Axiom Environmental (maintenance)
Restoration Systems (maintenance)
River Works (maintenance)
EcoScience Corporation (repair)
Seal Brothers Contracting (repair)
USDA-APHIS Wildlife Services (maintenance)
N.C. Wildlife Resources Commission (maintenance)

Bugaboo Creek cross section survey

Bugaboo Creek substrate

Planting at Unnamed Tributary to South Fork

Eastern Newt in bog at Dupont Forest

Measuring project performance, tracking vegetation, and observing indicators of project success

Long-Term Management

Long-term management is the phase of a mitigation project after it has successfully completed its monitoring requirements and has been closed out by the regulatory agencies. When a project enters long-term management, the project's conservation easement is transferred to a third-party approved by the regulatory agencies to provide the long-term protection from encroachment of the conservation easement. Most of EEP's projects are intended to be transferred into the NCDENR Stewardship Program. However, some projects have been authorized to be transferred to state parks, non-profit organizations, or, in the case of some NCDOT projects, to NCDOT for long-term management.

During fiscal 2011-12, EEP collaborated with the IRT, NCDOT and the NCDENR Office of Conservation, Planning, and Community Affairs to develop a standard operating procedure for the long-term stewardship of compensatory-mitigation projects in the NCDENR Stewardship Program. The program will require project boundaries to be permanently marked and be free of violations or encroachments prior to conveyance. The program uses four risk categories for projects and establishes monitoring frequencies based on the risk category for each project. Risk categories are higher for projects that border golf courses, municipal parks and agricultural lands in which active management may conflict with conservation area restrictions. A history of encroachment also increases the risk category. For the first three years after conveyance to the NCDENR Stewardship Program, all sites will be monitored annually regardless of risk category.

Although endowment is the desired funding mechanism for the long-term management of projects in the NCDENR Stewardship Program, an annual payment approach will be used for the short term as costs and effectiveness of proposed stewardship activities are evaluated. The annual payment approach will be funded through a contractual agreement administered by EEP, which will pay for periodic monitoring visits and for the administrative and operating costs of the Stewardship Program. Other required activities, such as installation of locked gates, barriers or potentially costly legal actions to enforce conservation easements, will be approved on a case-by-case basis by the project sponsor. A method for funding long-term stewardship of EEP projects that are conveyed to the NCDENR Stewardship Program was drafted and is proposed to be finalized by EEP, NCDENR Stewardship and NCDOT during fiscal 2012-13.

Project Analysis

EEP staff place an emphasis on evaluating project success and performance statistics to ensure continuous improvement and restoration success. Analysis occurs not only at the level of individual projects but also to study the health and stability of projects program-wide. Highlights in this area for fiscal 2011-12 are listed below, followed by a brief synopsis of project performance results. More detailed information about both highlights and performance can be found in the Science and Analysis pages on the EEP portal.

- Developing new and innovative techniques to bring the power of GIS to environmental restoration, functional analysis and watershed planning;
- Developing Geographic Information Systems (GIS) tools to assist in asset verification procedure for closeouts and verifying assets for project closeouts;
- Providing training for consultants;
- Cataloging EEP project vegetation data, including categorizing 110 projects in the vegetation database to enable analysis of vegetation success and growth trends associated with such projects;
- Continuing development of comprehensive spatial databases for the program, while maximizing and improving database connectivity;
- Revising and improving evaluation of full delivery proposal; and
- Improving the efficiency and effectiveness of projects and reducing their costs.

During this past fiscal year, EEP staff also contributed the following presentations to the Water Resources Research Institute (WRRI) Annual Conference:

- Stapleton, T. 2012 Case Studies of Hydrologic Data on Recovering Wetland Restoration Sites versus Initial Success Criteria. WRRI Annual Conference, Raleigh, N.C.
- Haupt, M. 2012 Beyond Mitigation Monitoring: Are these Projects Working? WRRI Annual Conference, Raleigh, N.C.
- Mondry, Z. 2012 Challenges to Stream Restoration Created by Mitigation Policy. WRRI Annual Conference, Raleigh, N.C.

Project Performance Statistics

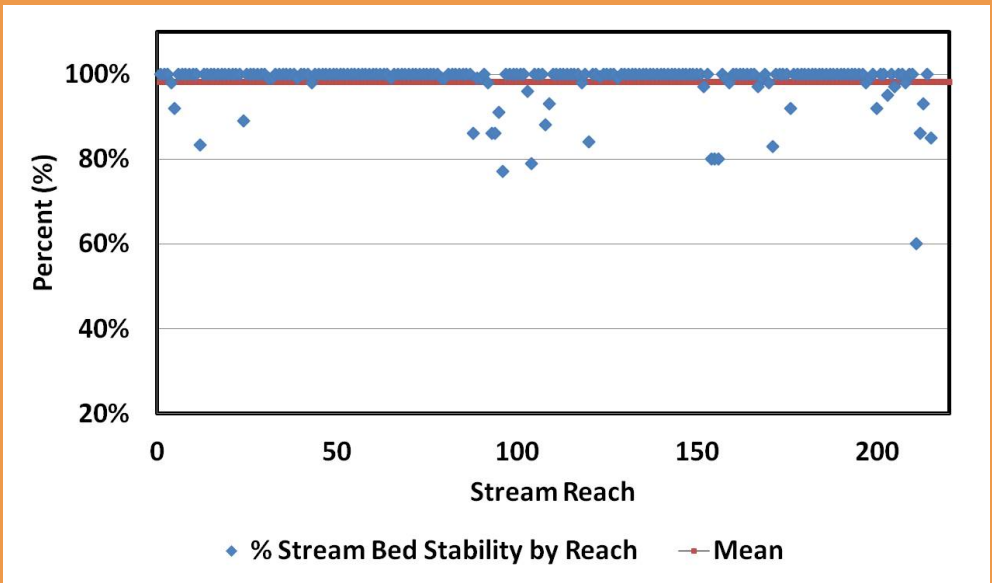
EEP summarized key performance variables for the 138 projects monitored in fiscal 2011-12 in order to provide a programmatic overview of success based on attainment of regulatory performance standards. Performance variables evaluated included stream stability (bed, bank, and engineered structures), wetland hydrology and vegetative performance. The evaluation was designed to show a snapshot of project performance, specifically for the 2011 monitoring year.

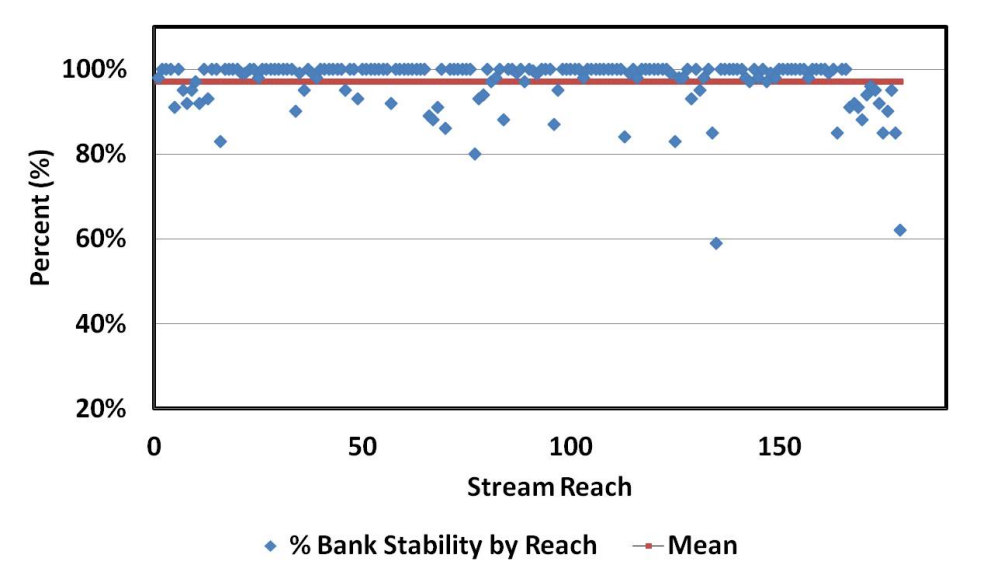
The 138 projects evaluated spanned all phases of post-construction measurement. For stream stability, the sample included 215 stream reaches from among the 138 projects. Three main indicators of channel stability assessed were bed stability, bank stability and the stability of engineered structures. Performance was high for all variables with many reaches rated at 100 percent across all three metrics.

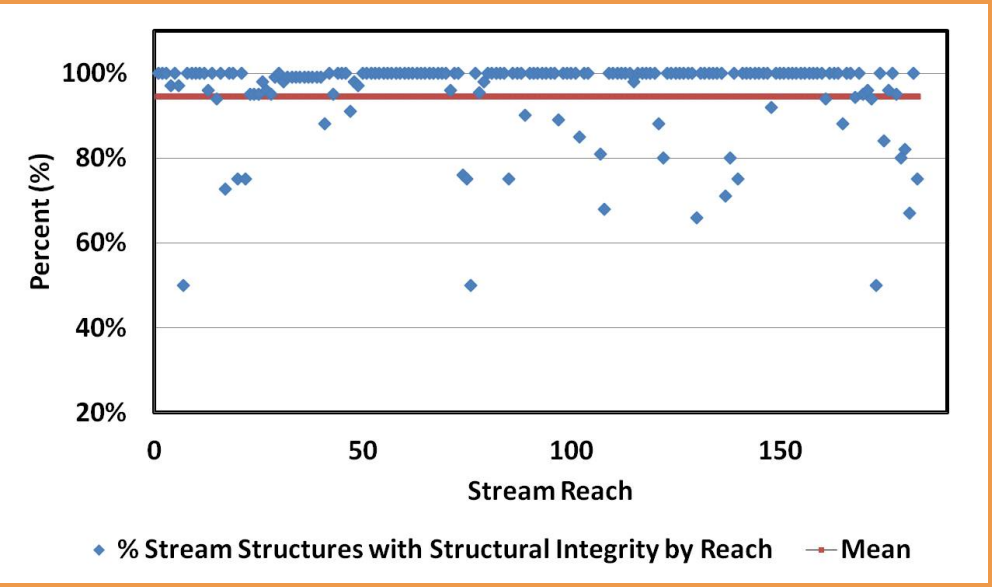
Wetland hydrology is measured to assess the degree to which the water table is raised sufficiently to support previously drained and impacted wetland systems. Of the 138 projects in the overall sample, 54 projects included wetlands. Wetland groundwater gauge data can be highly variable and its main purpose, other than seeing if the water table is at the appropriate level, is to sample the site hydrologic conditions. These data reflect that the majority of the site area (70 percent as a sample of the gauges) is exhibiting the appropriate wetland hydrology for a most of the wetland projects.

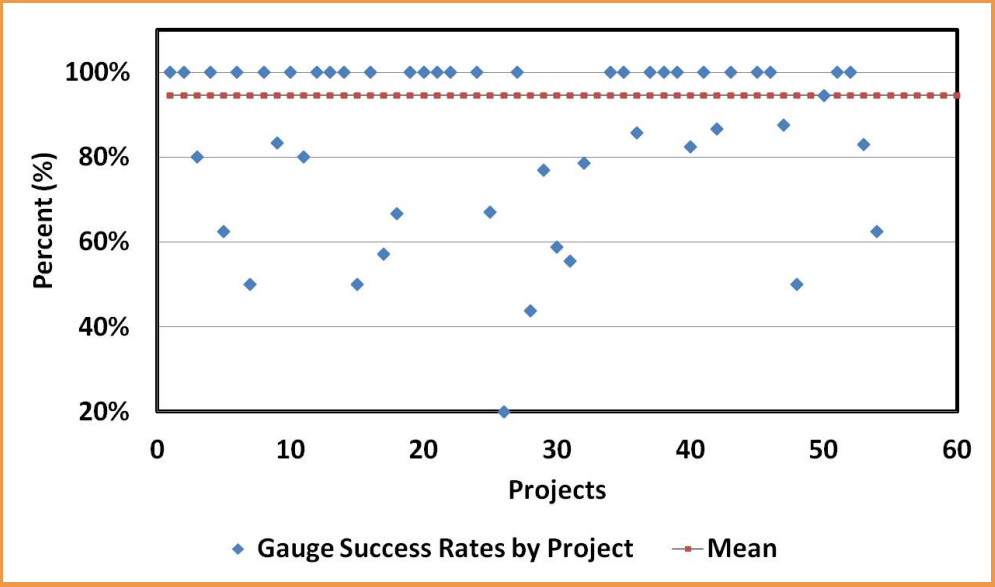
Riparian and wetland vegetation was monitored through a combination of visual assessment and fixed plots. All 138 projects were evaluated using more than 1,691 vegetation plots. The percentage of plots meeting the regulatory standard of 320 woody stems per acre was calculated for each project. The overall mean for this metric was 86 percent, with 75 percent of the projects evaluated exhibiting success proportions in excess of 70 percent. These data indicate that most of the program's wetland and riparian acreage exhibited required vegetation densities.

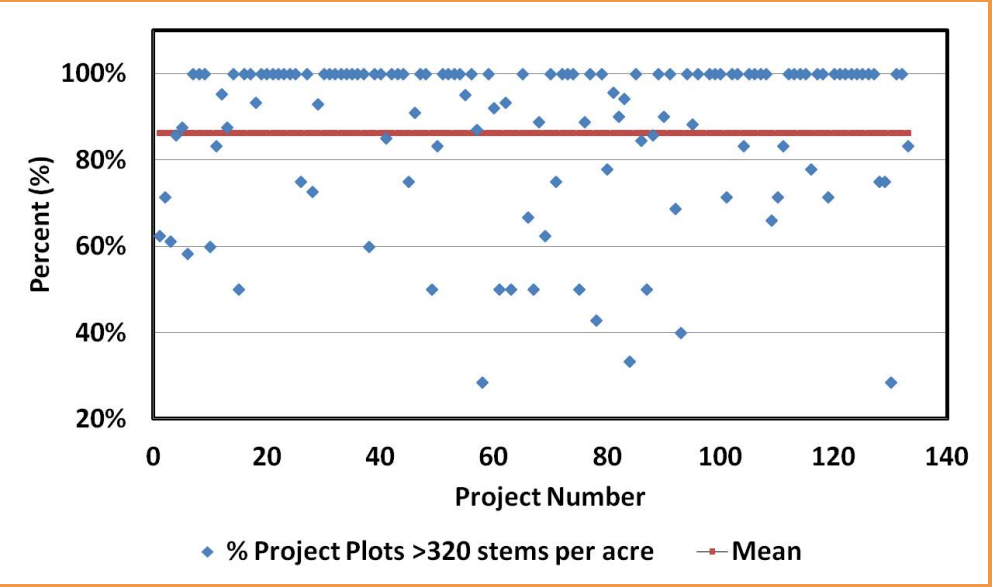
Summaries of 138 Projects on Measures of Stream Stability (Bed, Bank, and Engineered Structures), Wetland Hydrology, and Vegetation Performance











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Stillhouse Creek Stream Restoration
Orange County

Project Participants and Collaborators

Orange County Department of Environment, Agriculture, Parks & Recreation
Orange County Soil and Water Conservation District
USDA Natural Resources Conservation Service (design)
Fluvial Solutions (construction)
River Works (supplemental planting)
Robert J. Goldstein & Associates (monitoring)
Axiom Environmental (monitoring)
Restoration Systems (maintenance)
N.C. Wildlife Resources Commission (maintenance)
Mellow Marsh (nursery stock suppliers)
Dan River Nursery (nursery stock suppliers)
Boy Scout Troop 438, Hillsborough

Stillhouse Creek

EEP Project Profile

Working in conjunction with the Orange County Soil and Water Conservation District, the Natural Resources Conservation Service and Orange County, EEP restored 1,200 feet of Stillhouse Creek, a tributary to the Eno River in a Targeted Local Watershed of the Upper Neuse River basin. Located at a county park in historic downtown Hillsborough, the banks along the entire creek were unstable and experiencing significant erosion. A road crossing and the foundation of one municipal building were threatened by the stream erosion and have been protected by the project.

After five years of monitoring, this project was deemed a success and closed out. The restoration resulted in a more natural and sustainable stream channel, improved the quality of in-stream habitat, and established a thriving native riparian buffer that improves terrestrial habitat and increases nutrient filtration capacity. The Stillhouse Creek restoration site has been adopted by Boy Scout Troop 438, which has volunteered to clean up trash, monitor water quality and plant trees.

Closed out 2012

Program Financial Information

EEP operates solely on revenues collected from customers who participate in one of EEP's four In-Lieu Fee programs. Most receipts are used to implement stream, wetland, buffer and/or nutrient-reduction projects that will provide environmental benefits to the state's natural resources in perpetuity. A small part of EEP's revenues are used to administer the program.

Financial Status of Program Funds

The sections below provide details for each program's complete financial status for fiscal 2011-12. Common terms used in each of the sections are defined, below.

Definitions for Terminology Used in the Description of Fund Status

Beginning Cash Balance	Amount of cash in the fund account at the beginning of FY
Receipts	Amount of money collected during FY
Expenditures	Amount of money spent during FY
Ending Cash Balance	Amount of cash in the fund account at the end of FY
Encumbered Cash - Current Projects	Amount of cash encumbered for contracts for projects
Cost to Complete Requirements	Amount of money necessary to complete program requirements
Adjustments Recently Executed Contracts	Adjustments to encumbrances and cost to complete requirements due to contracts and expenditures made at end of year that were in process
Unencumbered Cash Balance	Amount of cash not encumbered at the end of FY
Net Accounts Receivable	Net amount of outstanding receipts that will be collected over time
Net Asset Inventory Value	Current estimated value of unused credits available for sale
Grand Total Program	Sum of all financial assets and liabilities

NCDOT Stream and Wetland Program

NCDOT is the only customer eligible to participate in the NCDOT Stream and Wetland program. Under this program, EEP accepts mitigation responsibility for state and federal project stream and wetland mitigation requirements. The program develops mitigation assets in the ground, functioning and in monitoring prior to the NCDOT permit application. NCDOT forecasts its mitigation needs and orders the future mitigation needs well in advance of the anticipated permitting schedule. 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 full-delivery providers.

NC DOT Stream and Wetland Program (Fund 2984)
FY 2011-12 Actuals

Beginning Cash Balance		$1,434,365.13
	Plus: Receipts	$23,209.596.92
	Plus: Interest Earned	$34,353.29
	Subtotal	$24,678,315.34
	Less: Expenditures	($20,077,843.89)
Ending Cash Balance		$4,600,471.45
	Less: Encumbered Cash Current Projects	($58,849,780.96)
	Less: Cost to Complete Future Contract Requirements	($70,185,191.70)
	Less: Adjustments Recently Executed Contracts	$25,512.28
Unencumbered Cash Balance		($124,408,988.93)
	Plus: Net Accounts Receivable	$124,408.988.93
	Grand Total Projected Cash	$0.00
Net Asset Inventory Value		$600,065,810.01
Grand Total Program		$600,065,810.01

EEP invoices NCDOT on a quarterly basis and secures funds required to cover anticipated operating costs for the upcoming quarter. Future-year obligations are guaranteed to be paid in accordance with a memorandum of agreement between NCDOT and NCDENR. The total amount of NCDOT obligations are listed as the "Net Accounts Receivable." Appendix E-1 lists the NCDOT Stream and Wetland Program permitted requirements.

Detailed information is reported to NCDOT each quarter during routine invoicing processes. Also, as a matter of normal business practice, the NCDOT Office of Inspector General (OIG) audits the financial data before payment is made. The OIG will perform onsite reviews of invoice documentation. To date, the audits have revealed no significant findings in more than 30 inspections. In addition, no discrepancies have been found in each of the two joint reviews by the OIG and Federal Highway Administration on-site audits of EEP.

Statewide Stream and Wetland Program (Fund 2981)
FY 2011-12 Actuals

Beginning Cash Balance	$12,912,748.23
Plus: Receipts	$7,343,677.63
Plus: Interest Earned	$69,272.56
Subtotal	$20,325,698.42
Less: Expenditures	($14,994,806.83)
Ending Cash Balance	$5,330,891.59
Less: Encumbered Cash Current Projects	($17,544,467.69)
Less: Cost to Complete Future Contract Requirements	($20,904,874.00)
Less: Adjustments Recently Executed Contracts	$3,068,928.93
Unencumbered Cash Balance	($30,049,521.17)
Plus: Net Accounts Receivable	$28,636,156.70
Grand Total Projected Cash	($1,413,364.47)
Net Asset Inventory Value	$19,344,538.40
Grand Total Program	$17,931,173.93

Statewide Stream and Wetland Program

This program is a voluntary, receipt-based ILF program available to the general public. All payments collected (receipts) and expenditures made for this program are managed in the Statewide Stream and Wetland Fund. EEP's fees for the program are listed on the EEP web portal. Appendix E-2 lists Statewide Stream and Wetland Program fiscal 2011-12 receipts and requirements.

The program is financially sound but has seen a continued decrease in existing and projected cash balances as expenditures related to multi-year projects are completed. The continued low economic activity and the effects of session laws 2009-337 and 2011-343 have reduced the amount of receipts collected and reduced the program's overall operating efficiency as economies of scale have decreased. Also, the cost of completing mitigation projects has steadily increased above anticipated costs. The largest cost increase is associated with stewardship, which has increased between 60 percent and 75 percent above expected costs. Because of these events, EEP expects that increased fees will be necessary to continue to provide the service to the development community in the near future.

The program's projected long-term cash balance is -$1.4 million, compared to the -$1 million projected last year. This change resulted from costs associated with new contracts, increased projected stewardship costs, and reduced economies of scale as the program's annual receipt base shrank 36 percent during the last three years. The program has reserve mitigation assets valued at $19.3 million. EEP will seek to use these credits when practicable and appropriate. Of concern, however, is the continued reduction in new customers that may limit utilization opportunity. EEP will identify and execute necessary actions to maintain the fiscal integrity of the fund.

Riparian Buffer Mitigation Program (Fund 2982)
FY 2011-12 Actuals

Beginning Cash Balance	$7,685,974.50
Plus: Receipts	$1,522,033.15
Plus: Interest Earned	$58,030.83
Subtotal	$9,266,038.48
Less: Expenditures	($2,138,086.79)
Ending Cash Balance	$7,127,951.69
Less: Encumbered Cash Current Projects	($2,565,795.38)
Less: Cost to Complete Future Contract Requirements	($7,512,408.81)
Less: Adjustments Recently Executed Contracts	$3,316,021.43
Unencumbered Cash Balance	$365,768.93
Plus: Net Accounts Receivable	$0.00
Grand Total Projected Cash	$365,768.93
Net Asset Inventory Value	$150,981.02
Grand Total Program	$516,749.95

Riparian Buffer Mitigation Program

This program collects payments and makes expenditures though 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. The availability of this program serves the public by providing a service that is cost-effective and shortens the permitting processes.

However, under session laws 2009-337 and 2011-343 non-governmental entities may not use the Riparian Buffer Mitigation Program if a mitigation bank has credits available. Because of decreased development activities and the recent session laws, receipts have decreased by more than 90 percent during the past three fiscal years. Appendix E-3 lists Riparian Buffer Program fiscal 2011-12 receipts and requirements. As a result of the decrease in receipts, the program expects to implement much smaller projects in the future. Since larger projects improve economies of scale and smaller ones are less efficient, the program expects that the cost of producing mitigation will increase in the near future. Furthermore, two new buffer program areas are being implemented in the Falls Lake and Jordan Lake watersheds. The costs of implementing projects in these areas are expected to be substantially higher than in other areas of the state. Because the initial collection of fees in the Falls Lake and Jordan Lake areas is not expected to cover the cost of implementing the initial projects, the limited cash reserves are expected to be fully consumed during the initial development of these mitigation projects. The EEP fee schedule for riparian buffer mitigation is adjusted annually for inflation pursuant to 15A NCAC 2B .0269.

Despite the concern that costs are increasing, the program has sufficient cash reserves to complete existing projects and program requirements. The remaining projected cash reserve is necessary to fund initial projects in newly established program areas, future administrative costs and existing project contingency, since the monitoring periods on most of the projects in the program are not complete and higher than expected costs can occur during this period.

Nutrient Offset Program (Fund 2982-9829)
FY 2011-12 Actuals

Beginning Cash Balance	$5,844,785.06
Plus: Receipts	$652,399.52
Plus: Interest Earned	$42,800.71
Subtotal	$6,539,985.29
Less: Expenditures	($923,070.97)
Ending Cash Balance	$5,616,914.32
Less: Encumbered Cash Current Projects	($1,758,584.83)
Less: Cost to Complete Future Contract Requirements	($2,515,758.91)
Less: Adjustments Recently Executed Contracts	$625,463.50
Unencumbered Cash Balance	$1,968,034.08
Plus: Net Accounts Receivable	$0.00
Grand Total Projected Cash	$1,968,034.08
Net Asset Inventory Value	$2,963,012.49
Grand Total Program	$4,931,046.57

Nutrient Offset Program

The Nutrient Offset Program collects payments and makes expenditures through the state's Nutrient Offset Account. The account has been in existence for the Neuse River basin since 1998. The Tar-Pamlico River basin was added in March 2006, and the Falls Lake and Jordan Lake watersheds are also being added as nutrient-program areas. Like all of EEP's ILF mitigation programs, this program is a voluntary program that provides the regulated community an economical and predictable option to satisfy regulatory requirements.

The types of projects produced by this program consist of best management practices such as 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 public by providing a service that is cost-effective and that expedites the stormwater plan approval process.

The overall financial condition of this program is sound. The fee schedule for this program is determined using the actual cost method which is based on the actual costs of the program and was developed through a process that involved stakeholders. Fees are evaluated quarterly and updated at least annually. Similar to the Riparian Buffer Program, the Nutrient Offset Program has experienced significant reductions in receipts because of decreased economic activity mandated by session laws 2009-337 and 2011-343, specifying that non-governmental entities may not use the EEP Nutrient Offset Program if a mitigation bank has credits available. Since 2008, receipts have decreased nearly 82 percent. Appendix E-4 lists the fiscal 2011-12 Nutrient Offset Program receipts and requirements.

A smaller annual revenue base has decreased the program's overall operating efficiencies as economies of scale have proportionately decreased. Costs have also been rising in the program because of increased project costs and increased projected stewardship costs. Current projected cash reserves are expected to be depleted as new projects are implemented in the newly established Falls Lake and Jordan Lake nutrient-management areas. These management areas contain five watersheds that could require up to four new nutrient-offset projects to satisfy regulatory requirements. The cost of implementing projects in these areas is expected to be substantially higher than in other areas of the state because of higher land prices and the cost of implementing projects in much smaller and more urban watersheds. The rate of collections in these new management areas is not expected to cover the cost of implementing the initial projects. In general, more than 100 payments are typically necessary to fully fund a single nutrient mitigation project. The current cash reserve will be necessary to implement these new projects as well as to provide funds to pay for future administrative costs to maintain the program's service to developers.

Project Costs

The total cost of a mitigation project is the sum of the costs of individual development phases, and may not be known until the project has been completed (closed out with the regulatory agencies and transferred for long-term stewardship), 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 proportion of program funds are associated with EEP staff time to oversee contracting, project delivery, quality assurance and administration. It is important to recognize that individual project costs-per-credit do not represent the program's overall cost-per-credit, nor do they represent what the appropriate fee schedule should be for any given mitigation type. Overall costs would include all other costs incurred by the program such as administrative, watershed planning, feasibility studies, terminated projects and inventory overhead.

EEP employs several outsourcing methods to deliver mitigation and these procurement methods are described below:

1. The Full Delivery contracting method procures compensatory mitigation by issuing requests for proposals (RFPs) through the state Department of Administration. Those making offers are required to submit a technical proposal and a cost proposal for each prospective 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 at least five years to verify that the restoration meets established success criteria.
2. Direct-purchase of mitigation banking credits can be used when mitigation credits are available for sale and are consistent with EEP watershed planning goals. Mitigation banks can be developed by private or public entities. The mitigation credits are developed through a process overseen by the N.C. Interagency Review Team and administered by the U.S. Army Corps of Engineers.
3. EEP is in the process of developing a Design-Build procurement process. If EEP has property that could be used for mitigation, the Design-Build process would entail hiring a firm to develop a conceptual plan for the site, then EEP would put the design, construction and post-construction monitoring out for bid.
4. The Design-Bid-Build contracting method uses 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.

Project-Only Costs Per Unit Mitigation Type FY 2011-12

Mitigation Type	Project-Only Costs Per Unit
Stream (stream mitigation units)	$321/smu
Riparian Wetland (wetland mitigation units)	$65,360/wmu
Non-Riparian Wetland (wetland mitigation units)	$26,376/wmu
Coastal Marsh (wetland mitigation units)	N/A**
Riparian Buffer (buffer mitigation units)	$1/bmu

** EEP did not implement any Coastal Marsh wetland projects during the last three fiscal years.

EEP Project Costs for Fiscal 2011-12

Average per-unit costs of project implementation for the last fiscal year have been determined by examining both Full Delivery and Design-Bid-Build contracts awarded over the last three fiscal years. EEP has recently enhanced its financial data management, and can better analyze cost using historical data. The three-year dataset includes actual contracts awarded and estimates of contracts required to complete projects. The three-year dataset determined mitigation unit costs as shown in the table on page 44.

Based on measured cost increases and anticipated regulatory changes that could increase costs, and based on the decreasing economies of scale associated with smaller mitigation projects due to decreased demand, EEP is considering modifications to the program's fees for streams and wetlands and riparian buffer mitigation. In September 2010, rate setting for the Nutrient Offset Program was converted to the actual cost method, which allows rates to adjust based on actual costs incurred by the program. EEP is monitoring the performance of the method and is considering pursuit of its application in its other mitigation programs.

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 with 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-1 includes a listing of the banks that were requested to respond.

All private mitigation-bank sponsors for which email addresses were identified were contacted by email and asked to participate in the brief survey found in Appendix F-2. Of 24 banks contacted by email, seven total responses were received during fiscal 2011-12. Respondents described stream, riparian and nonriparian-wetland, riparian-buffer and nitrogen nutrient-offset credits, some of which are currently available for sale. The results are presented in Appendix F-3.

Contracts and Expenditures

This section provides information about the number and types of contracts active and awarded during fiscal 2011-12 for Full Delivery and Design-Bid-Build mitigation procurement. In addition, data on payments made to vendors in these different programs is provided. EEP provides comprehensive contract data on the web portal. EEP also uses NCDENR and federal agencies to provide planning, design, construction and monitoring services. This approach constitutes approximately 10 percent of the non-Full Delivery vendor payments, and is authorized by NCDENR as described in the N.C. Administrative Code (see N.C. General Statutes 143-59).

Total Contracted Services

In fiscal 2011-12, the state executed 48 new contracts to support EEP full-delivery, watershed-planning, project-implementation, monitoring and maintenance activities. The value of these new contracts was $16,179,828.91. The following table summarizes the contract amounts by activity. Full-delivery activities account for the majority of the work engaged. Appendix G-1 lists all the contracts awarded this year.

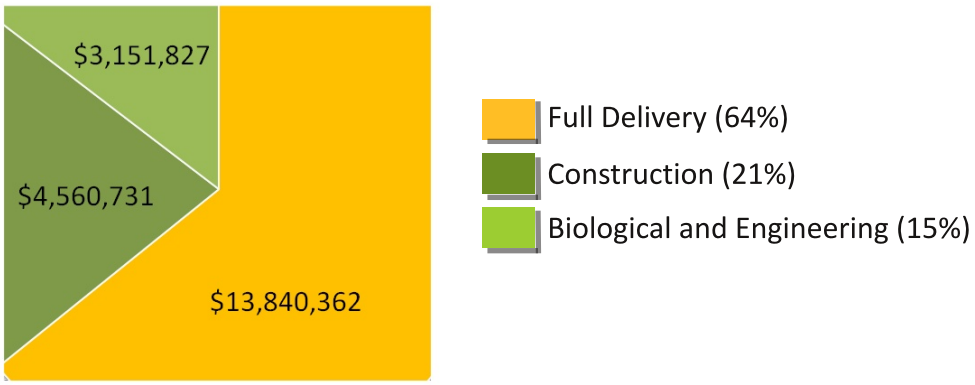
Total Encumbered Contracted Services FY 2011-12

Contract Service	Number of Contracts	Amount
Full Delivery	12	$10,209,449.88
Construction	8	$3,636,597.03
Monitoring	22	$1,716,433.00
Design	3	$482,869.00
Repair	3	115,980.00
Maintenance	1	$18,500.00
Total	**49**	**$16,179,828.91**

Fiscal 2011-12 Payments to Vendors

EEP continues to contract with vendors to support the implementation of the hundreds of projects within the program. In fiscal 2011-12 payments to vendors totaled $23,113,359.46. The figure on the next page illustrates payments to private businesses by broad contract categories: biological and engineering, construction, and full delivery. Appendix G-2 details the vendor payments by these contract categories. In fiscal 2011-12, more than 93 percent of all payments to vendors totaling $21,552,920.57 were to private businesses. This amount is 74 percent of the total expenditures by EEP (excluding amounts transferred internally between EEP programs). The total payments by EEP for project implementation in fiscal 2011-12 translate into 787 direct jobs, and an additional 554 support jobs, contributing to the green economy and support of local economies within the state.

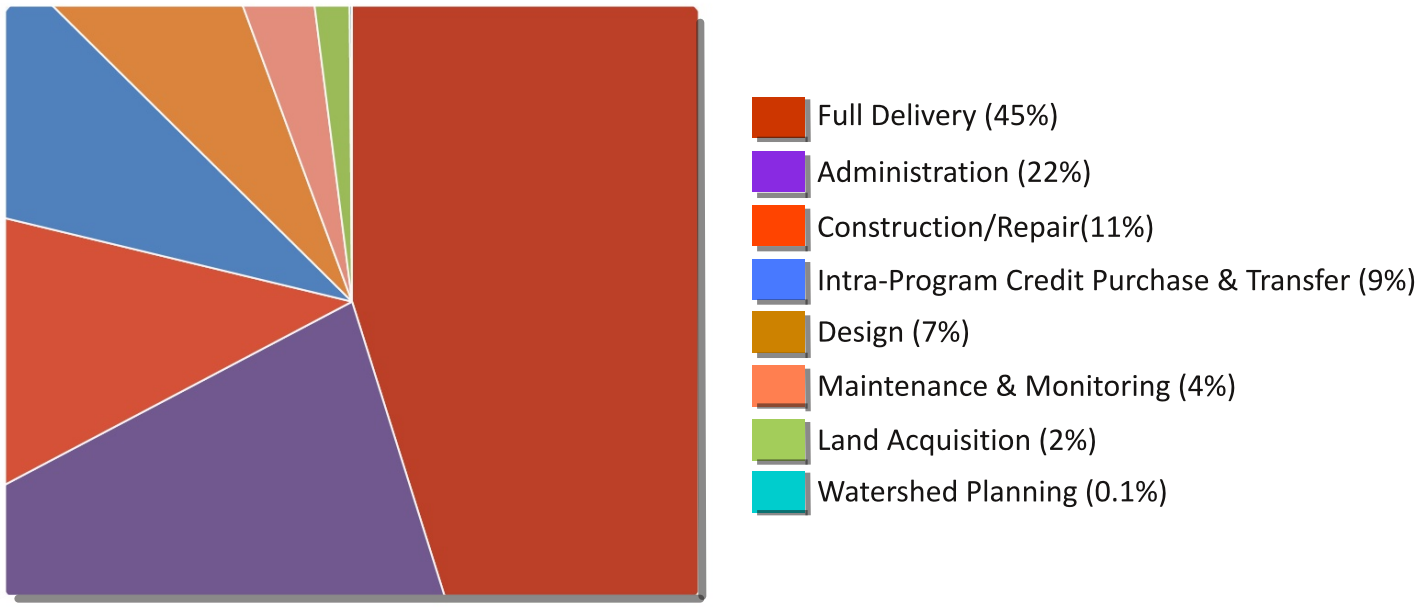
Payments to Private Vendors by Contract Category ($21.6 Million Total, FY 2011-12)



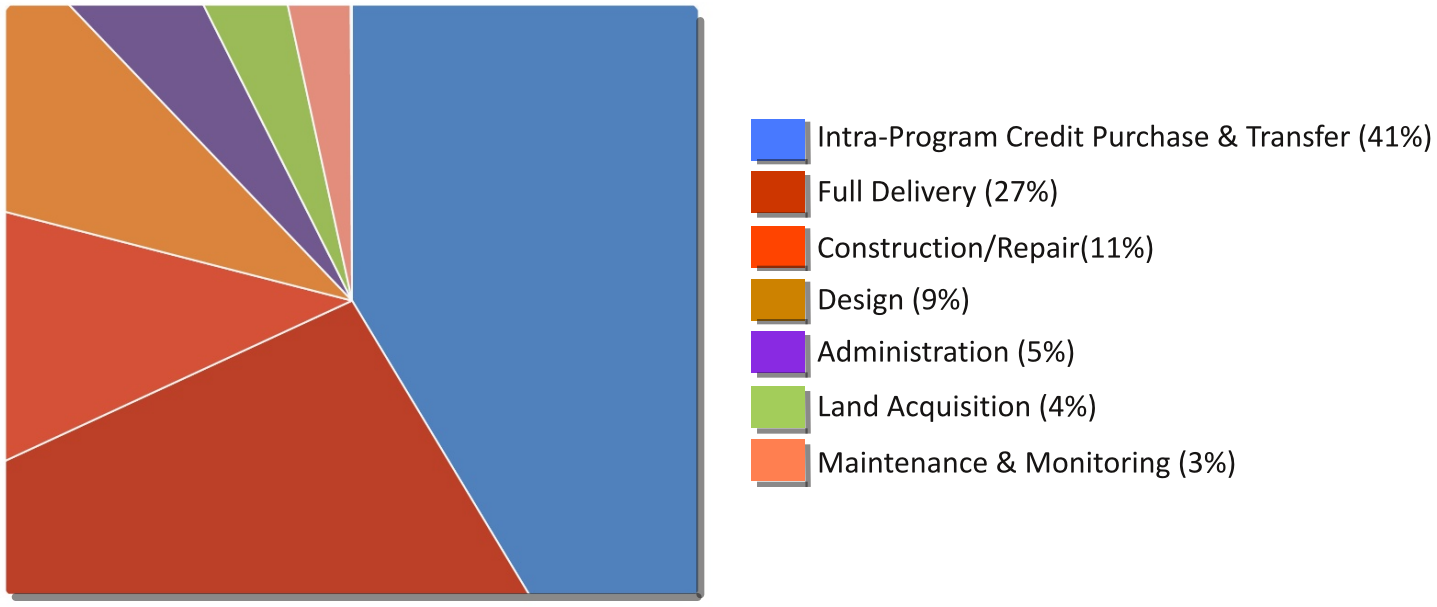
Expenditures by Fund

In accordance with the ILF Mitigation Instrument, EEP now reports the program expenditures by fund. Appendix G-3 provides a full listing and the following figures summarize the expenditures by payment type and fund. The figures include all major expenditure types listed in the chart legend. Expenditures less than 0.1 percent of the total do not appear in the charts for clarity of presentation. Intraprogram direct purchases represent credit-purchase expenditures made internally between EEP programs. These transactions simply alter the ownership of already procured EEP credits between EEP's four ILF programs. All funds also include transfer amounts that reflect accounting corrections from previous years. EEP's improved financial tracking capabilities allow for tracking all costs with greater ease than in the past.

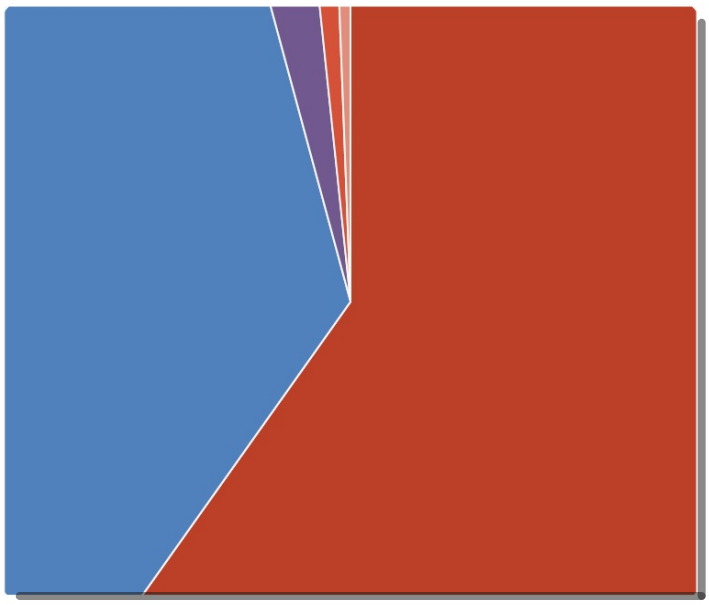
NCDOT Stream and Wetland Program Expenditures ($20.1 Million Total, FY 2011-12)



Statewide Stream & Wetland Program Expenditures ($15.0 Million Total, FY 2011-12)

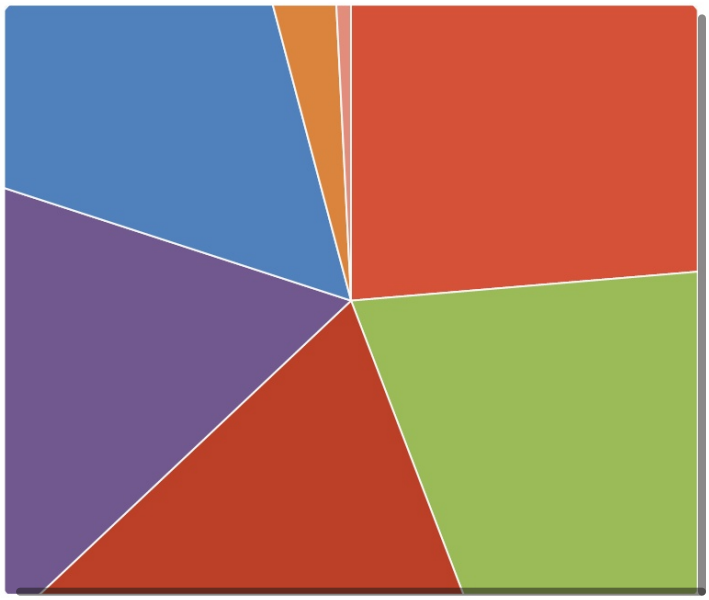


Riparian Buffer Program Expenditures ($2.1 Million Total, FY 2011-12)



- Full Delivery (60%)
- Intra-Program Credit Purchase & Transfer (36%)
- Administration (3%)
- Construction/Repair(1%)
- Maintenance & Monitoring (1%)

Nutrient Offset Program Expenditures ($0.9 Million Total, FY 2011-12)



- Construction/Repair(24%)
- Land Acquisition (21%)
- Full Delivery (19%)
- Administration (17%)
- Intra-Program Credit Purchase & Transfer (16%)
- Design (3%)
- Maintenance & Monitoring (1%)

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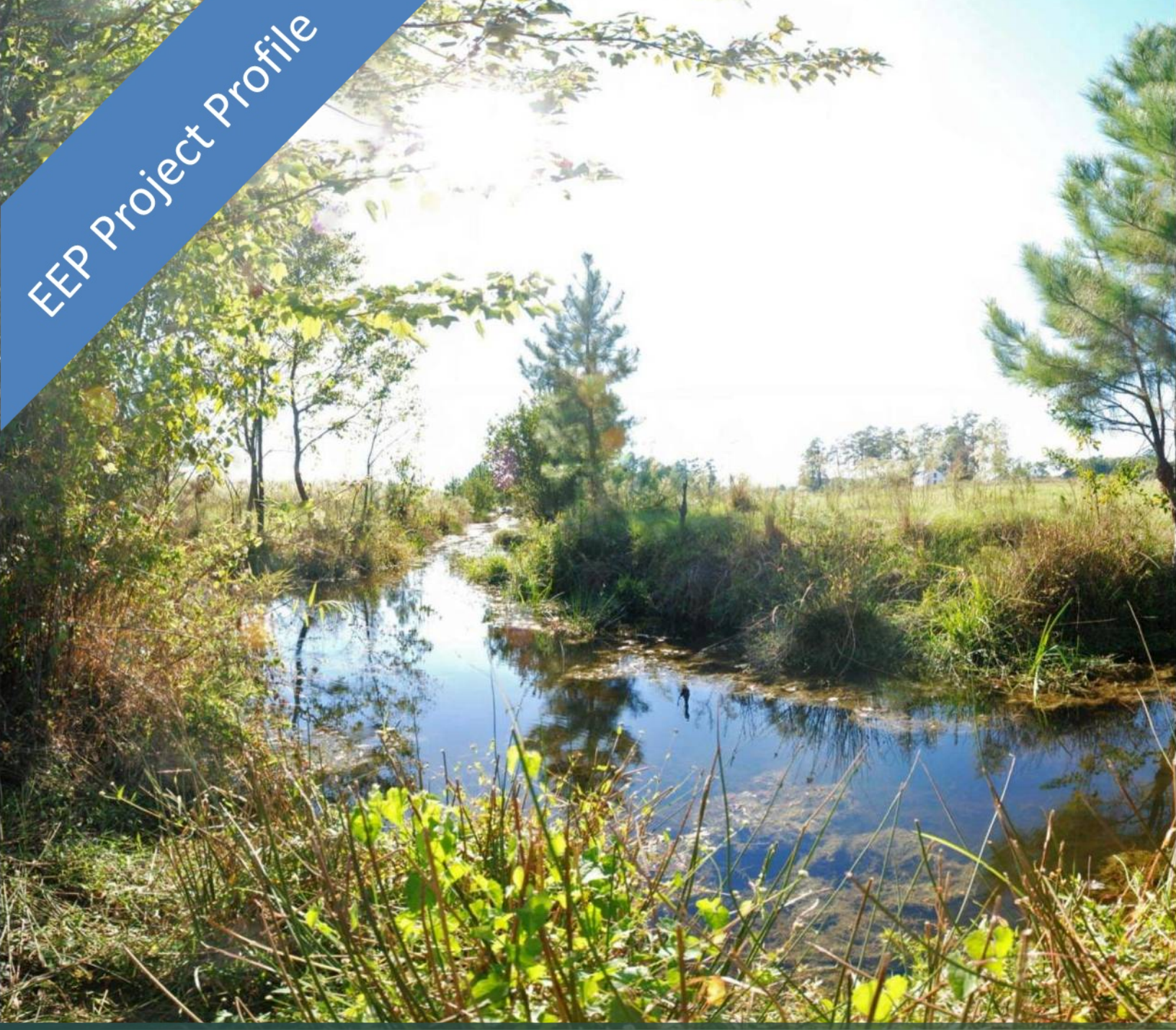
EEP Project Profile



UT to Jumping Run Creek Stream and Wetland Restoration

Cumberland County

Completed 2010

Project Participants and Collaborators:

The Nature Conservancy
N.C. Division of Parks and Recreation
Baker Engineering (design)
Backwater Environmental (construction)
Stantec Consulting Services (monitoring)
USDA- APHIS Wildlife Services (maintenance)

The project restored and enhanced 9,253 linear feet of stream and 99 acres of wetlands along an unnamed tributary to Jumping Run Creek in the Cape Fear River basin. Stream and wetland functions were impaired due to agricultural conversion and cattle grazing. Channelized ditches were filled and the stream was relocated in the historic valley topography to restore a Coastal Plain small-stream swamp system.

A braided headwater and single-thread meandering stream were constructed and reconnected to the historic floodplain. In-stream structures such as rootwads and logvanes were installed to improve bank stability, bedform diversity and aquatic habitat. A conservation easement protects the site's buffers in perpetuity.

The tract, formerly owned by the Rockefeller family, became a part of the newly created Carvers Creek State Park. The park is not open to the public at this time, but the project site will be available for public viewing once the park has officially opened.

Program Inventory and Compliance

This section provides detailed tables and charts regarding EEP mitigation assets, permit requirements and permit compliance for each of EEP's four ILF mitigation programs. EEP is accountable for mitigation production in 17 river basins and 54 watersheds under 15 federal and state mitigation categories. EEP is required to track and apply credit assets to specific permit requirements by program, mitigation type and mitigation location. EEP's projects are listed in Appendix H-1 and EEP's High Quality Preservation projects are listed in Appendix H-2. For simplicity, 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.

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 mitigation credits currently available in the programs (net assets). Unused mitigation credits represent credits developed prior to environmental impacts, as is part of EEP's charge. Program inventory is broken into the four ILF programs described earlier in this report. (Note: "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.)

Stream and Wetland Programs

Advance Credits

The ILF mitigation instrument allocated advance credits by river basin and eight-digit cataloging unit for use by EEP. Pursuant to the new operating agreement, this annual report includes information on the status and use of "Advance Credits" as defined by federal rules, in Appendix I-1.

NCDOT Stream and Wetland Program

The NCDOT Stream and Wetland Program established a model for ILF programs nationwide and is a national leader in producing compensatory mitigation in advance of unavoidable environmental impacts. The advancement of mitigation ahead of permitted impacts reduces temporal loss of ecosystem functions. It is an important tenet of the agreement among NCDOT, NCDENR and the U.S. Army Corps of Engineers. The agreement has allowed NCDOT to move forward with almost $13.7 billion in road development projects without delays associated with compensatory mitigation since 2003.

NCDOT Stream and Wetland Requirements - FY 2011-12

DOT Program Type	Requirements Due (credits)	Requirements Met (credits)	Requirements Not Met (credits)	Compliance (credits)		Total Advanced Mitigation (undebited)
Stream	384,904	384,904	0	100.00%		724,150
Wetlands	1,022	1,017	4	99.57%		9,605

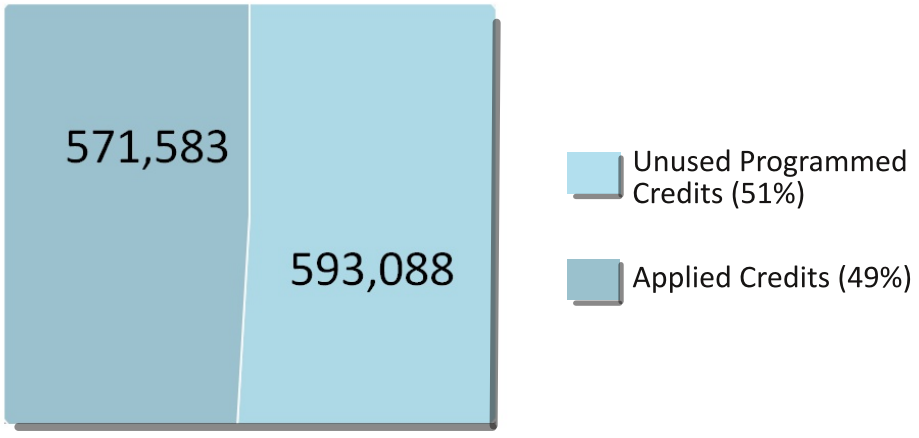
NCDOT Stream and Wetland Program Inventory

The following charts represent the program's credit inventory at the end of fiscal 2011-12. The NCDOT Stream and Wetland Program's gross inventory totaled 1,164,671 stream credits and 11,060 wetland credits. The vast majority of these credits are unapplied and available for future permit requirements as projected in the state's Transportation Improvement Program. Detailed information about the NCDOT Stream and Wetland Program inventory can be found in Appendices J-1 and J-2.

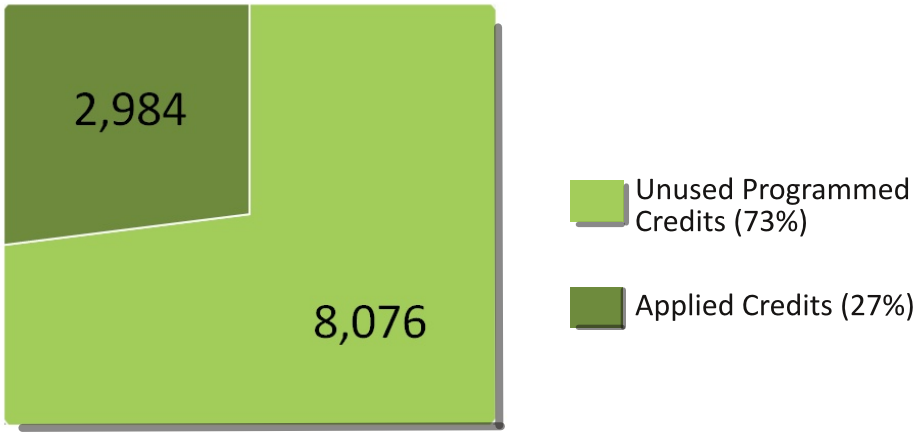
NCDOT Stream and Wetland Requirements and Compliance

The NCDOT Stream and Wetland Program continued to achieve excellent compliance with meeting permit requirements during fiscal 2011-12. The table on page 52 summarizes these results.

NCDOT Stream and Wetland Program Inventory 1,164,671 total stream credits (gross)



NCDOT Stream and Wetland Program Inventory 11,060 total wetland credits (gross)



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.

Statewide Stream and Wetland Program Inventory

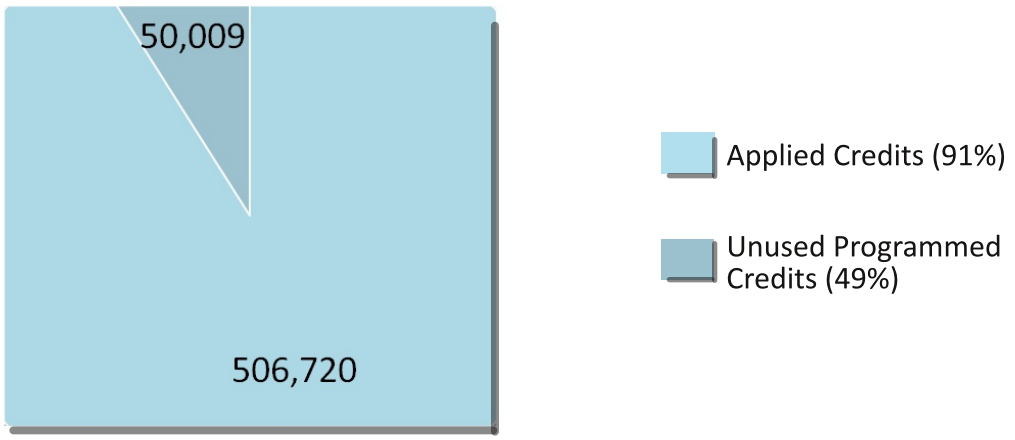
At the end of fiscal 2011-12, the Statewide Stream and Wetland Program's gross inventory totaled 556,729 stream credits and 1,365 wetland credits. Detailed information about the Statewide Stream and Wetland Program's inventory can be found in Appendix J-3. The following charts represent the program's inventory status of applied and unused advance mitigation at the end of fiscal 2011-12.

Statewide Stream and Wetland Requirements and Compliance

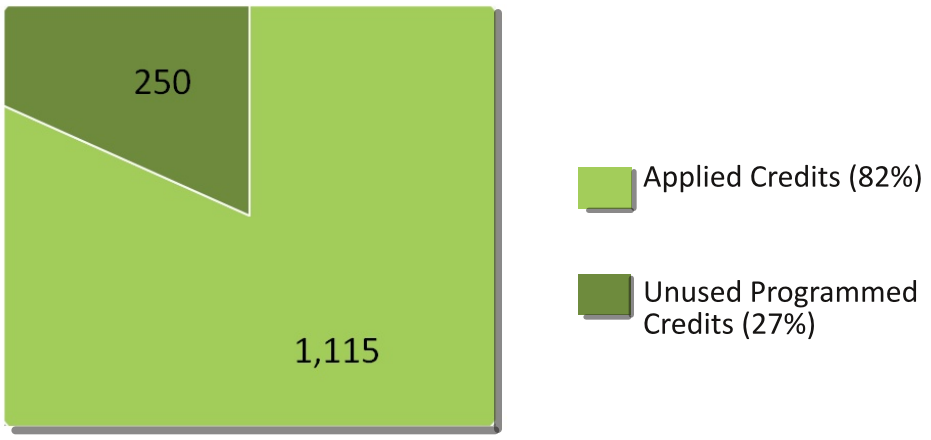
For fiscal 2011-12, the Statewide Stream and Wetland Program had satisfied 99.79 percent of all stream requirements and 98.21 percent of all wetland requirements. The table below summarizes these results. The Statewide Stream and Wetland Program also measures compliance by percentage of permits satisfied. EEP continues to implement projects to address all of its permit requirements.

Statewide Stream and Wetland Requirements - FY 2011-12

Statewide Program Type	Requirements Due (credits)	Requirements Met (credits)	Requirements Not Met (credits)	Compliance (credits)		Total Advanced Mitigation (undebited)
Stream	526,233	525,111	1,121	99.79%		50,009
Wetlands	900	884	16	98.21%		250



Statewide Stream and Wetland Program Inventory
556,729 total stream credits (gross)



Statewide Stream and Wetland Program Inventory
1,365 total wetland credits (gross)

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.

Riparian Buffer Credit Inventory

The following table summarizes the Riparian Buffer Mitigation Program's inventory, permit requirements, compliance and available (unused) advance mitigation at the end of fiscal 2011-12. Overall, compliance remained positive throughout the fiscal year and finished at 87.90 percent overall, with 100 percent compliance in the Catawba basin, 95.17 percent compliance in the Neuse basin and 78.39 percent compliance in the Tar-Pamlico basin. EEP issued a new request for Full Delivery proposals in 2012 to satisfy the remaining permit requirements in the Tar-Pamlico basin. Contract awards are expected to be made during fiscal 2012-13.

The Cape Fear basin has one permit that lowered the overall program compliance rate to 73.77 percent. This permit represents 53 percent of the unmet requirements across all river basins. Twice in the past, EEP initiated a project sufficient to satisfy this permit but discovered legal constraints that made the projects infeasible. EEP successfully initiated multiple projects in 2012 to address the Cape Fear needs and has issued a new request for Full Delivery proposals in 2012 to satisfy the remaining permit requirements. Detailed information about the Riparian Buffer Program's inventory can be found in Appendix J-4.

Riparian Buffer Mitigation Program Requirements - FY 2011-12

Buffer Program Type	Requirements Due (credits)	Requirements Met (credits)	Requirements Not Met (credits)	Compliance (credits)		Total Advanced Mitigation (undebited)
Cape Fear	8,106,843	5,890,809	2,126,033	73.77%		0
Catawba	140,974	140,974	0	100.00%		76,826
Neuse	18,987,546	18,071,284	916,262	95.17%		75,680
Tar Pamlico	2,655,302	2,081,536	573,766	78.39%		0
Grand Total	29,890,665	26,274,603	3,616,061	87.90%		152,506

Nutrient Offset Mitigation Program

EEP's Nutrient Offset Program assists developers who must comply with Neuse and Tar-Pamlico nutrient-management strategies and are unable to meet all of their reduction requirements onsite. Upon payment, EEP 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 in the Jordan watershed.

Overall compliance remained good throughout the fiscal year and finished at 99.15 percent, with 100 percent compliance in the Neuse basin and 81.27 percent compliance in the Tar-Pamlico basin for nitrogen and 81.77 percent for phosphorus. EEP issued a new request for Full Delivery proposals in 2012 to satisfy the remaining permit requirements in the Tar-Pamlico basin. Contract awards are expected to be made during fiscal 2012-13. Detailed information about the Nutrient Offset Program's inventory can be found in Appendix J-5. The status of the Nutrient Offset Program is shown below.

Nutrient Offset Program Requirements - FY 2011-12

Nutrient Offset Program Type	Requirements Due (credits)	Requirements Met (credits)	Requirements Not Met (credits)	Compliance (credits)		Total Advanced Mitigation (undebited)
Neuse Nitrogen	1,352,467	1,352,467	0	100.00%		18,376
Tar Pamlico Nitrogen	60,555	49,215	11,340	81.27%		98,606
Tar Pamlico Phosphorus	4,038	3,302	736	81.77%		6,255
Grand Total	1,417,060	1,404,983	12,076	99.15%		123,236

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Business Collaborator

Wolf Creek Engineering was formed in 2005 with the initiative to develop an engineering and environmental consulting practice that would be a market leader in innovative designs and client service while developing projects that add value to society and the natural environment. Wolf Creek Engineering started as a one-person shop and now employs two engineers, a graduate in landscape architecture and one office manager. The company additionally subcontracts work to several environmental consulting firms and surveying companies that in turn employ staff throughout the state.

Since its first project with EEP in 2005, Wolf Creek Engineering has worked on 10 projects in 10 counties in North Carolina. They have provided services to the EEP as an on-call consultant through the Design-Bid-Build process and as the design consultant for multiple Full Delivery mitigation providers. As a direct result of this experience Wolf Creek Engineering has become a regional leader in innovative stream and wetland restoration. EEP values its collaboration with companies like Wolf Creek Engineering.

Wolf Creek ENGINEERING

Holly Grove

Wolf Creek Engineering
Regional Leader

Wolf Creek Engineerings's EEP Projects

Holly Grove

June's Branch

Middle South Muddy Creek

Adkin Branch

Roquist

Lick Creek

Morgan Creek

Pee Dee

Heath Dairy Road Farm

UT to Little Coharie

EEP Project Profile

EEP restored 1,800 feet of Lewis Creek located at the Lewis Creek Nature Preserve in Edneyville. Lewis Creek is listed by the N.C. Division of Water Quality for impaired biological integrity. Historically, the bog was ditched to drain the wetland for pasture and row cropping. Generations of row-cropping and stream channelization created significant aquatic-habitat impacts.

As the stream banks eroded the stream became more incised, sediment input increased and connection to the floodplain was lost which led to loss of habitat in the stream. Along with restoring the stream channel and riparian buffer, EEP worked with the Carolina Mountain Land Conservancy (CMLC) to enhance a remnant of a rare Southern Appalachian Bog located within the 10 acres of the Preserve.

Through joint efforts of EEP and CMLC, both the stream and the preserve have seen improvement in riparian, stream and bog habitats. Sediment input is reduced, the stream is accessing its floodplain and small riparian wetlands are developing streamside. The plugged drainage ditches have improved bog habitat and increased its size. Wetland plants are flourishing and more bird species are inhabiting the bog.

The open area between the riparian buffer and the bog was replanted with a field composed of native grasses and wildflowers to attract birds and bees, which pollinate nearby apple orchards. Exotic invasive species removal and installation of mulch trails and removable boardwalks by CMLC and EEP are ongoing activities. The preserve is closed to the public but guided tours of the bog and the stream project include bird watching, wildflower identification and talks on the importance of preserving Southern Appalachian bogs.

Completed 2011

Lewis Creek Stream Restoration

Henderson County

Project Participants and Collaborators:

Carolina Mountain Conservancy
Jacobs Engineering Group (Design)
Carolina Environmental Contracting, Inc. (Construction)
Jordon, Jones & Goulding (Monitoring)
Robert J. Goldstein & Associates (Design)
USDA-APHIS Wildlife Services (Maintenance)

Sandhill Cranes at Lewis Creek

Lewis Creek

Appendices

Click on each to download, or download full appendix file

A. Surveys

1. Ecosystem Enhancement Program - In-Lieu Fee Customer Satisfaction Survey
2. Ecosystem Enhancement Program - In-Lieu Fee Customer Satisfaction Survey Results

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2. Local Watershed Plan Initiatives in Progress
3. Summary of Funding Leveraged in EEP Local Watershed Planning Areas

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3. Cumulative Properties

D. Closeout and Monitoring

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2. Projects Proposed for Closeout During FY 2010-11

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3. Riparian Buffer Program FY Receipts and Requirements
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2. Mitigation Banking Survey Questions
3. Mitigation Banking Survey Results

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1. Contracts Awarded by Contract Type
2. Vendor Payments
3. Expenditures by Fund

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2. Tier 1 High Quality Preservation Sites - Total Asset Project List

I. Advanced Credit Summary

1. EEP Advance Credits - Beginning Balance, Applied Credits, and Net Remaining

J. Program Credit Assets

1. NCDOT Statewide Stream and Wetland Program Gross Assets (Not Incl. HQP Gross Credits)
2. NCDOT Statewide Stream and Wetland Program Gross High Quality Preservation Assets
3. Statewide Stream and Wetland Program Gross Assets
4. Riparian Buffer Program Gross Assets
5. Nutrient Offset Program Gross Assets

Annual Report Feedback

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

EEP strives to provide quality reporting, and based on feedback from the previous Annual Report EEP is providing a more informative and reader-friendly report. The following questionnaire provides an opportunity to help EEP continue to improve the clarity and usefulness of its reports.

1. Select the affiliation with which you most identify:

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

2. This 2011-12 report highlights EEP projects and partnerships by presenting two-page features. Would you like more information on EEP projects or partnerships?

- ☐ a. Yes
- ☐ b. No

3. Select the section of greatest interest to you:

- ☐ a. Message from the Director
- ☐ b. Highlights
- ☐ c. EEP Programs
- ☐ d. Watershed Planning & Mitigation
- ☐ e. Program Financial Information
- ☐ f. Program Inventory & Compliance
- ☐ g. Project and Partnership Features

4. In addition to the standard charts and tables historically provided in EEP annual reports, this year a summary of expenditures by category is provided. Did you find this format helpful?

- ☐ a. Yes
- ☐ b. No
- ☐ c. I did not notice the expenditure data, please show that information.

Submit Form via Email

Restoring . . .

enhancing . . .

protecting our state

Ecosystem Enhancement PROGRAM