



North Carolina Department of Environment and Natural Resources

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March 8, 2010

TO: Senator Dan Clodfelter
Senator Bob Atwater
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FROM: Dee Freeman, Secretary

RE: Report to the Environmental Review Commission on Section V, Session Law 2009-337

Pursuant to Section V of Session Law 2009-337, the N.C. Department of Environment and Natural Resources is pleased to deliver the attached report to the Environmental Review Commission.

If you have any questions, please do not hesitate to contact EEP Director Bill Gilmore directly at (919) 715-1412.

February 2010

**Report to the Environmental Review Commission
on Section V, Session Law 2009-337**

Final Report

Prepared for
Environmental Review Commission

Prepared by

Department of Environment and Natural Resources

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Executive Summary

In July 2009, the N.C. General Assembly enacted Session Law 2009-337, which made amendments to 2008 legislation that promoted the use of private mitigation banks for the state's compensatory-mitigation needs (see [Session Law 2008-152](#)). Taken together, these two laws limited the ability of nongovernmental entities to access the state's mitigation initiatives administered by the Ecosystem Enhancement Program (EEP).

The N.C. Department of Environment and Natural Resources (NCDENR) developed and issued [guidelines](#) as to how EEP and the Division of Water Quality would comply with both laws. Section 5 of S.L. 2009-337 requires that DENR "study whether the preference for compensatory wetland and stream mitigation banks established by S.L. 2008-152, as amended by this act, and the preference for riparian buffer mitigation banks and nutrient offset banks established by this act create a likelihood that the Ecosystem Enhancement Program will be unable to recoup investments made in riparian buffer mitigation and nutrient offset projects."

In addition to the effect on buffer and nutrient-offset program investments, this document evaluates the potential impact to all EEP in-lieu fee (ILF) programs. There are two primary reasons for taking a broader look at the issue: 1) NCDENR believes the potential effects of S.L. 2008-152 on EEP's stream and wetland programs were not vetted exhaustively in 2008; and 2) because EEP takes a holistic approach to mitigation delivery, the effects on the riparian-buffer and nutrient-offset programs cannot be adequately measured without considering effects to the stream and wetlands programs.

Through its analyses, NCDENR identified the following direct and indirect effects on EEP from the session laws:

- The laws have the potential to isolate the utilization and collection of receipts of up to \$22 million worth of mitigation credits owned by the Ecosystem Enhancement Program. The affected mitigation represents an overall small percentage of the program's total inventory of mitigation credits; however not utilizing these credits could have significant effects to the cash-flow management of EEP's mitigation programs and result in higher costs to future users of the program. The mitigation represents a potential loss or significant delay in return to the state's investment in high-quality, cost-effective mitigation projects that enhance the environment and foster responsible economic development.
- The development community, including both public- and private-sector developers, is potentially affected by the session laws. The laws add layers of complexity and uncertainty for the development community to the process of compensatory mitigation; no single location exists where the development community can access information on the availability, cost, legitimacy and procedures for accessing the services of third-party mitigation providers. EEP has received comments from developers expressing uncertainty, confusion and in some cases frustration over complying with the new requirements.
- The development community, including NCDOT, EEP's largest mitigation customer, could see higher costs with utilizing the EEP program due to the continued isolation of mitigation credits. Setting aside or not selling unallocated mitigation credits decreases the efficiency of all of EEP's mitigation programs, including the program for the NCDOT.

These findings are dependent upon variables that cannot be predicted with certainty, including the degree to which mitigation banks proliferate and the condition of the state's economy and its effect on economic-development activities. For this reason, NCDENR recommends that EEP continue to analyze available data on the effect of the session laws and report further to the Environmental Review Commission in October 2010.

I. Introduction

The N.C. Ecosystem Enhancement Program is an initiative in the Department of Environment and Natural Resources that improves the state's environment while fostering responsible economic development. EEP restores streams and wetlands where the need is greatest by working with local and state partners, including willing landowners. The N.C. Department of Transportation (NCDOT) and other developers voluntarily use EEP to move projects forward in a timely and affordable manner while meeting environmental obligations.

As an outgrowth of a partnership among the U.S. Army Corps of Engineers, NCDOT and NCDENR, EEP operates four separate compensatory-mitigation programs designed to offset unavoidable environmental damage from transportation-infrastructure improvements and other economic development. Along with its service to NCDOT, the EEP programs:

- help schools, businesses, local governments, homebuilders and military bases, among others, in meeting clean-water regulations;
- assist developers in meeting requirements to keep pollutants out of the state's waters; and
- aid in offsetting damage to stream banks that filter pollutants from runoff.

EEP uses watershed planning to identify the best locations to implement stream, wetland and riparian buffer restoration. The planning process considers where mitigation is needed and how mitigation efforts can best contribute to the improvement of water and habitat quality in the state. As partners with engineering, construction and management firms, EEP outsources nearly all of its program needs to the private sector. This translates into jobs and benefits to the economy and environment. Design and construction standards must support sound scientific criteria, employ best practices and represent accepted technical and engineering standards, and projects must meet or exceed federal and state clean-water permitting regulations.

For its efforts to meet these objectives, EEP has earned seven national and state awards for innovation and environmental excellence. More information on EEP is available at the program's Web site

II. Session Law 2009-337

In July 2009, the General Assembly enacted Session Law 2009-337, *an act to promote the use of compensatory mitigation banks for riparian buffer protection and nutrient offset payments, to make clarifying changes to the statutes governing compensatory mitigation for wetland and stream impacts, and to direct the Department of Environment and Natural Resources to study certain impacts that the promotion of compensatory mitigation banks may have on the Ecosystem Enhancement Program*. The legislation amended a 2008 session law that promoted the use of private mitigation banks for the state's compensatory-mitigation needs (see [Session Law 2008-152](#)). Taken together, these two laws limited the ability of non-governmental entities to access EEP's mitigation programs. NCDENR opposed S.L. 2009-337.

Specifically, the laws require that if mitigation is available from a mitigation bank, EEP in-lieu fee (ILF) programs are not an option available to nongovernmental entities for meeting compensatory mitigation requirements. In the presence of available credits from a mitigation bank, nongovernmental entities are limited to either providing the mitigation themselves, or purchasing their compensatory mitigation from an approved mitigation bank. If a bank does not have available credits, developers may provide the mitigation themselves and/or choose to seek

mitigation through EEP in-lieu fee programs. In response to these session laws, DENR developed and issued [guidelines](#) as to how NCDENR programs (EEP and the N.C. Division of Water Quality) would operate in compliance with the laws.

Section 5 of SL 2009-337 requires that NCDENR “study whether the preference for compensatory wetland and stream mitigation banks established by S.L. 2008-152, as amended by this act, and the preference for riparian buffer mitigation banks and nutrient offset banks established by this act create a likelihood that the Ecosystem Enhancement Program will be unable to recoup investments made in riparian buffer mitigation and nutrient offset projects.” This report is intended to satisfy the requirements of Section 5 of SL 2009-337.

In addition to the effect on buffer and nutrient-offset program investments, this document evaluates the potential impact to all EEP ILF programs. There are two primary reasons for taking a broader look at the issue: 1) DENR believes the potential effects of S.L. 2008-152 on EEP’s stream and wetland programs were not vetted exhaustively in 2008; and 2) because EEP takes a holistic approach to mitigation delivery, the effects on the riparian buffer and nutrient offset programs cannot be adequately measured without considering effects to the stream and wetlands programs.

III. EEP Mitigation Overview

Before undertaking an analysis of the potential effects of S.L. 2009-337, it is important to provide a baseline overview of key EEP program components. This section describes EEP’s fundamental approach to mitigation delivery (watershed planning); EEP’s major in-lieu fee programs; and EEP’s primary mechanisms for outsourcing restoration work to the private sector.

A. EEP’s Environmental Approach to Delivery of Compensatory Mitigation Projects

EEP relies heavily on watershed planning to fulfill its mission of producing high-quality, cost-effective restoration, enhancement and preservation projects. EEP is unique in that it engages in statewide watershed planning, analyzing each of the 17 river basins, and identifying subwatersheds within each of the 54 Hydrologic Catalog Units (CU) to target for mitigation. In addition, EEP initiates Local Watershed Plans in targeted subwatersheds that identify specific watershed problems and solutions including the identification of priority mitigation projects. These plans utilize a multi-stage process that involves the local community, conservation groups, public resource agencies, local governments and private companies.

Watershed planning ensures that mitigation investments are being made in areas of the state where restoration, enhancement and preservation will have the most environmental benefit. This approach has been in place since the inception of the Wetlands Restoration Program in the mid-1990’s (WRP was absorbed into the newly created EEP in 2003). It has been embraced nationally (National Research Council, 2001) and became a formal requirement for compensatory mitigation in recent regulations promulgated by the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency. EEP continues to be a national leader in watershed approaches to mitigation delivery.

B. Major Programs

EEP manages four separate mitigation programs:

- ◆ NCDOT Stream and Wetland Mitigation (NCDOT only)
- ◆ Statewide Stream and Wetland In-Lieu Fee Program (all entities)
- ◆ Riparian Buffer Mitigation Program (all entities)
- ◆ Nutrient Offset Mitigation Program (all entities)

EEP NCDOT Stream and Wetland Mitigation

A 2003 partnership among NCDENR, NCDOT, and the U.S. Army Corps of Engineers (USACE) outlines the procedure for satisfying NCDOT permit-related mitigation. With support from the headquarters of the Federal Highway Administration, USACE and the U.S. Environmental Protection Agency, the program has helped move forward \$5.4 billion in road-development projects without delays associated with compensatory mitigation since EEP's inception. NCDOT provides advance mitigation funding that enables EEP to produce restoration projects in advance of construction for highways and other transportation infrastructure. This process incorporates many objectives of new federal regulations pertaining to compensatory mitigation and has resulted in a national model for bringing environmental considerations to the forefront of development. Impacts of S.L. 2009-152 to the NCDOT program are described in the section entitled "Potential Impacts to NCDOT" (see page 11).

EEP Statewide Stream and Wetland In-Lieu Fee Program

The Statewide Stream and Wetland Mitigation ILF program serves the needs of developers, private citizens, and state, local and federal governments for stream and wetland mitigation. The program satisfies stream and wetland mitigation requirements for Federal 404 and State 401 permits as well as Coastal Area Management Act permits and N.C. Division of Water Quality permits, and has been very well received by the public. In the 2009 customer satisfaction survey, 96.3 percent of respondents had a favorable opinion of EEP, and 100 percent would recommend that clients use EEP's ILF program in the future. The program is guided by a Memorandum of Understanding between NCDENR and USACE. The program operates solely on receipts from applicants into the program.

EEP Riparian Buffer Mitigation Program

The EEP Riparian Buffer Mitigation program serves private and public developers and NCDOT. This program is an option to meet compensatory-mitigation required by riparian-buffer impacts in the Tar-Pamlico, Neuse, and Catawba River basins, Falls Lake watershed area, and the Jordan Lake and Randleman Reservoir watersheds of the upper Cape Fear River basin. The program addresses riparian-buffer mitigation requirements imposed by the state. The program operates solely on receipts from applicants into the program.

EEP Nutrient Offset Mitigation Program

The Nutrient Offset program is an option for the development community to meet nutrient-reduction requirements within the Tar-Pamlico and Neuse River basins, and within the Falls Lake and Jordan Lake watersheds. The program addresses nutrient-reduction requirements mandated by the state to address

excess nutrient loadings to surface waters. The program operates solely on receipts from applicants into the program.

EEP Business Model

The Statewide Stream and Wetland, Riparian Buffer, and Nutrient Offset programs all operate on the same business model. As mitigation payments are made into the program, EEP initiates mitigation projects sufficient to meet regulatory requirements within specified timelines. The programs are managed comprehensively by developing projects that provide high-quality mitigation that combines all mitigation requirements in the watershed. The comprehensive approach increases the efficiency and effectiveness of these programs. Fiscal and credit accounting are managed for each program separately.

C. Primary Outsourcing Methods

EEP manages and produces projects primarily through the private sector. By working closely with the N.C. chapter of the American Council of Engineer Companies, the N.C. Environmental Restoration Association and the Carolinas Association of General Contractors, EEP contracts its work through the Department of Administration. Two main contracting methods are used to achieve this outsourcing: Full Delivery and Design-Bid-Build.

Full Delivery - The Full Delivery Program procures compensatory mitigation by issuing requests for proposals through the state Department of Administration. The program focuses on value-based products and promotes opportunities for private mitigation bankers and other companies that have the ability to locate property, develop plans, secure engineering and construct high-quality projects that meet EEP needs.

Design-Bid-Build (DBB) - Under the DBB process, land is secured by state agencies, designs are produced by private engineering companies and the work is bid for contracting through the Department of Administration and constructed.

IV. Unallocated mitigation

For the purposes of this document, unallocated mitigation is defined as existing, available (unused) EEP mitigation credits that are not associated with current (already paid) mitigation requirements. These are unused mitigation credits that could be applied against new permit requirements if an appropriate payment is received into one of EEP's four ILF programs.

Since the objective of the NCDOT Stream and Wetland Mitigation Program is to secure mitigation in advance of permitted impacts, unallocated mitigation for the NCDOT program is defined as any unused mitigation projected to be remaining after consideration of all NCDOT transportation mitigation needs over the next seven years.

Unallocated mitigation is a temporary condition of a mitigation asset. Although a particular credit may be considered unallocated today, the very next payment into the program may allow full or partial consumption of that credit. Unallocated mitigation is advanced mitigation (mitigation available in advance of permitted impacts).

Unallocated mitigation credits may most commonly be generated due to four causes:

- 1) Ecosystem restoration projects vary in size and often do not exactly match the same quantities and types required by permits.
- 2) Projects have minimum size thresholds in order to be economical and environmentally effective -- many times these thresholds exceed the current mitigation requirements for an individual permit.
- 3) Mitigation rules and regulatory agreements require EEP to produce projects within a specific timeframe, even when insufficient payments may exist within an individual watershed to fully utilize the credits from a single mitigation project.
- 4) Projects often generate multiple types of credits, not all of which may be immediately applied against current requirements.

These causes are described in further detail below.

1) Variability in Natural Ecosystems

Although EEP strives to implement projects that are closely matched to the quantity and type of mitigation needed, differences may exist between mitigation credits generated by a restoration project and mitigation requirements contained in the program. Ecosystem characteristics, such as the degree and size of impairment and appropriate ecological treatment for that impairment, are highly variable. Many other site-specific project attributes also may affect the specific size of and credits yielded by a mitigation site. The likelihood of finding a project that exactly matches the quantities and types of mitigation needed in a specific watershed is small.

Consequently, unallocated mitigation may be generated whenever the project size is greater than the amount paid within a given watershed. For example, EEP may receive a payment for 2,500 credits of stream mitigation within a specific watershed. The most suitable restoration project to meet the requirement may yield 3,000 mitigation credits. Implementation of this project will result in 500 unallocated credits. These 500 credits are advance credits suitable for application against future payments into the program.

2) Small Payments and Minimum Size Project Thresholds

The size, quantity, and frequency of mitigation payments are also important factors in why unallocated mitigation credits may be generated. Most liabilities assumed by EEP are for very small amounts of stream, wetland, riparian-buffer and/or nutrient-offset mitigation needs. In contrast, there are minimum restoration project sizes that are environmentally effective and cost-efficient. Smaller restoration projects typically have significantly higher per-unit design, construction and monitoring costs and less environmental benefits. Consequently, EEP has established minimum-size requirements for projects that it pursues for both technical and cost reasons. Typically, these minimum thresholds are equal to or greater than 3,000 linear feet for stream projects, or equal to or greater than three acres for wetland projects.

3) Mitigation Delivery Timelines

When EEP receives a payment and becomes responsible for meeting new mitigation requirements, a regulatory clock starts. EEP's operating agreements require the program to meet permitted requirements within one year from the end of the fiscal year in which a payment is received. This timeline is in effect regardless of the amount of mitigation that has been paid into the program. Thus, a project must be implemented, even when the cumulative payments in that area are below the threshold of minimum size for a project.

These conditions can create the generation of unallocated mitigation when a project must be implemented despite the low requirement levels.

4) Multiple Credit Types

Natural ecosystem restoration projects often generate multiple types of mitigation credits. Each mitigation project is developed to restore the ecosystem functions of that particular project. Often, a project may be sought for a specific mitigation type (e.g., stream) but the restoration of that site may also result in the restoration of other natural features such as wetlands. In contrast to increased per-unit mitigation costs associated with smaller projects, the per-unit cost of mitigation is often less when a single project results in multiple types of mitigation credits.

V. Analysis of Effects of Session Laws 2009-337 and 2008-152

A. Components of Analysis

In order to evaluate the potential effects of S.L.2009-337 and 2008-152 on EEP’s ability to recoup on mitigation investments that have already been made, two key pieces of data need to be examined: 1) the amount of unallocated credits that exist within the program; and 2) where these unallocated credits overlap with known existing or expected mitigation banks with similar types of credits.

Amount of Unallocated Assets

The first step in the analysis is to determine how many unallocated credits currently exist within EEP mitigation programs. *(Note: Credits associated within the NCDOT Stream and Wetland Program are not included in this assessment.) A separate section below describes the potential effects that S.L. 2009-337 and 2008-152 may have on the NCDOT Stream and Wetland Program.)*

For the purposes of this report, the data utilized was current as of Sept. 30, 2009 (Dec. 16, 2009 for nutrient-offset and buffer data). Since new payments, new mitigation requirements, new mitigation banks and existing and new EEP assets continually change over time, the overall amount of unallocated credits present at any one time will change. To determine the amount of existing unallocated mitigation, the current net available credits for the Statewide Stream and Wetland, Riparian Buffer, and the Nutrient Offset programs were evaluated. All future mitigation obligations were deducted from existing assets. The remaining credits are advance, unused, unallocated credits that may be either directly or indirectly affected by the new session laws. Table 1 below summarizes these data.

Table 1. Existing Unallocated Assets

Program	Number Projects	Mitigation Type						
		Stream	Riparian	Nonriparian	Coastal Marsh	Buffer	Nitrogen	Phosphorus
Statewide Stream and Wetland	49	12,680.5	120.0	62.3	4.6	70.0	0.0	0.0
Riparian Buffer Program	4	0.0	0.0	0.0	0.0	8.5	0.0	0.0
Nutrient Offset Program	2	0.0	0.0	0.0	0.0	0.0	114,121.4	6,556.6
Total	55	12,680.5	120.0	62.3	4.6	78.5	114,121.4	6,556.6

There were 55 projects within the three mitigation programs where some advance unallocated mitigation credits exist. Most of the projects (49 of the 55) were associated with the Statewide Stream and Wetland Program. This distribution was not unexpected since this program services 54 separate watersheds with four separate types of mitigation, whereas the Riparian Buffer and Nutrient Offset programs service significantly fewer watersheds (currently 12) with fewer mitigation categories (three), and are younger mitigation programs.

A complete listing of these mitigation sites and the amount of existing advance unallocated mitigation is located in Appendix A. It is important to note that the amount of advance unallocated credits represents a small percentage of the overall credits developed within these programs. The unallocated credits for stream projects represented only 2.56 percent of total credits; for wetlands, 14.97 percent; for riparian buffers, 15.27 percent; for nitrogen, 7.64 percent; and for phosphorus, 69.09 percent of total credits. The phosphorus percentage is higher simply because it is a relatively new program and there have been insufficient payments to utilize the first round of projects developed for the Tar Pamlico offsets.

Overlap with Existing and Proposed Mitigation Banks

A geographic analysis was conducted to evaluate the overlap between EEP’s unallocated credits and existing and proposed mitigation banks. These areas represent where EEP’s ability to recoup on existing investments will most likely be compromised due to the session laws. Table 2 below summarizes the amount of EEP unallocated mitigation that: 1) overlaps with existing mitigation banks; 2) overlaps with proposed mitigation banks; or 3) currently has no overlap with proposed or existing mitigation banks.

Table 2. Overlap of EEP Unallocated Assets with Existing, Proposed or Nonexistent Mitigation Banks

Location	Number Projects	Mitigation Type						
		Stream	Riparian	Nonriparian	Coastal Marsh	Buffer	Nitrogen	Phosphorus
Existing Banks	17	2,499.7	54.6	0.0	4.3	0.0	0.0	0.0
Proposed Banks	18	5,076.0	3.5	51.9	0.0	78.5	0.0	0.0
Currently No Bank Activity	20	5,104.7	61.9	10.3	0.3	0.0	114,121.4	6,556.6
Total	55	12,680.5	120.0	62.3	4.6	78.5	114,121.4	6,556.6

The analysis of overlap with mitigation banks was complicated by the lack of readily available data. In 2009, as part of a reporting requirement mandated by the General Assembly, EEP asked mitigation bankers to provide data regarding available credits and per-credit cost. Of the 16 mitigation banking companies in the state, only three responded. In addition, it is often difficult to ascertain what the specific type of credits that are being developed in proposed mitigation banks. NCDENR’s report was based on the data available through mitigation banking instruments provided by USACE and the N.C. Division of Water Quality. Where limited information existed, EEP used the best available data and professional judgment.

Areas where unallocated EEP credits overlap with existing and proposed mitigation banks are at high risk of being stranded since the laws will prevent their use under particular conditions. Areas where EEP’s unallocated credits do not overlap with current, proposed or existing mitigation banks are at some risk of being stranded since future banks could affect their future allocation.

Appendix B includes figures and tables that illustrate the location of EEP projects that include unallocated credits and amounts of credits that could be stranded in each catalog unit. Figures have been provided for each type of mitigation. All unallocated credits were considered at risk of being stranded as there are no provisions that would allow EEP to sell these credits in the event that mitigation banking credits became available.

B. Anticipated Effects of Session Laws 2009-337 and 2008-152

S.L. 2009-337 and 2008-152 are anticipated to have direct and indirect effects on EEP, as well as entities that access EEP to gain compliance with state and federal regulations. This section presents information on potential and anticipated effects to EEP and its customers.

1) Potential Impacts on EEP

Financial Impacts

Table 3 below summarizes the potential fees that EEP may be unable to collect because of S.L. 2009-337 and 2008-152. The dollar amounts shown represent the value of potential fees that EEP could collect if unallocated credits were sold according to the current fee schedule (Appendix C presents the current fee schedule used in the calculations below).

Table 3. Fees that EEP may be unable to collect due to Session Laws 2009-337 and 2008-152

Fee Schedule Value	Mitigation Type							Program Totals
	Stream	Riparian	Nonriparian	Coastal Marsh	Buffer	Nitrogen	Phosphorus	
Statewide Stream and Wetland Program	\$4,060,878	\$7,176,100	\$2,851,173	\$716,031	\$2,927,232	\$0	\$0	\$17,731,414
Riparian Buffer Program	\$0	\$0	\$0	\$0	\$355,381	\$0	\$0	\$355,381
Nutrient Offset Program	\$0	\$0	\$0	\$0	\$0	\$2,473,011	\$1,876,508	\$4,349,519
Totals	\$4,060,878	\$7,176,100	\$2,851,173	\$716,031	\$3,282,613	\$2,473,011	\$1,876,508	\$22,436,314

Most of EEP’s unallocated credits are already located where mitigation banks exist or have been recently proposed, thus putting them at immediate risk of being unavailable for sale to non-governmental entities. The analysis shows that revenues in excess of \$22 million could be affected by S.L. 2009-337 and 2008-152.

Future Stranding of Unallocated Credits

In areas where mitigation banks credits are not available, S.L.2009-337 and 2008-152 create a potential problem of stranding additional future EEP mitigation credits that may be developed to meet the needs of the development community. This situation is particularly applicable in areas where new environmental laws create new mitigation requirements and in low demand areas (see example in next paragraph). However, the situation may also occur where banking activity is high, but there are temporarily no credits available for purchase. In these situations, EEP may be asked to provide mitigation for developers looking to satisfy mitigation requirements through third-party providers. Because of minimum project sizes and/or regulatory timing requirements, EEP may need to build a single mitigation project that generates credits in excess of the

mitigation requirements. In the event that mitigation banking credits become subsequently available, any advance mitigation credits developed by EEP could become stranded.

An example of an area where new environmental laws come into play is available in the Falls Lake Watershed area. This is a newly regulated area for Nutrient Offset reductions. No mitigation banks exist within the area offering nutrient reduction credits. Developers have requested and EEP has accepted payments to reduce approximately 1,400 lbs of nitrogen (this quantity of nitrogen reduction can be achieved by the implementation of about one-half acre of buffer restoration). As a result, EEP is initiating a small buffer-restoration project in Falls Lake watershed. Even though EEP is targeting a small restoration site, because of minimum project size thresholds EEP's project is likely to exceed one-half acre and will therefore generate advanced, unallocated mitigation credits. If mitigation banking credits become available before EEP collects sufficient receipts to fully pay for the initial small project, EEP could be financially damaged. The stranded assets may no longer be sellable and any deficient receipt collections will need to be translated into future fee collections, which will raise the costs for future program customers. This scenario could happen anywhere in any river basin and jeopardizes EEP's ability to carry out its watershed-based restoration program and provide quality, cost-effective mitigation.

Indirect Costs to EEP

The recent session laws also have secondary financial impacts to EEP. Because there is no single clearinghouse for public information regarding the location of certified mitigation banks and types, amounts, and costs of credits available for sale, developers wishing to utilize EEP for compensatory mitigation have expressed difficulty in obtaining information from some mitigation banks. Consequently, EEP now devotes a significant amount of additional staff time informing applicants about what mitigation banks may serve their impact area and helping applicants find contact information for banks. In addition, potential mitigation bankers frequently call EEP to gather information about recent and historic payments into the program for their own market analysis. The increased man-hours involved in supplying information to developers, the public and the banking industry result in additional staffing costs.

Issues Raised about Unallocated Credits

Questions were raised during the debate over S.L. 2009-337 and 2008-152 on the level of maturity of EEP projects that comprise the unallocated mitigation, and whether any of the projects associated with these credits can be stopped. These issues are addressed below.

Level of Maturity of EEP Advance Unallocated Credits

One of the arguments made by proponents of S.L. 2009-337 and 2008-152 held that mitigation banks should be promoted because they provide mitigation credits in advance of the impact, and that EEP ILF programs do not. Establishing a preference for mitigation banks does not, by default, promote advanced or higher quality mitigation since mitigation bank credits are released for sale at various project states, in some cases, before any on the ground restoration has taken place. Furthermore the Federal Code of Regulations supports utilizing advance mitigation for offsetting impacts. The federal law does not however promote mitigation banking credits over ILF credits when the ILF credits are watershed-based and advanced. Consequently, EEP examined the state of development of the existing unallocated credits. The table below summarizes the findings.

Project Phase	Number Projects	Mitigation Type						
		Stream	Riparian	Nonriparian	Coastal Marsh	Buffer	Nitrogen	Phosphorus
Design	7	5,197.8	5.0	0.0	0.0	0.0	0.0	0.0
Construction	6	2,014.0	57.0	61.9	0.0	4.6	0.0	0.0
Monitoring+	42	5,468.7	58.0	0.4	4.6	73.9	114,121.4	6,556.6
Total	55	12,680.5	120.0	62.3	4.6	78.5	114,121.4	6,556.6

The vast majority of projects (42 of 55) have already been constructed. Six of the projects were in the construction phase at the time the data was collected and may have since been completed. Only seven of the projects were associated with non-constructed projects. A moderate 41 percent of the unallocated stream credits were associated with in-design projects. All other credits types dominated by post-construction credits.

Completion of Projects Currently in Process

Questions also arose regarding whether any of the projects generating these credits can be stopped or dropped, with the goal of preventing future expenditures on these projects. EEP found that nearly all of the projects where advance unallocated credits exist were associated with other credits that are necessary for fulfilling existing mitigation requirements.

2) Financial Impacts to Developers and NCDOT

S.L. 2009-337 and 2008-152 also have financial implications on those that are seeking efficient means of complying with mitigation requirements. This section describes impacts to the development community and to EEP's largest mitigation customer, NCDOT.

Potential Impacts to Developers

Increased Complexity and Multiple Mitigation Needs

Developers needing more than one type of mitigation and seeking a third-party solution (either through a mitigation bank or EEP ILF program) must now determine the status of mitigation banks located within the watershed to determine whether suitable mitigation-banking credits are available. For example, a homebuilder needing stream, wetland and riparian-buffer mitigation may be compelled to purchase credits from a number of vendors. In the event that any appropriate mitigation banking credits are not available, the developer may then seek to satisfy permit requirements by utilizing one of EEP's ILF programs. Thus, a developer may be required to utilize multiple banks and/or ILF programs for a single development project.

Development Financing Effects

Independent mitigation-banking companies may offer slightly different sets of business practices, including how payments are made. For example, some mitigation banks require deposits prior to permit issuance in order to secure credits from a mitigation bank. Refunds on deposits are not always provided in the event that the mitigation requirements decrease, or dissolve through a process known as avoidance and minimization. While providing a single deposit may be problematic for some, needing multiple deposits for multiple mitigation providers may also prove to be inefficient and confusing.

Development Community Uncertainty

EEP staff is aware of a level of uncertainty in the development community over the mandates of the new session laws. Sentiments expressed to EEP staff have included a lack of understanding about how to contact and negotiate with mitigation bankers, who to contact, whether banks in question have legitimate available credits, concern over project delays because of a lack of timely responses (or no response in some cases) from banking companies. Developers also may simply prefer to be allowed to make their own business decisions on how to spend their money.

Potential Impacts to NCDOT

Although S.L. 2009-337 allows governmental entities including NCDOT the option of utilizing EEP's ILF programs, EEP believes that the new law has the potential to affect the production and consumption of unallocated credits in EEP's NCDOT mitigation program, with the possibility of inefficiency in delivering NCDOT mitigation.

NCDOT Historic Surplus Credits

The most direct consequence of the new legislation on the NCDOT mitigation program occurs when EEP is unable to accept new payments in an area where NCDOT has significant historic unallocated credits. Most of the historic unallocated credits were developed prior to the formation of EEP, and were transferred to EEP for management at the inception of EEP. EEP works directly with NCDOT to decrease unallocated mitigation by using it to meet new ILF requirements, thereby providing revenue to NCDOT. S.L. 2009-337 and 2008-152 have the potential to prevent EEP from accepting new mitigation payments, thus decreasing the ability to draw down historic unallocated credits. This will eliminate a revenue stream for the NCDOT and increase cash-flow demands required to implement the NCDOT mitigation program.

Less Efficient NCDOT Mitigation Projects

Historically, EEP has been able to develop appropriately sized projects in order to meet both NCDOT's mitigation needs and those for EEP's other ILF applicants. This allows EEP to meet mitigation need completely with the fewest number of mitigation projects. Producing fewer projects while still meeting mitigation needs results in greater economies of scale, decreased mobilization costs, reduced staffing requirements and overall efficiency in the implementation and cost-effectiveness of these programs. EEP believes the session law has the potential to negatively affect these efficiencies by decreasing non-NCDOT mitigation needs. Specifically, this may occur when:

- 1) A mitigation bank has credits available;
- 2) NCDOT has mitigation needs in excess of available banking credits;
- 3) A new project must be procured for the NCDOT program; and
- 4) Non-NCDOT mitigation needs exist that would otherwise utilize one of EEP's mitigation programs within the same watershed.

Under these conditions, EEP will be required to produce a new mitigation project to meet NCDOT's mitigation needs. When the NCDOT needs are smaller than a minimum sized project, any production over NCDOT's needs will result in unallocated credits. Since there are no other non-NCDOT mitigation needs being accepted, the full cost of the unallocated credits will be carried by NCDOT. This increases the inefficiency of these

specific projects and increases the overall cost of implementing the NCDOT's Stream and Wetland Program.

VI. Summary Conclusions

S.L. 2008-152 and 2009-337 could result in more than \$22 million worth of advance unallocated EEP assets being unavailable for sale to the development community. The degree of the fiscal and operational impact on EEP is uncertain for several reasons:

- ◆ The session law does not directly affect governmental agencies access to the program, therefore the degree to which governmental agencies access the program may diminish the overall effect.
- ◆ The degree to which (and the location where) mitigation banks will proliferate in the state is unpredictable at this point in time.
- ◆ The present economic conditions for all development remain historically low. Both public and private sector developers have significantly curtailed development and access to mitigation in general.

Most EEP assets exist in areas where mitigation banks have been established or are proposed; however, even those advance credits that are located where banks currently are not proposed could become stranded should a bank open at anytime in the future.

Analysis has shown that nearly all of these advance mitigation credits are associated with projects that must be completed because of regulatory requirements. EEP believes that stopping the development of these projects is not a viable solution and would result in cancellation of active contracts, involve loss of revenue to contractors and possibly loss of jobs. Furthermore, the environmental benefit of the mitigation sites underway would be lost or severely compromised.

The session laws effectively increase the carrying cost of unutilized asset inventory by increasing the quantities of unallocated credits generated because of less efficient program delivery. The session laws extend the potential length of time that unallocated assets must be carried prior to sale (perhaps indefinitely). If alternative solutions are not developed to address these effects, the ILF programs will experience increased costs. Since EEP receives no appropriated funds, these increased costs need to be passed on to the future users of the program via increased fee rates.

For these reasons, NCDENR believes that actions need to take place in the near future to monitor, evaluate and adjust policies and procedures. To address the clearinghouse issue identified on page 9 of this report, EEP and the N.C. Division of Water Quality have begun discussions on how best to establish reporting mechanisms to meet this need. A report back to the Environmental Review Commission in October 2010 is recommended.

Appendix A Complete Listing of Mitigation Sites With Existing Unallocated Mitigation Credits

Mitigation Sites with Potential Stranded Assets										Potential Stranded Credits										Bank Type(s)									
River Basin	8 digit Cataloging Unit	Project ID	Program	Mitigation Sites with Potential Stranded Assets	Phase	Institute Date	Existing debits on site	Site contains other assets needed for obligations?	Site producing other mitigation types NOT considered excess?	Stream		Riparian Wetland		Nonriparian Wetland		Coastal Marsh Wetland		Buffer	Nutrient Offset		Existing Bank	Proposed Bank	STR	RW	NRW	CM	BUF	NO	
										R	RE	R	RE	R	RE	R	RE		Nitrogen	Phosphorus									
Broad	03050105	93	2981	Cleghorn Creek	Monitoring Year 4	7/22/04	Yes	No	No	29.0										No	No								
Cape Fear	03030002	168	2981	Haw River Swamp II	Monitoring Year 5	7/22/04	Yes	Yes	Yes - Riparian Wetland Restoration			1.187								No	Yes	X	X			X	X		
Cape Fear	03030002	395	2981	Upper UT to Cane Creek (Picard)	Construction	5/17/02	Yes	Yes	Yes - Stream Restoration / Riparian Wetland Enhancement			0.006								No	Yes	X	X			X	X		
Cape Fear	03030002	92837	2981	UT to Altamahaw	Design	9/9/08	Yes	Yes	Yes - Stream Enhancement II			0.060								No	Yes	X	X			X	X		
Cape Fear	03030002	92753	2981	UT to Haw (Gwynn)	Construction	1/25/08	Yes	Yes	Yes - Stream Enhancement II			0.515								No	Yes	X	X			X	X		
Cape Fear	03030004	226	2981	Little River	Design	2/10/03	Yes	Yes	Yes - Stream Preservation, Riparian Wetland Restoration			1.090								No	No								
Cape Fear	03030004	176	2981	Hillcrest Bay	Monitoring Year 4	8/6/04	Yes	No	No											No	No								
Cape Fear	03030004	92211	2981	Tarleton Swamp	Monitoring Year 3	7/1/05	Yes	Yes	Yes - Stream Restoration, Stream Enhancement I, Stream Preservation											No	No								
Cape Fear	03030004	92345	2981	UT to Jumping Run Creek	Construction	11/13/06	Yes	Yes	Yes - Stream Restoration, Stream Enhancement I			56.505	9.972							No	No								
Cape Fear	03030005	290	2981	UT to Lilliput Creek (Hog Branch Ponds)	Construction	4/22/05	Yes	Yes	Yes - Riparian Wetland Preservation, Nonriparian Wetland Restoration	2,014.0			51.927							No	Yes	X	X	X					
Cape Fear	03030007	167	2981	Haw Branch	Monitoring Year 4	7/22/04	Yes	Yes	Yes - Stream Restoration			11.981								Yes	No			X					
Catawba	03050101	19	2981	Bailey Fork (EBX)	Monitoring Year 4	7/22/04	Yes	Yes	Yes - Stream Restoration, Stream Enhancement II, Riparian Wetland Enhancement, Buffer			0.217				12.600				No	Yes	X	X			X			
Catawba	03050101	347	2981	South Fork Hopper	Monitoring Year 4	7/22/04	Yes	Yes	Yes - Stream Restoration, Riparian Wetland Enhancement			0.256				9.900				No	Yes	X	X			X			
Catawba	03050101	92220	2981	Reed's Creek	Monitoring Year 4	7/1/05	Yes	Yes	Yes - Riparian Wetland Restoration, Riparian Wetland Enhancement			0.651								No	Yes	X	X			X			
Catawba	03050101	243	2982	McIntyre Creek @ Hornets Nest Park	Bidding-Construction	4/16/02	No	Yes								3.600				No	Yes	X	X			X			
Catawba	03050101	126	2982	Elk Shoals RFP*	Monitoring Year 5	3/1/03	Yes	Yes								2.761				No	Yes	X	X			X			
Catawba	03050101	92524	2982	Thompson's Fork and Tributary	Monitoring Year 1	6/19/06	No	Yes								1.100				No	Yes	X	X			X			
Catawba	03050101	348	2981	South Muddy Creek (16-D04006)	Monitoring Year 3	7/22/04	No	Yes								7.300				No	Yes	X	X			X			
Catawba	03050101	336	2981	Silver Creek (16-D04006)	Monitoring Year 4	7/22/04	No	Yes								5.300				No	Yes	X	X			X			
Catawba	03050101	279	2981	Payne Dairy	Long Term Management	2/24/99	No	Yes								25.400				No	Yes	X	X			X			
Catawba	03050101	20	2981	Bailey Fork II (WRC) (16-D04006)	Monitoring Year 4	7/22/04	No	Yes								9.500				No	Yes	X	X			X			
Catawba	03050103	192	2982	Irwin Creek Whitehurst Road	Construction	7/17/02	No	Yes								1.037				No	Yes	X	X			X			
Neuse	03020201	99	2981	Cox Site	Monitoring Year 2	8/6/04	Yes	Yes	Yes - Stream Restoration, Stream Enhancement I, Stream Enhancement EII			6.764	0.043							Yes	Yes	X	X			X	X		

Appendix A Complete Listing of Mitigation Sites With Existing Unallocated Mitigation Credits

Mitigation Sites with Potential Stranded Assets										Potential Stranded Credits								Bank Type(s)										
River Basin	8 digit Cataloging Unit	Project ID	Program	Mitigation Sites with Potential Stranded Assets	Phase	Institute Date	Existing debits on site	Site contains other assets needed for obligations?	Site producing other mitigation types NOT considered excess?	Stream		Riparian Wetland		Nonriparian Wetland		Coastal Marsh Wetland		Buffer	Nutrient Offset		Existing Bank	Proposed Bank	STR	RW	NRW	CM	BUF	NO
										R	RE	R	RE	R	RE	R	RE		Nitrogen	Phosphorus								
Neuse	03020201	183	2981	Howell Woods	Monitoring Year 5	6/30/99	Yes	Yes	Yes - Stream Enhancement II, Riparian Wetland Restoration, Riparian Wetland Creation											Yes	Yes	X	X			X	X	
Neuse	03020201	92604	2981	McGowan Creek	Monitoring Year 4	8/6/04	Yes	No	No											Yes	Yes	X	X			X	X	
Neuse	03020201	92249	2981	Swift Creek Watershed Wetlands	Monitoring Complete	5/3/05	No	No	No											Yes	Yes	X	X			X	X	
Neuse	03020202	420	2981	Whitlace Creek	Monitoring Year 3	5/30/02	Yes	Yes	Yes - Stream Enhancement I, Stream Enhancement II											Yes	Yes	X	X	X		X	X	
New	05050001	54	2981	Brush Creek	Monitoring Close Out	10/6/99	Yes	No	No	885.7										No	Yes		X					
New	05050001	372	2981	Tate Farm	Design	5/5/04	Yes	Yes	Yes - Riparian Wetland Restoration, Nonriparian Wetland Preservation	2,174.5	1.8									No	Yes		X					
Pasquotank	03010205	79	2981	Charles Creek	Monitoring Year 3	11/7/05	No	No	No			1.160	0.300							Yes	Yes				X	X		
Pasquotank	03010205	209	2981	Knobs Creek	Long Term Mgmt	12/31/02	Yes	No	No				2.231							Yes	Yes				X	X		
Pasquotank	03010205	118	2981	Dismal Swamp FD (Timberlake Farm)	Monitoring Year 2	8/15/05	Yes	Yes	Yes - Nonriparian Restoration				0.500							Yes	Yes				X	X		
Pasquotank	03010205	413	2981	Watts Property	Design	10/27/03	Yes	Yes	Yes - Stream R / NRW R				3.171							Yes	Yes				X	X		
Roanoke	03010103	344	2981	Snow Creek	Monitoring Year 4	6/12/02	Yes	No	No	1,086.0										No	No							
Tar-Pamlico	03020101	27	2981	Bear Swamp Creek	Monitoring Close Out	5/16/01	Yes	No	No	757.0										No	No							
Tar-Pamlico	03020101	36	2981	Billy's Creek	Monitoring Year 3	12/16/02	Yes	No	No	567.3										No	No							
Tar-Pamlico	03020101	234	2981	Louisburg (UT to Tar River)	Monitoring Year 4	11/21/02	Yes	No	No	1,291.3										No	No							
Tar-Pamlico	03020101	92269	2981	Daniels Farm #1	Monitoring Close Out	3/1/03	Yes	No	No				0.285							No	No							
Tar-Pamlico	03020103	92231	2982-9829	Manning Farm (G)	Monitoring Year 2	7/1/05	Yes	Yes												12,748.9	44.9	No	No					
Tar-Pamlico	03020104	92233	2982-9829	Simpson Buffer	Monitoring Year 1	7/1/05	Yes	Yes												101,372.5	6,511.7	No	No					
Tar-Pamlico	03020104	92487	2981	Armstrong Property	Monitoring Year 2	5/2/06	Yes	Yes	Yes - Stream Restoration				1.792							No	No							
White Oak	03030001	366	2981	Sturgeon City (Phase I)	Long Term Mgmt	8/25/99	Yes	Yes	Yes - RW R											Yes	Yes	X	X	X				
White Oak	03030001	367	2981	Sturgeon City (Phase II)	Monitoring Close Out	10/9/04	No	No	No											Yes	Yes	X	X	X				
White Oak	03030001	92550	2981	Jarmans Oak	Monitoring Year 3	7/17/06	Yes	Yes	Yes - Stream Restoration, Stream Enhancement II				0.238							Yes	Yes	X	X	X				
White Oak	03020106	163	2981	Hammock's State Park	Long Term Mgmt	1/1/00	No	No	No											No	No							
White Oak	03020106	200	2981	Jumping Run Creek	Long Term Mgmt	7/24/01	Yes	Yes	Yes - Stream Restoration				1.714							No	No							
White Oak	03020106	91	2981	Clayhill Farm	Monitoring Year 4	7/22/03	Yes	Yes	Stream Preservation, Riparian Wetland Restoration, Riparian Enhancement, Riparian Preservation, Nonriparian Enhancement, Nonriparian Preservation											No	No							
Yadkin	03040101	28	2981	Beaver Creek	Monitoring Year 5	4/25/01	Yes	No	No	852.3										Yes	No	X	X					
Yadkin	03040101	92767	2981	Cundiff Creek	Design	10/1/08	Yes	No	No	1,647.4										Yes	No	X	X					
Yadkin	03040101	135	2981	Fisher River	Long Term Mgmt	4/16/01	Yes	Yes	Yes - Stream Preservation, Riparian Wetland Creation, Riparian Wetland Enhancement				0.002							Yes	No	X	X					

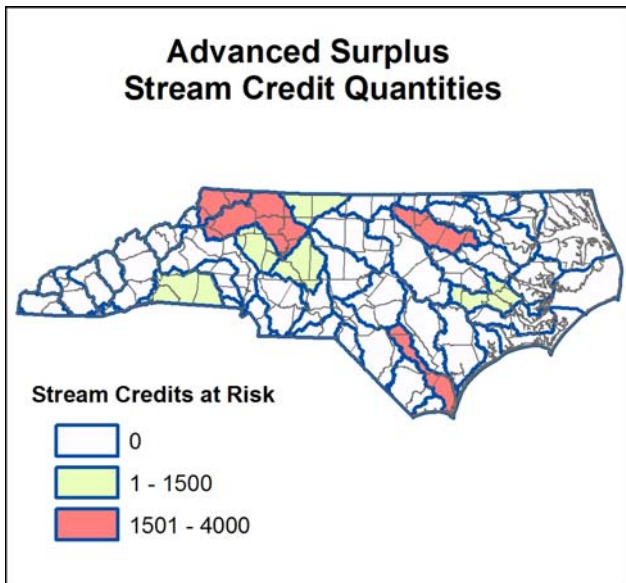
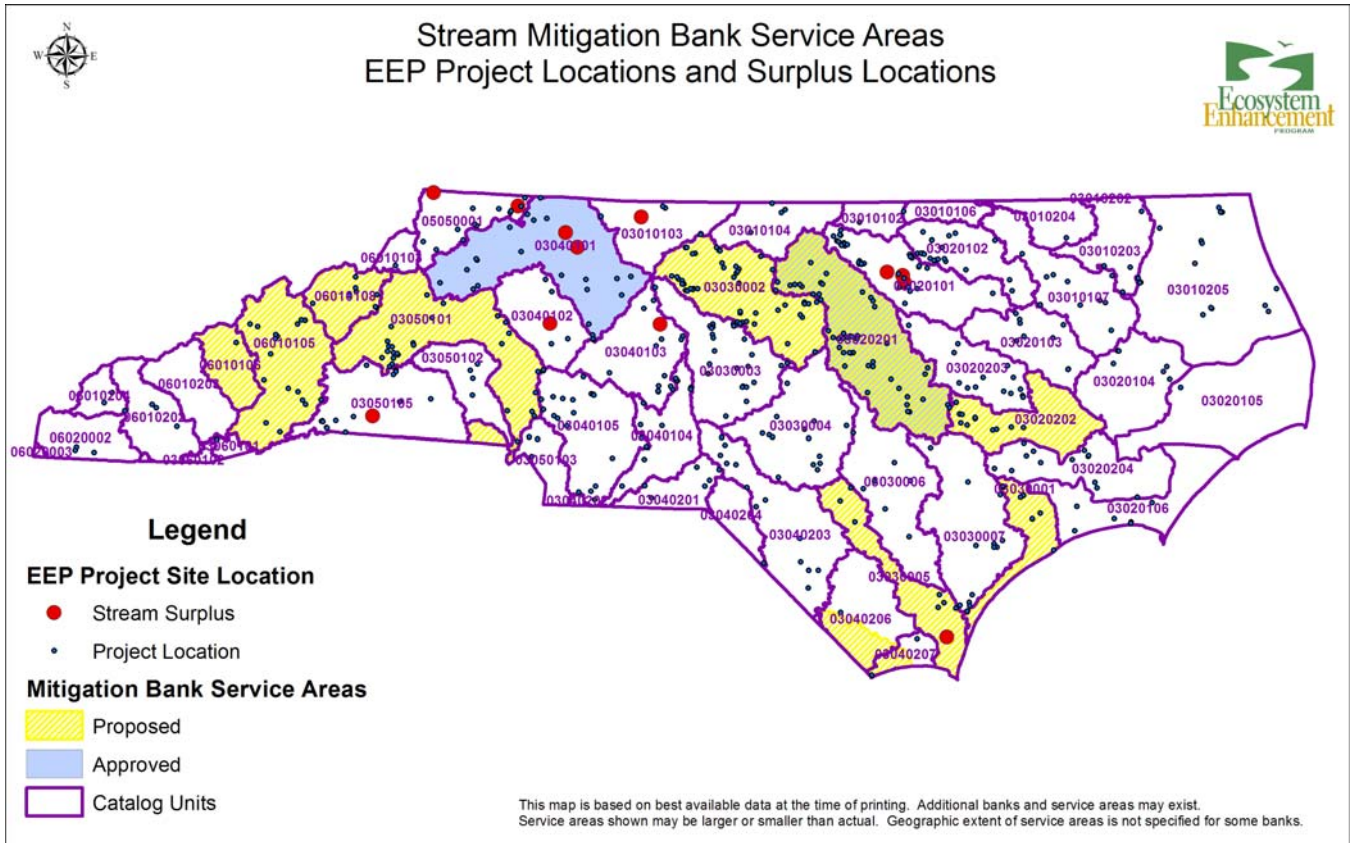
Appendix A Complete Listing of Mitigation Sites With Existing Unallocated Mitigation Credits

Mitigation Sites with Potential Stranded Assets										Potential Stranded Credits								Bank Type(s)												
River Basin	8 digit Cataloging Unit	Project ID	Program	Mitigation Sites with Potential Stranded Assets	Phase	Institute Date	Existing debits on site	Site contains other assets needed for obligations?	Site producing other mitigation types NOT considered excess?	Stream		Riparian Wetland		Nonriparian Wetland		Coastal Marsh Wetland		Buffer	Nutrient Offset		Existing Bank	Proposed Bank	STR	RW	NRW	CM	BUF	NO		
										R	RE	R	RE	R	RE	R	RE		Nitrogen	Phosphorus										
Yadkin	03040101	364	2981	Stone Mountain	Monitoring Year 8	5/5/99	Yes	Yes	Yes - Stream Enhancement II, Stream Preservation	0.0										Yes	No		X	X						
Yadkin	03040102	92185	2981	Five Mile Branch	Design	6/18/04	Yes	Yes	Yes - Stream Restoration	81.0										No	No									
Yadkin	03040103	847	2981	UT to Uwharrie	Design	5/24/06	Yes	Yes	Yes - Stream Preservation, Riparian Wetland Enhancement, Riparian Wetland Preservation	1,293.1										No	No									
Yadkin	03040201	198	2981	Jones Creek	Monitoring Year 4	8/6/04	Yes	Yes	Yes - Stream Restoration, Stream Preservation, Riparian Wetland Enhancement											No	No									
Yadkin	03040201	242	2981	McDonalds Pond	Monitoring Year 4	8/6/04	Yes	Yes	Yes - Stream Restoration, Stream Enhancement I, Stream Preservation, Riparian Wetland Enhancement, Riparian Wetland Preservation											No	No									
Subtotal Credits										12,678.7	1.8	85.0	35.0	10.4	51.9	4.6	0.0	78.5	114,121.4	6,556.6										
Total Credits										12,680.5		120.0		62.3		4.6		78.5	114,121.4	6,556.6										

Abbreviations Utilized in Table

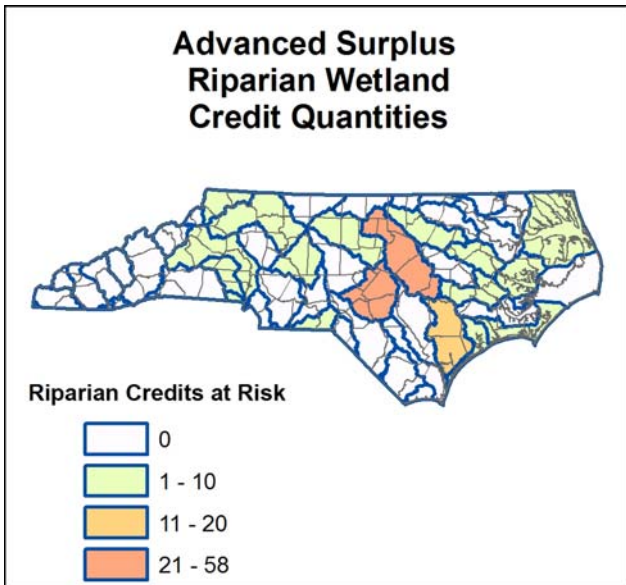
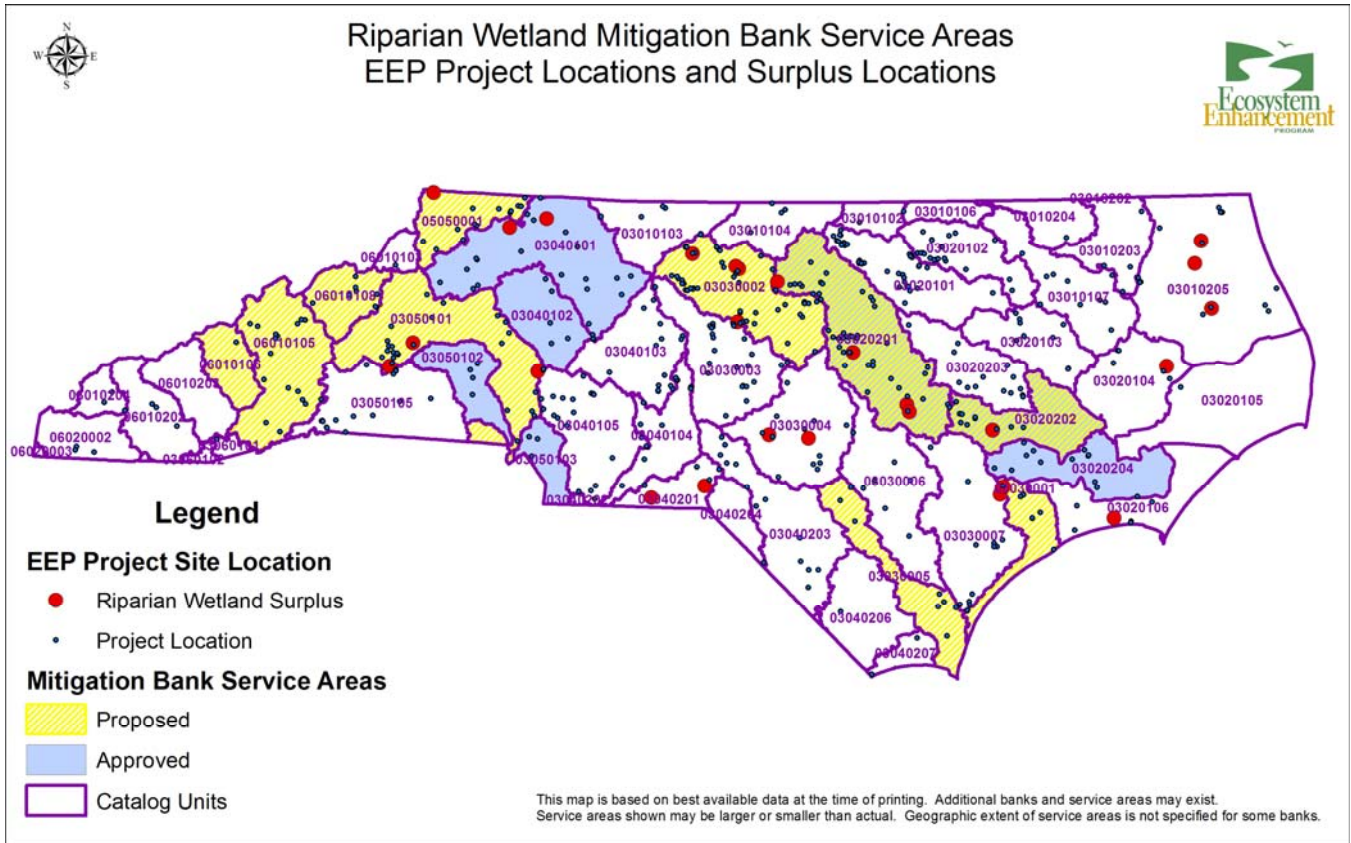
Restoration Classes	R	Restoration (class of mitigation techniques)
	RE	Restoration Equivalent (class of mitigation techniques)

Appendix B. Figures and Tables Describing the Location and Amount of EEP Credits that are Considered Unallocated



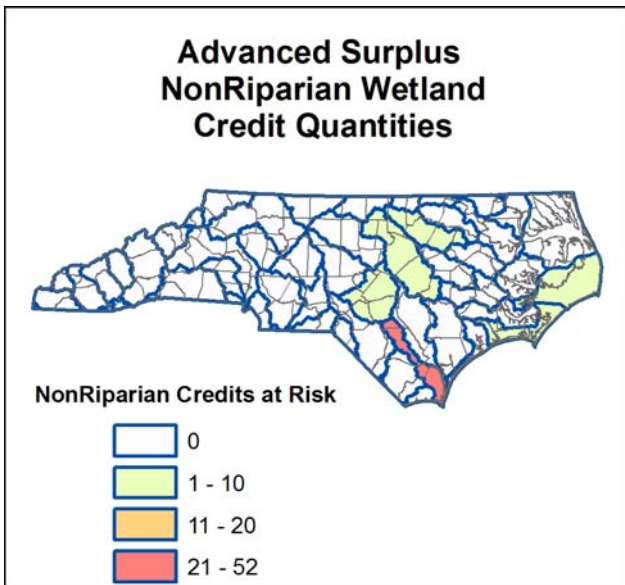
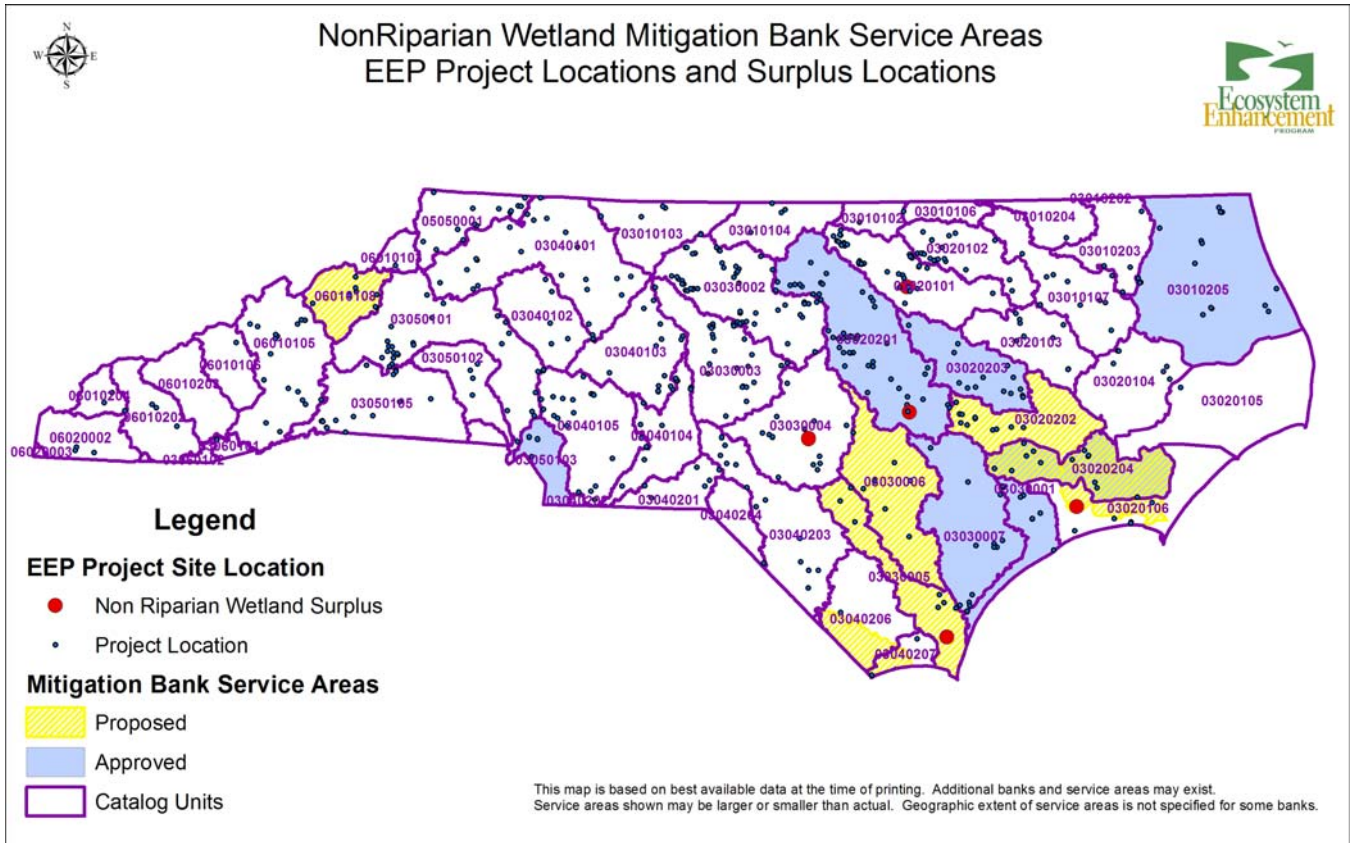
River Basin	Catalog Unit	Advanced Surplus Stream Credits	Fee Schedule Value
Broad	03050105	29	\$9,976
Cape Fear	03030005	2,014	\$692,816
New	05050001	3,062	\$1,053,328
Roanoke	03010103	1,086	\$282,360
Tar-Pamlico	03020101	2,616	\$899,789
Yadkin	03040101	2,500	\$649,930
Yadkin	03040103	1,293	\$444,815
	Statewide	12,680	4,060,878

Appendix B. Figures and Tables Describing the Location and Amount of EEP Credits that are Considered Unallocated



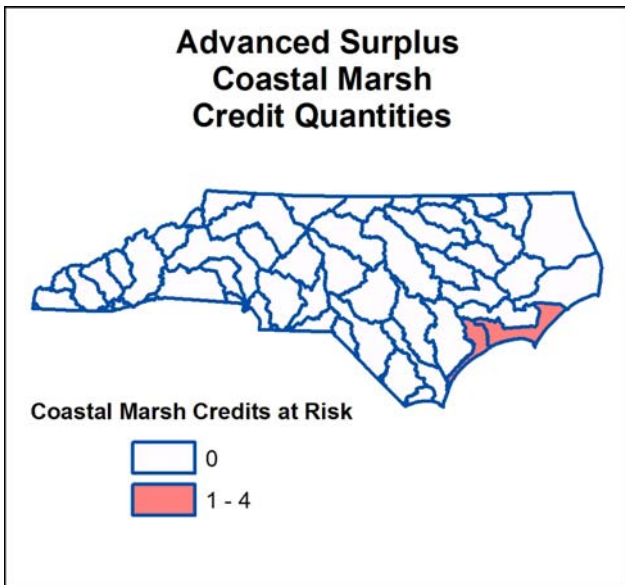
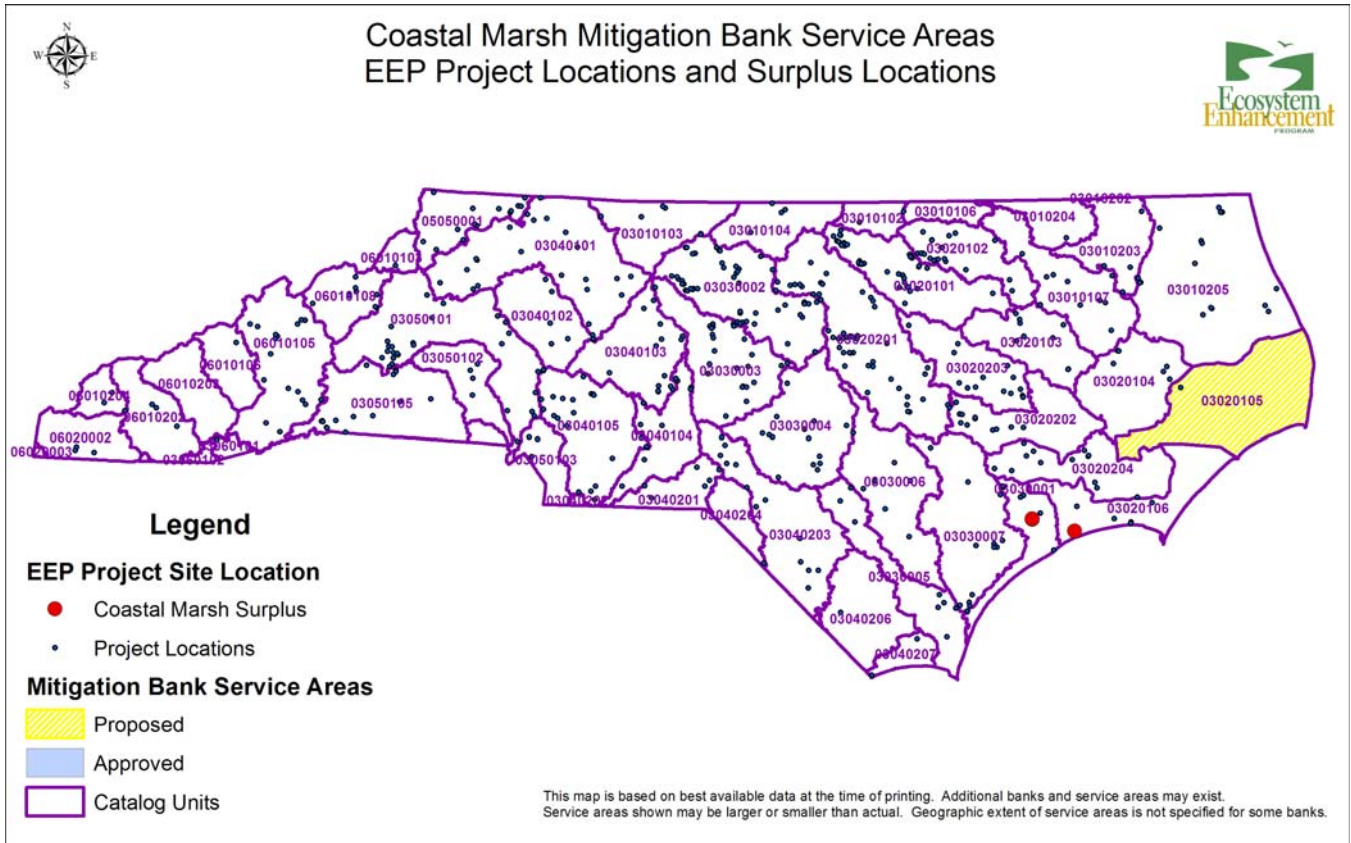
River Basin	Catalog Unit	Advanced Surplus Riparian Wetland Credits	Fee Schedule Value
Cape Fear	03030002	1.768	\$112,096.93
Cape Fear	03030004	57.596	\$3,652,380.06
Cape Fear	03030007	11.981	\$759,788.50
Catawba	03050101	1.124	\$71,277.34
Neuse	03020201	29.191	\$1,851,145.55
Neuse	03020202	5.710	\$204,720.63
New	05050001	0.630	\$39,950.82
Pasquotank	03010205	7.362	\$263,949.79
Tar-Pamlico	03020104	1.792	\$64,248.58
White Oak	03020106	1.714	\$108,691.60
White Oak	03030001	0.238	\$15,092.53
Yadkin	03040101	0.159	\$5,688.68
Yadkin	03040201	0.755	\$27,069.02
	Statewide	120.020	\$7,176,100.01

Appendix B. Figures and Tables Describing the Location and Amount of EEP Credits that are Considered Unallocated



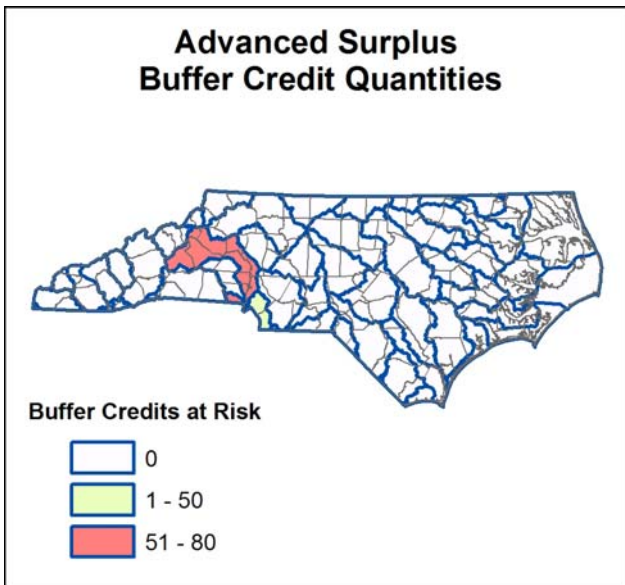
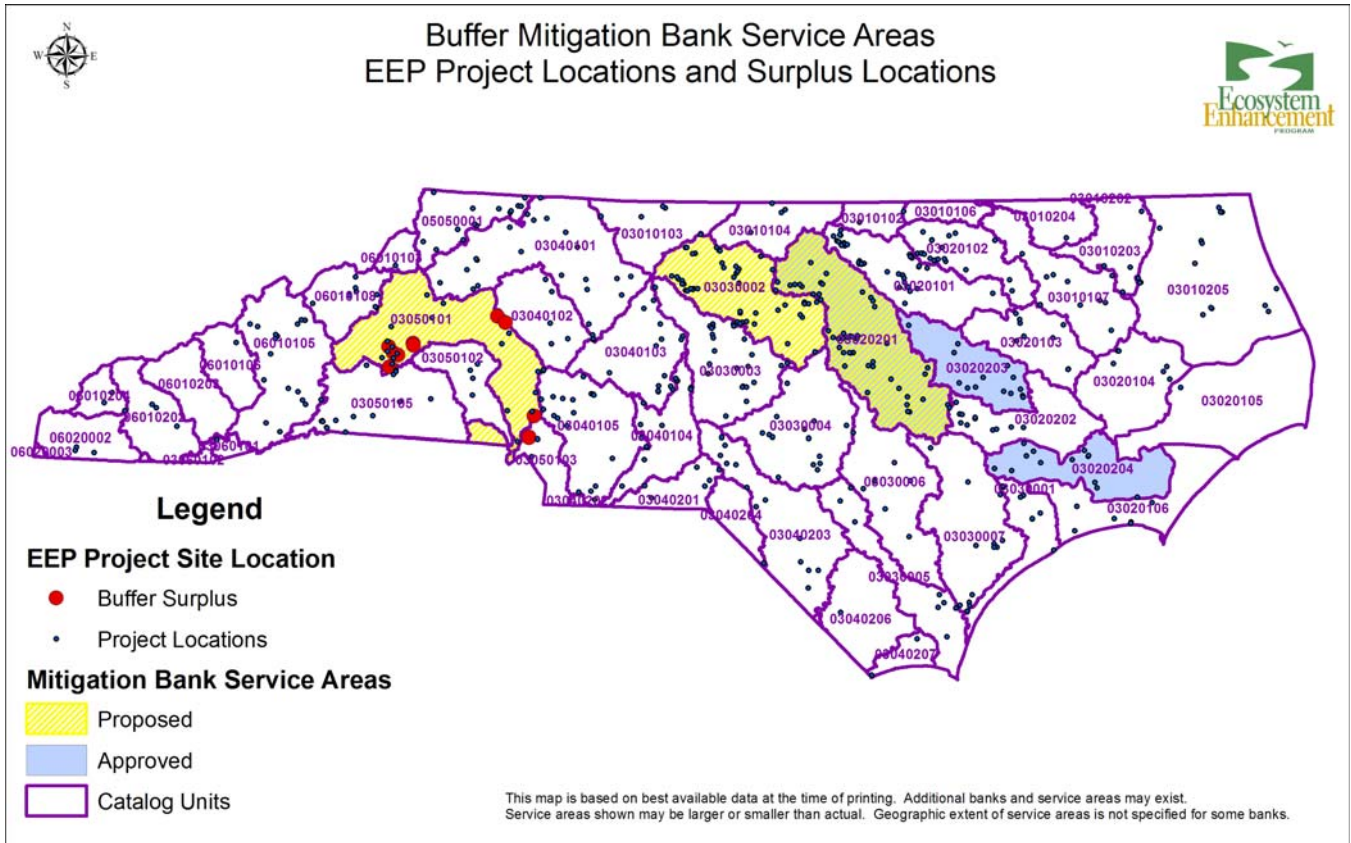
River Basin	Catalog Unit	Advanced Surplus NonRiparian Wetland Credits	Fee Schedule Value
Cape Fear	03030004	9.972	\$456,238.94
Cape Fear	03030005	51.927	\$2,375,741.23
Neuse	03020201	0.043	\$1,962.76
Tar-Pamlico	03020101	0.285	\$13,039.32
White Oak	03020106	0.092	\$4,190.88
	Statewide	62.318	\$2,851,173.14

Appendix B. Figures and Tables Describing the Location and Amount of EEP Credits that are Considered Unallocated



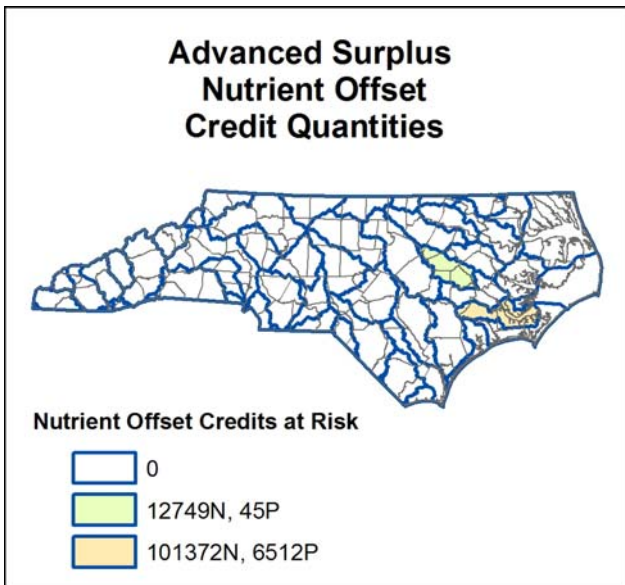
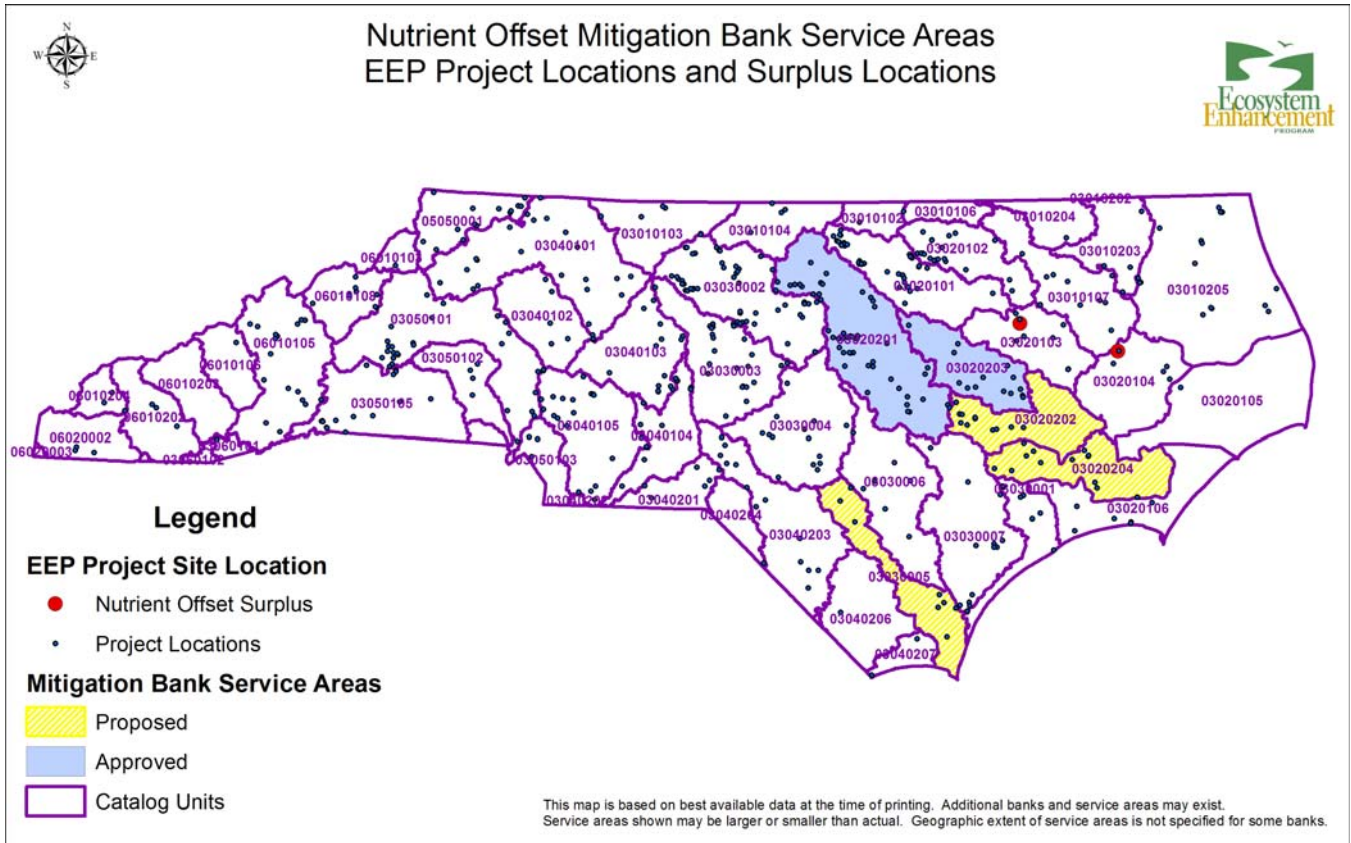
River Basin	Catalog Unit	Advanced Surplus Coastal Marsh Credits	Fee Schedule Value
White Oak	03020106	0.300	\$46,799.40
White Oak	03030001	4.290	\$669,231.42
	Statewide	4.590	\$716,030.82

Appendix B. Figures and Tables Describing the Location and Amount of EEP Credits that are Considered Unallocated



River Basin	Catalog Unit	Advanced Surplus Riparian Buffer Credits	Fee Schedule Value
Catawba	03050101	77.46	\$3,239,248.32
Catawba	03050103	1.04	\$43,364.85
	Statewide	78.50	\$3,282,613.17

Appendix B. Figures and Tables Describing the Location and Amount of EEP Credits that are Considered Unallocated



River Basin	Catalog Unit	Advanced Surplus Nitrogen Credits (pounds)	Fee Schedule Value
Tar-Pamlico	03020103	12,748.92	\$276,269.10
Tar-Pamlico	03020104	101,372.50	\$2,196,742.05
	Statewide	114,121.42	\$2,473,011.15

River Basin	Catalog Unit	Advanced Surplus Phosphorus Credits (pounds)	Fee Schedule Value
Tar-Pamlico	03020103	44.90	12,850.17
Tar-Pamlico	03020104	6,511.73	1,863,657.41
	Statewide	6,556.63	1,876,507.58

Appendix C Current Fee Schedule Used to Calculate Potential Financial Impacts to EEP

River Basin	Cataloging Unit	Stream Restoration (foot)	Riparian Restoration (acre)	Nonriparian Restoration (acre)	Coastal Marsh Restoration (acre)	Buffer Mitigation (acre)	Nitrogen (pound)	Phosphorus (per tenth pound)
Broad								
	03050105	\$344	\$63,414	\$45,752	\$155,998			
Cape Fear								
	03030002	\$344	\$63,414	\$45,752	\$155,998	\$41,818		
	03030003	\$260	\$35,853	\$23,528	\$155,998	\$41,818		
	03030004	\$344	\$63,414	\$45,752	\$155,998			
	03030005	\$344	\$63,414	\$45,752	\$155,998			
	03030006	\$260	\$35,853	\$23,528	\$155,998			
	03030007	\$344	\$63,414	\$45,752	\$155,998			
Catawba								
	03050101	\$344	\$63,414	\$45,752	\$155,998	\$41,818		
	03050102	\$344	\$63,414	\$45,752	\$155,998	\$41,818		
	03050103	\$344	\$63,414	\$45,752	\$155,998	\$41,818		
Chowan								
	03010203	\$260	\$35,853	\$23,528	\$155,998			
	03010201	\$260	\$35,853	\$23,528	\$155,998			
	03010202	\$260	\$35,853	\$23,528	\$155,998			
	03010204	\$260	\$35,853	\$23,528	\$155,998			
French Broad								
	06010105	\$344	\$63,414	\$45,752	\$155,998			
	06010106	\$344	\$63,414	\$45,752	\$155,998			
	06010108	\$344	\$63,414	\$45,752	\$155,998			
Hiwassee								
	06020002	\$344	\$63,414	\$45,752	\$155,998			
	06020003	\$260	\$35,853	\$23,528	\$155,998			
Little Tennessee								
high	06010202	\$344	\$63,414	\$45,752	\$155,998			
	06010203	\$344	\$63,414	\$45,752	\$155,998			
	06010204	\$344	\$63,414	\$45,752	\$155,998			
Lumber								
	03040203	\$260	\$35,853	\$23,528	\$155,998			
	03040204	\$260	\$35,853	\$23,528	\$155,998			
	03040206	\$260	\$35,853	\$23,528	\$155,998			
	03040207	\$344	\$63,414	\$45,752	\$155,998			
Neuse								
	03020201	\$344	\$63,414	\$45,752	\$155,998	\$41,818	\$28.35/lb	
	03020202	\$260	\$35,853	\$23,528	\$155,998	\$41,818	\$28.35/lb	
	03020203	\$260	\$35,853	\$23,528	\$155,998	\$41,818	\$28.35/lb	
	03020204	\$260	\$35,853	\$23,528	\$155,998	\$41,818	\$28.35/lb	
New								
	05050001	\$344	\$63,414	\$45,752	\$155,998			
Pasquotank								
	03010205	\$260	\$35,853	\$23,528	\$155,998			

Appendix C Current Fee Schedule Used to Calculate Potential Financial Impacts to EEP

River Basin	Cataloging Unit	Stream Restoration (foot)	Riparian Restoration (acre)	Nonriparian Restoration (acre)	Coastal Marsh Restoration (acre)	Buffer Mitigation (acre)	Nitrogen (pound)	Phosphorus (per tenth pound)
Roanoke								
	3010102	\$260	\$35,853	\$23,528	\$155,998			
	03010103	\$260	\$35,853	\$23,528	\$155,998			
	03010104	\$260	\$35,853	\$23,528	\$155,998			
	03010106	\$260	\$35,853	\$23,528	\$155,998			
	03010107	\$344	\$63,414	\$45,752	\$155,998			
Savannah								
	3060101	\$344	\$63,414	\$45,752	\$155,998			
	3060102	\$344	\$63,414	\$45,752	\$155,998			
Tar-Pamlico								
	03020101	\$344	\$63,414	\$45,752	\$155,998	\$41,818	\$21.67/lb	\$28.62 / 0.1 lb
	03020102	\$260	\$35,853	\$23,528	\$155,998	\$41,818	\$21.67/lb	\$28.62 / 0.1 lb
	03020103	\$260	\$35,853	\$23,528	\$155,998	\$41,818	\$21.67/lb	\$28.62 / 0.1 lb
	03020104	\$260	\$35,853	\$23,528	\$155,998	\$41,818	\$21.67/lb	\$28.62 / 0.1 lb
	03020105	\$260	\$35,853	\$23,528	\$155,998	\$41,818	\$21.67/lb	\$28.62 / 0.1 lb
Watauga								
	06010103	\$344	\$63,414	\$45,752	\$155,998			
White Oak								
	03030001	\$344	\$63,414	\$45,752	\$155,998			
	03020106	\$344	\$63,414	\$45,752	\$155,998			
Yadkin								
	03040101	\$260	\$35,853	\$23,528	\$155,998			
	03040102	\$344	\$63,414	\$45,752	\$155,998			
	03040103	\$344	\$63,414	\$45,752	\$155,998			
	03040104	\$260	\$35,853	\$23,528	\$155,998			
	03040105	\$344	\$63,414	\$45,752	\$155,998			
	03040201	\$260	\$35,853	\$23,528	\$155,998			
	03040202	\$344	\$63,414	\$45,752	\$155,998			
Grand Total								

Appendix D1. Summary of Accounting – How Potential Stranded Assets Calculated for Statwide Stream and Wetland Program

Statewide Stream and Wetland Program

River Basin	Cataloging Unit	Statewide Stream and Wetland Program Available Credits (Currently Unutilized)								Total Future Statwide Stream and Wetland Program Obligations (Paid Mitigation Requirements & Other Program Obligations)								Potentially Stranded Credits Remaining After All Obligations Considered											
		Stream Restoration	Stream Restoration Equivalent	Riparian Restoration	Riparian Restoration Equivalent	Nonriparian Restoration	Nonriparian Restoration Equivalent	Coastal Marsh Restoration	Coastal Marsh Restoration Equivalent	Stream Buffer	Stream Restoration	Stream Restoration Equivalent	Riparian Restoration	Riparian Restoration Equivalent	Nonriparian Restoration	Nonriparian Restoration Equivalent	Coastal Marsh Restoration	Coastal Marsh Restoration Equivalent	Stream Buffer	Stream Restoration	Stream Restoration Equivalent	Riparian Restoration	Riparian Restoration Equivalent	Nonriparian Restoration	Nonriparian Restoration Equivalent	Coastal Marsh Restoration	Coastal Marsh Restoration Equivalent	Stream Buffer	
Broad	03050105	29	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29									
Cape Fear	03030001	Located in White Oak 01																											
	03030002	0	0	0.92	2.18	0.00	0.00	0.00	0.00	3,565	405	2.26	0.41	1.03	0.74	0.00	0.00	0.00				1.77							
	03030003	713	0	0.08	0.44	0.00	0.00	0.00	0.00	1,612	225	0.94	0.44	0.59	0.00	0.00	0.00	0.00											
	03030004	3,634	7	95.87	6.04	13.25	0.00	0.00	0.00	4,790	7	39.36	4.95	3.06	0.22	0.00	0.00	0.00			56.51	1.09	9.97		51.93				
	03030005	2,322	0	1.08	1.25	4.03	53.93	0.00	0.00	285	23	2.08	1.47	5.13	2.00	0.01	0.24	0.00	2,014										
	03030006	0	0	0.35	0.00	0.00	0.00	0.00	0.00	0	0	0.35	0.00	0.00	0.00	0.00	0.00	0.00											
	03030007	0	0	13.63	0.00	2.59	0.00	0.00	0.00	452	77	1.07	0.59	2.02	0.57	0.00	0.00	0.00			11.98								
Catawba	03050101	27	0	0.62	0.76	0.00	0.00	0.00	70.00	232	4,146	0.14	0.11	0.15	0.38	0.00	0.00	0.00			0.47	0.65						70.00	
	03050102	1,249	0	0.81	0.00	0.00	0.00	0.00	0.00	1,249	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00											
	03050103	290	0	2.51	0.00	0.00	0.00	0.00	0.00	290	0	4.70	3.04	2.27	0.22	0.00	0.00	0.00											
Chowan	03010203	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00											
	03010201	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00											
	03010202	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00											
	03010204	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	0.12	0.12	0.00	0.00	0.00											
French Broad	06010105	3,810	0	0.61	0.36	0.00	0.00	0.00	0.00	2,297	1,595	0.61	0.36	0.00	0.00	0.00	0.00	0.00											
	06010106	185	0	0.00	0.00	0.00	0.00	0.00	0.00	185	0	1.42	0.97	0.00	0.00	0.00	0.00	0.00											
	06010108	0	0	0.00	0.00	0.00	0.00	0.00	0.00	6,558	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00											
Hiwassee	06020002	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00											
	06020003	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00											
Little Tennessee	06010202	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00											
	06010203	0	0	0.00	0.00	0.00	0.00	0.00	0.00	1,090	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00											
	06010204	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00											
Lumber	03040203	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.67	0.00	0.00	0.00	0.00	0.00	0.00											
	03040204	290	0	0.60	0.00	0.00	0.00	0.00	0.00	290	0	0.41	0.19	0.00	0.00	0.00	0.00	0.00											
	03040206	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.20	0.00	2.10	0.24	0.00	0.00	0.00											
	03040207	0	0	0.00	0.00	0.60	0.00	0.00	0.00	756	1	0.96	0.00	0.70	0.45	0.00	0.00	0.00											
Neuse	03020201	0	0	14.45	28.43	0.55	0.00	0.00	0.00	2,301	1,049	7.69	6.00	0.39	0.12	0.00	0.00	0.00			6.76	22.43	0.04						
	03020202	0	0	0.49	6.20	1.97	1.06	0.00	0.00	0	0	0.49	0.49	8.87	7.97	0.00	0.00	0.00				5.71							

Appendix D1. Summary of Accounting – How Potential Stranded Assets Calculated for Statwide Stream and Wetland Program

River Basin	Cataloging Unit	Statewide Stream and Wetland Program Available Credits (Currently Unutilized)								Total Future Statwide Stream and Wetland Program Obligations (Paid Mitigation Requirements & Other Program Obligations)								Potentially Stranded Credits Remaining After All Obligations Considered											
		Stream Restoration	Stream Restoration Equivalent	Riparian Restoration	Riparian Restoration Equivalent	Nonriparian Restoration	Nonriparian Restoration Equivalent	Coastal Marsh Restoration	Coastal Marsh Restoration Equivalent	Stream Buffer	Stream Restoration	Stream Restoration Equivalent	Riparian Restoration	Riparian Restoration Equivalent	Nonriparian Restoration	Nonriparian Restoration Equivalent	Coastal Marsh Restoration	Coastal Marsh Restoration Equivalent	Stream Buffer	Stream Restoration	Stream Restoration Equivalent	Riparian Restoration	Riparian Restoration Equivalent	Nonriparian Restoration	Nonriparian Restoration Equivalent	Coastal Marsh Restoration	Coastal Marsh Restoration Equivalent	Stream Buffer	
	03020203	372	0	0.00	0.00	0.00	0.00	0.00	0.00	222	222	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00										
	03020204	0	0	0.66	0.00	0.10	0.00	0.00	0.00	0	0	1.14	1.14	0.05	0.05	0.00	0.00	0.00	0.00										
New																													
	05050001	3,060	2	0.00	0.63	0.00	0.00	0.00	0.00	0	0	0.00	0.00	0.08	0.08	0.00	0.00	0.00	0.00	3,060	2	0.63							
Pasquotank																													
	03010205	0	0	4.83	2.53	2.62	0.00	0.00	0.00	0	0	0.00	0.00	1.47	1.47	0.00	0.00	0.00	0.00			4.83	2.53						
Roanoke																													
	03010102	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00										
	03010103	1,329	0	0.00	0.00	0.00	0.00	0.00	0.00	243	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,086									
	03010104	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00										
	03010106	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00										
	03010107	0	0	2.94	0.00	0.94	0.00	0.00	0.00	233	0	6.15	0.00	0.94	0.47	0.00	0.00	0.00	0.00										
Savannah																													
	03060101	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00										
	03060102	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00										
Tar-Pamlico																													
	03020101	2,616	0	0.32	0.00	0.28	0.00	0.00	0.00	0	0	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,616			0.28						
	03020102	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00										
	03020103	0	0	0.18	0.00	2.98	0.00	0.00	0.00	0	0	0.09	0.09	1.64	1.34	0.00	0.00	0.00	0.00										
	03020104	0	0	2.25	0.00	0.32	0.00	0.00	0.00	2,244	4,244	0.23	0.23	0.22	0.22	0.00	0.00	0.00	0.00			1.79							
	03020105	0	0	0.00	0.00	2.14	0.00	0.00	0.00	0	0	0.00	0.00	1.90	0.24	0.10	0.10	0.00	0.00										
Watauga																													
	06010103	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00										
White Oak																													
	03030001	1,833	0	0.56	0.36	0.00	0.00	4.29	0.00	2,542	0	0.66	0.12	12.94	1.88	0.00	0.00	0.00	0.00			0.24			4.29				
	03020106	60	0	2.23	0.00	0.09	0.00	0.30	0.00	60	0	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00			1.71	0.09		0.30				
Yadkin																													
	03040101	6,027	0	0.16	0.00	0.00	0.00	0.00	0.00	1,980	1,547	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,500		0.16							
	03040102	81	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00										
	03040103	2,087	152	2.26	0.44	0.00	0.00	0.00	0.00	548	398	1.35	1.36	0.41	0.39	0.00	0.00	0.00	0.00	1,293									
	03040104	0	0	0.50	0.00	0.00	0.00	0.00	0.00	291	9	0.31	0.19	0.00	0.00	0.00	0.00	0.00	0.00										
	03040105	1,265	0	0.00	0.00	0.00	0.00	0.00	0.00	2,319	95	1.35	0.04	1.90	1.90	0.00	0.00	0.00	0.00										
	03040201	0	0	0.76	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.76							
	03040202	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00										
Grand Total		31,279	161	149.68	49.62	32.45	54.99	4.59	0.00	70.00	36,635	14,043	75.96	22.17	48.10	21.06	0.11	0.34	0.00	12,679	2	84.97	35.05	10.39	51.93	4.59	0.00	70.00	

Notes: The future obligations and requirements were deducted from existing unutilized program credits to determine surplus credits within the program. Restoration credits may be applied toward restoration equivalent obligations and requirements. Restoration equivalent credits may not be used to satisfy restoration obligations and requirements. Catawba 02 credits maybe utilized in Catawba 03.

Appendix D2. Summary of Accounting – How Potential Stranded Assets Calculated for Riparian Buffer Mitigation Program

Riparian Buffer Mitigation Program

River Basin	8 -Digit Cataloging Unit	Total Riparian Buffer Credits	Riparian Buffer Program Available Credits (Currently Unutilized)	Future Obligations and Requirments	Potentially Stranded Credits Remaining After All Obligations Considered
Cape Fear	03030003	87.23	24.66	118.58	0.00
Catawba	03050101	11.04	10.16	1.66	8.50
Neuse	03020201	188.60	0.00	14.42	0.00
Neuse	03020202	92.44	0.00	15.93	0.00
Neuse	03020203	100.83	0.00	1.90	0.00
Neuse	03020204	15.52	0.76	4.80	0.00
Tar Pamlico	03020101	16.06	2.12	6.00	0.00
Tar Pamlico	03020102	0.00	0.00	0.00	0.00
Tar Pamlico	03020103	9.23	0.01	0.67	0.00
Tar Pamlico	03020104	10.90	0.00	0.19	0.00
Tar Pamlico	03020105	0.00	0.00	0.08	0.00
Grand Totals		531.84	37.71	164.22	8.50

Notes: The future obligations and requirements were deducted from existing unutilized program credits to determine surplus credits within the program. Includes payments made into program as of 12/08/09. Includes program assets as of 12/16/09.

Nutrient Offset Program Summary

Neuse Nitrogen Program		Total Neuse Nitrogen Credits	Neuse Nitrogen Program Available Credits (Currently Unutilized)	Future Obligations and Requirments	Potentially Stranded Credits Remaining After All Obligations Considered
Neuse	03020201	248,276.40	35,832.79	39,777.36	0.00
Neuse	03020202	427,208.54	8,883.87	8,883.87	0.00
Neuse	03020203	477,805.60	1,930.75	1,930.75	0.00
Neuse	03020204	194,380.14	6,199.21	6,199.21	0.00
TOTALS Nitrogen		1,347,670.68	52,846.61	56,791.19	0.00

Tar Pamlico Nitrogen Program		Total Tar Pamlico Nitrogen Credits	Tar Pamlico Nitrogen Program Available Credits (Currently Unutilized)	Future Obligations and Requirments	Potentially Stranded Credits Remaining After All Obligations Considered
Tar Pamlico Basin Requirements			0.00	3,554.21	0.00
Tar Pamlico	03020101	840.00	0.00	4,622.10	0.00
Tar Pamlico	03020102	0.00	0.00	0.00	0.00
Tar Pamlico	03020103	43,667.84	20,467.34	4,164.21	12,748.92
Tar Pamlico	03020104	102,289.50	102,108.15	735.65	101,372.50
Tar Pamlico	03020105	0.00	0.00	0.00	0.00
TOTALS Nitrogen		146,797.34	122,575.49	13,076.17	114,121.42

Tar Pamlico Phosphorus Program		Total Tar Pamlico Phosphorus Credits	Tar Pamlico Phosphorus Program Available Credits (Currently Unutilized)	Future Obligations and Requirments	Potentially Stranded Credits Remaining After All Obligations Considered
Tar Pamlico Basin Requirements			0.00	36.10	0.00
Tar Pamlico	03020101	90.00	0.00	152.17	0.00
Tar Pamlico	03020102	0.00	0.00	0.00	0.00
Tar Pamlico	03020103	2,812.45	870.34	789.34	44.90
Tar Pamlico	03020104	6,588.00	6,583.91	72.17	6,511.73
Tar Pamlico	03020105	0.00	0.00	0.00	0.00
TOTALS Phosphorus		9,490.45	7,454.25	1,049.79	6,556.63

Notes: The future obligations and requirements were deducted from existing unutilized program credits to determine surplus credits within the program. Includes payments made into program as of 12/08/09. Includes program assets as of 12/16/09. Permitted requirements that had basin service areas were met utilizing downstream assets nearest impact.

Appendix E-1. List of Existing Mitigation Banks

Existing Mitigation Banks

Site Name	River Basin	CU	Service Area	Type Bank Credits	Credits Available to Sell?	Sponsor	Comments
Greater Sandy Run Mitigation Bank	Cape Fear	03030007	03030007	Nonriparian Wetland	No	Camp Lejuene	United States Marine Corps (USMC) sponsored bank. Credits used by Department of Defense.
Barra Farms, Phase I	Cape Fear	03030004	Portions of 03030004, 03030005, 03030006	Nonriparian Wetland	No	EcoBank	All credits owned by NCDOT
Pott Creek Mitigation Bank	Catawba	03050102	03050102	Riparian Wetland	No	RK & K	NCDOT contracted bank and purchased most credits. Site has produced more credits than contracted and may be available for sale.
Charlotte Umbrella Stream & Wetland Mitigation Bank	Catawba	03050103	Mecklenburg County	Stream, Riparian Wetland	Uncertain	City of Charlotte & Mecklenburg County	Stream Bank (no wetland credits). Credits may be available to local agencies in Charlotte, the City of Charlotte, and Mecklenburg County.
Stone Farm Regional Mitigation Bank	Lumber	03040206 & 03040207	Portions of 03040206 & 03040207	Stream, Nonriparian Wetland	Uncertain	OIB Developing	Bank recently established.
Neu-Con Umbrella Wetland & Stream Mitigation Bank	Neuse	03020201	03020201 (Westbrook)	Stream, Riparian Wetland, Nonriparian Wetland	Uncertain	Environmental Banc and Exchange (EBX)	NCDOT purchased most of the stream and wetland credits. Some wetland credits, not yet released, are unsold.
		03020202	03020202 (Casey-King)	Nonriparian Wetland	Yes		
		03020202	03020202 (Tull Wooten)	Nonriparian Wetland	Yes		
		03020203	03020203 (Nahunta)	Stream, Riparian Wetland, Nonriparian Wetland	Uncertain		
		03020203	03020203 (Valentine)	Riparian Wetland, Nonriparian Wetland	Uncertain		
		03020203	030020203 (Alexander)	Nonriparian Wetland	No		
		03020204	03020204 (Marston)	Stream, Riparian Wetland	Uncertain		
		03020201	03020201 (Westbrook)	Buffer, Nutrient Offset	Uncertain	Environmental	

Appendix E. List of Existing Mitigation Banks

Existing Mitigation Banks

Site Name	River Basin	CU	Service Area	Type Bank Credits	Credits Available to Sell?	Sponsor	Comments
Neuse Riparian Buffer Mitigation Bank	Neuse	03020203	03020203 (Nahunta)	Buffer, Nutrient Offset	Uncertain	Banc and Exchange (EBX)	EEP purchased 136,299.6 nitrogen reduction credits.
		03020204	03020204 (Marston)	Buffer, Nutrient Offset	Yes		
Forrest Creek Mitigation Bank	Neuse	03020201	03020201	Stream, Buffer	Yes	Mid Atlantic Mitigation	Sponsor not contacted. There may be some available stream credits for sale.
Umbrella Riparian Buffer Bank: Lane Island	Neuse	03020201	03020201	Buffer, Nutrient Offset	Uncertain	Restoration Systems	Bank recently established.
Umbrella Riparian Buffer Bank: Wellons Farm	Neuse	03020201	03020201	Buffer, Nutrient Offset	Yes	Restoration Systems	Bank recently established.
Flat Swamp Mitigation Bank (Buffer/NO)	Neuse	03020202	03020202	Buffer, Nutrient Offset	Uncertain	Greenvest	MBI signed by DWQ on 6/15/2009.
Flat Swamp Stream and Wetland Mitigation Bank	Neuse	03020202	03020202	Stream, Wetlands	Uncertain	Dr. Douglas Fredrick	Based on USACE bank list.
Bear Creek - Sleepy Creek	Neuse	03020202	03020202	Riparian Wetland	No	NOT A BANK	Bank Sponsored and owned by NCDOT
Bear Creek - Mill Branch	Neuse	03020202	03020202	Riparian Wetland	No	Restoration Systems	All credits purchased by NCDOT, only 15% released
Contentnea - Little Contentnea Creek	Neuse	03020203	03020203	Buffer, Nutrient Offset	Yes	Greene Environmental	Bank recently established.
Croatan Wetlands Mitigation Bank	Neuse	03020204	03020204	Riparian Wetland, Nonriparian Wetland	No	NCDOT	NCDOT Sponsored bank, only 15% released
Great Dismal Swamp Restoration Bank	Pasquotank	03010205	03010205	Nonriparian Wetland	Yes	Great Dismal Swamp Bank	NCDOT & EEP has purchased Nonriparian wetland credits from this bank
Hidden Lake Mitigation Bank	Pasquotank	03010205	03010205	Nonriparian Wetland	No	Greenvest	Older bank.
Scuppernon River Corridor Wetland Mitigation Bank	Pasquotank	03010205	03010205	Nonriparian Wetland	No	Greenvest	NCDOT purchased all credits associated with bank.
Hoffman Forest	White Oak	03030001	Onslow County	Nonriparian Wetland	Yes	NCSU College of Natural Resources	EEP purchased all available credits in 2006 - more credits are currently available for sale.
Deep Creek Mitigation Bank	Yadkin	03040101	03040101	Stream, Riparian Wetland	Yes	American Wetlands	NCDOT contracted bank and purchased most credits. Site has produced more credits than contracted and may be available for sale.

Appendix E. List of Existing Mitigation Banks

Existing Mitigation Banks

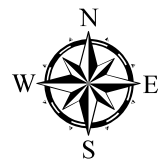
Site Name	River Basin	CU	Service Area	Type Bank Credits	Credits Available to Sell?	Sponsor	Comments
Fisher River Mitigation Bank	Yadkin	03040101	03040101	STR / RW	No	American Wetlands	NCDOT contracted bank and purchased most credits. Site has produced more credits than contracted and may be available for sale.
Louis Berger Wetland Bank	Yadkin	03040102	03040102	Stream, Riparian Wetland	No	Louis Berger	NCDOT contracted bank and purchased all credits associated with bank.

Appendix E2. List of Proposed Mitigation Banks

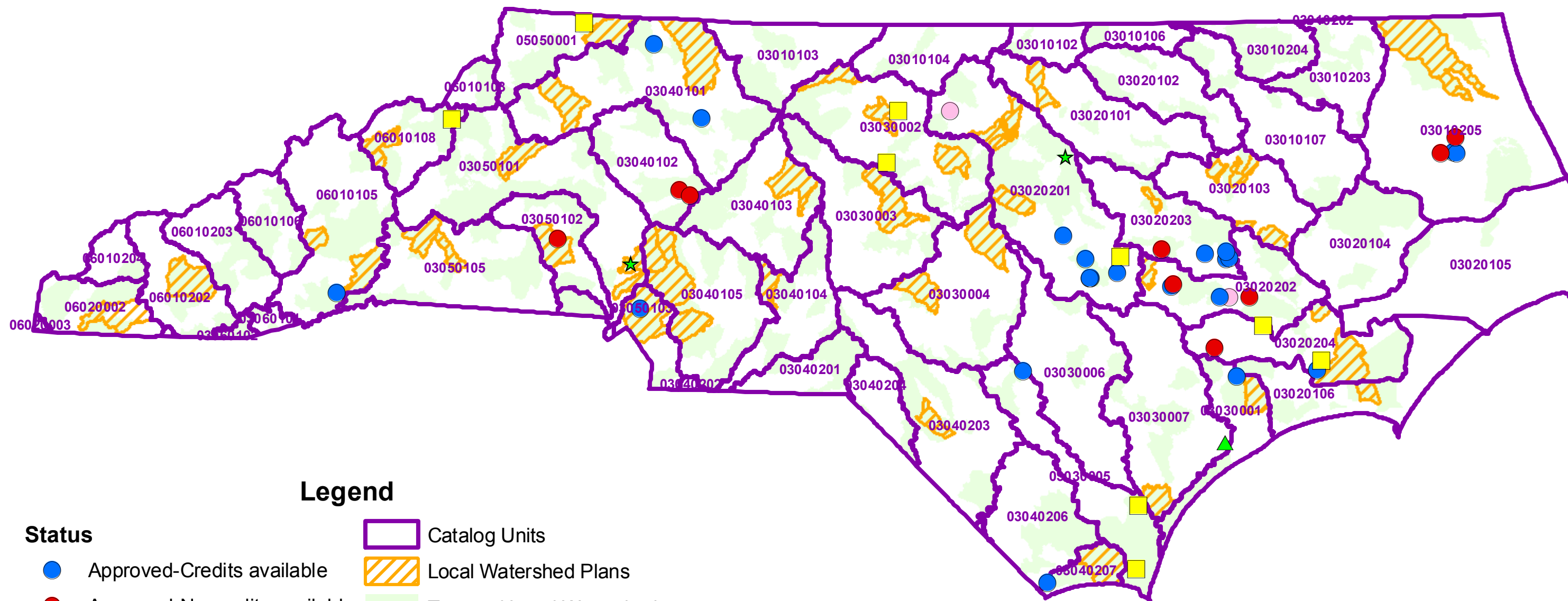
PROPOSED MITIGATION BANKS									Proposed Credits (If documented in proposals)							Source	Comments	Updated
Site Name	River Basin	CU	Site Part of UMBI?	County	Service Area*	Type of Credits	Credits Available to Sell?	Sponsor / Agent	Stream	Riparian Wetlands	Nonriparian Wetlands	Coastal Wetlands	Unspecified Wetlands	Buffer (acres)	Nutrient Offset (N lbs)			
Bass Mountain Stream Mitigation Bank	Cape Fear	03030002		Alamance	03030002	Stream, Buffer	No	Restoration Systems	5,748					18		USACE Public Notice dated 5/29/2009		05/29/09
Carl Lloyd Bank Parcel	Cape Fear	03030002		Orange	03030002	Nutrient Offset	No	Mid-Atlantic Mitigation							25,003.00	DWQ Public Notice		08/14/09
Cripple Creek Wetland & Stream	Cape Fear	03030002		Alamance	03030002	Stream, Riparian Wetland	No	Restoration Systems	4,518	7.85						USACE Public Notice dated 7/10/2008		
Bass Mountain	Cape Fear	03030002		Alamance	03030002	Stream	No	Restoration Systems								DWQ spreadsheet 8/18/08		08/18/08
City of Greensboro Mitigation Bank	Cape Fear	03030002	City of Greensboro UMBI	Guilford	03030002	Stream, wetland, buffer	No	City of Greensboro / Kimely-Horn & Associates								USACE Public Notice dated 10/20/2005		10/20/05
Barra Farms II	Cape Fear	03030005		Cumberland	Central & Southern portions of 03030004 / All of 03030005 & 03030006	Nonriparian	No	Southern Produce Distributors / Land Management Group			1139.5					USACE Public Notice dated 2/5/2009		05/12/09
Lower Cape Fear Umbrella Mitigation Bank - Sneedon Tract	Cape Fear	03030005	Lower Cape Fear UMBI	Brunswick	03030005	Stream, Riparian Wetland, Nonriparian	No	Tri-County Properties LLC / Land Management Group	1,100	9.5	84					USACE Public Notice dated 11/17/2009		11/18/09
Lower Cape Fear Umbrella Mitigation Bank-White Springs Tract	Cape Fear	03030005	Lower Cape Fear UMBI	Brunswick	03030005	Stream, Riparian Wetland, Nonriparian	No	Tri-County Properties LLC / Land Management Group	1,000	5	58					USACE Public Notice dated 11/17/2009		11/18/09
Catawba Umbrella Wetland & Stream Bank - McDowell Creek	Catawba	03050101 / 03050102 / 03050103	Catawba UMBI	McDowell	03050101 / 03050102 / 03050103	Stream, Riparian Wetland, Buffer	No	Mid-Atlantic Mitigation	10,267	4				25		USACE Public Notice dated 10/6/09	Prospectus - part of Catawba Umbrella Wetland & Stream Bank	10/21/09
Shoal Falls Farms	French Broad	06010105		Henderson		Stream, Riparian Wetland	No	Restoration Systems	3,288	0.66						DWQ e-mail	401 approved-part of Cliffs at High Carolina	09/11/09
Ratcliffe Cove	French Broad	06010106		Haywood	06010106	Stream, Wetland	No	Restoration Systems	5,778	1.3						DWQ spreadsheet 8/18/08; USACE Public Notice	Prospectus - Not to DWQ Yet	08/22/08
Farmer Creek	French Broad	06010108		Avery	06010108	Stream, Wetland	No	Restoration Systems	3,420	0.13						DWQ spreadsheet 8/18/08; USACE Public Notice	Prospectus - Not to DWQ Yet - Update from DWQ 3420 STR	09/11/09
City of Raleigh Umbrella Wetland & Stream Mitigation Bank - Cedar Fork Creek	Neuse	03020201	City of Raleigh UMBI	Wake	03020201	Stream, Riparian Wetland, Buffer	No	City of Raleigh	2,270	22						USACE Public Notice dated 10/20/09	Prospectus - part of City of Raleigh Wetland & Stream Bank	10/21/09
Godwin Bay Mitigation Site	Neuse	03020201		Johnston	03020201	Wetland	No	Restoration Systems	0	65.9						USACE Public Notice dated 11/20/08		11/20/08
Little River Farm Parcel	Neuse	03020201		Wayne	03020201	Buffer, Nutrient Offset	No	Wildland's Inc.						6.6	38,186.40	DWQ Public Notice		08/14/09
Neuse Buffer & Nutrient Offset Umbrella Mitigation Bank -Wake Forest Country Club	Neuse	03020201	Neuse Buffer/NO UMBI	Wake		Nutrient Offset	No	Mid-Atlantic Mitigation								DWQ e-mail	Draft UMBI in development. Work appears to be addition to previous EEP project/easement.	09/11/09
Flat Swamp Mitigation Bank	Neuse	03020202		Craven	03020202	Stream, Riparian Wetland, Nonriparian	No	Greenvest	14,300				347					05/12/09
Global Transpark	Neuse	03020202		Lenoir/Craven	Larger GSA Requested	Stream, Wetland	No	PBS & J								DWQ spreadsheet 8/18/08	Prospectus	08/18/08
Neuse Nutrient Offset Bank	Neuse	03020204				Nutrient Offset	No	AER								DWQ e-mail	Draft UMBI in development	09/11/09

Appendix E2. List of Proposed Mitigation Banks

PROPOSED MITIGATION BANKS										Proposed Credits (If documented in proposals)						Source	Comments	Updated
Site Name	River Basin	CU	Site Part of UMBI?	County	Service Area*	Type of Credits	Credits Available to Sell?	Sponsor / Agent	Stream	Riparian Wetlands	Nonriparian Wetlands	Coastal Wetlands	Unspecified Wetlands	Buffer (acres)	Nutrient Offset (N lbs)			
Flat Swamp	Neuse	03020202		Craven	03020202	Stream, Wetland, Nutrient Offset	No	GreenVest								DWQ spreadsheet 8/18/08	Prospectus & MBI Development	08/18/08
Great Dover Swamp	Neuse	03020204		Jones	03020204	Nonriparian	No	Land Management Group	0	1180						USACE Public Notice dated 8/11/2008	Prospectus	08/18/08
Brice Creek	Neuse	03020204		Craven	03020204 & 03020106	Nonriparian	No	Weyerhaeuser Co. / Land Management Group			497.70					USACE Public Notice dated 12/15/08	Prospectus	05/12/09
Halsey Farm	New	05050001		Alleghany		Riparian Wetland	No	Halsey Farm/WNR		22						DWQ e-mail	Pre-Prospectus site visit 8/09	09/11/09
Kitty Creek Coastal Wetland Bank	Pasquotank	03010205		Hyde	03010205 / 03020104 / 03020105	Coastal Wetland	No					11				DWQ e-mail	Prospectus submitted 8/09	09/11/09
Bachelor's Delight Stream & Wetland Bank	White Oak	03030001		Onslow	03030001	Stream, Riparian Wetland, Nonriparian	No	Weyerhaeuser Real Estate Development Co. / Land Management Group	23,993	66	260		76.5			USACE Public Notice dated 5/14/2009	Note - stream preservation proposed at 2.5:1 for credits and wetland preservation is proposed at 3:1 for credits.	05/14/09



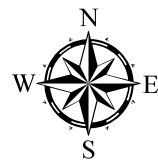
Mitigation Bank Locations October 2009



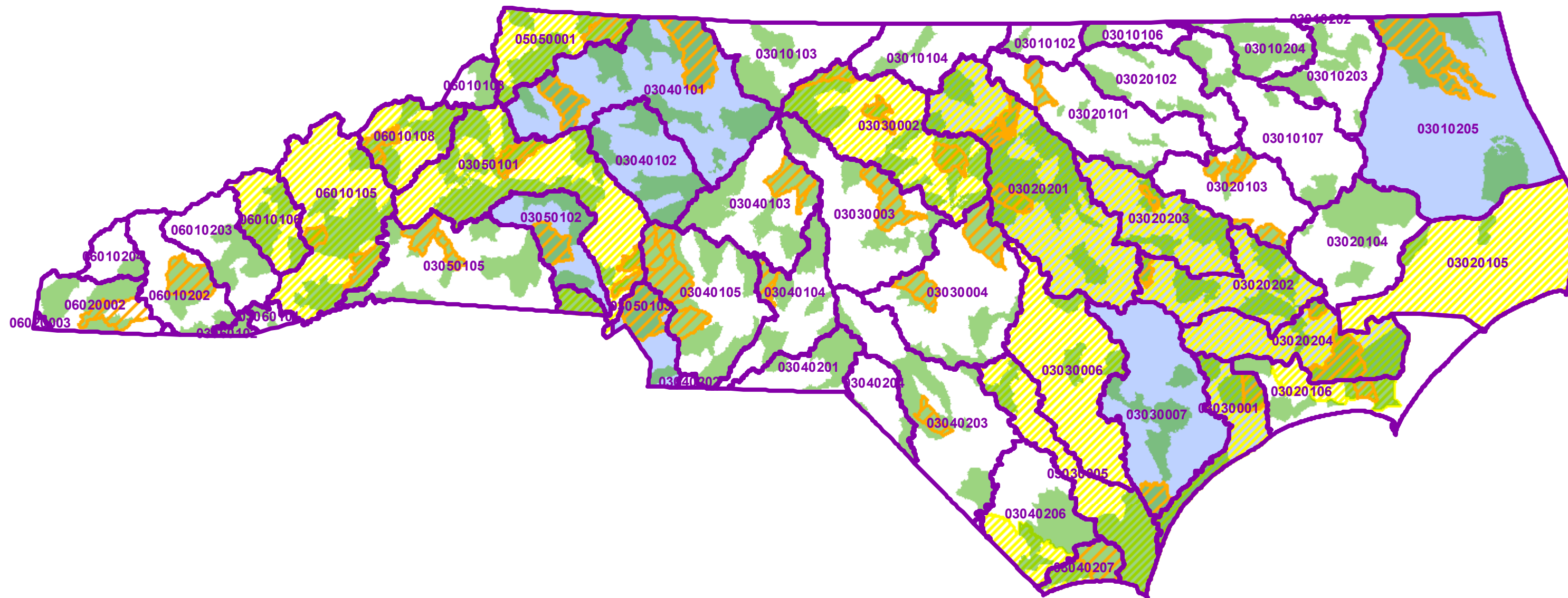
Legend

- | | |
|-------------------------------|---------------------------|
| Status | Catalog Units |
| Approved-Credits available | Local Watershed Plans |
| Approved-No credits available | Targeted Local Watersheds |
| Approved- Credits Unknown | |
| Proposed | |
| USMC credits. | |
| Status and Credits Unknown | |

This map is based on best available data at the time of printing. Additional banks and service areas may exist. Status and Credit availability represented is as reported by regulatory agencies at the time this map was printed and has not been verified with each bank. Credit and statuses may change at any time.



Mitigation Bank Service Areas October 2009



Legend

- | | | |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------|
| Mitigation Bank Service Areas |  | Catalog Units |
|  |  | Local Watershed Plans |
|  |  | Targeted Local Watersheds |

This map is based on best available data at the time of printing. Additional banks and service areas may exist. Service areas shown may be larger or smaller than actual. Geographic extent of service areas is not specified for some banks.