1.1 Workshop and Public Meeting Summaries

In March and April 2003, there were four workshops held by DWQ in the Tar-Pamlico River basin at Louisburg, Nashville, Greenville and Washington. There were 167 people in attendance representing a variety of interests. Figure C-1 gives an estimation of groups/interests represented based on information recorded on attendance sheets.

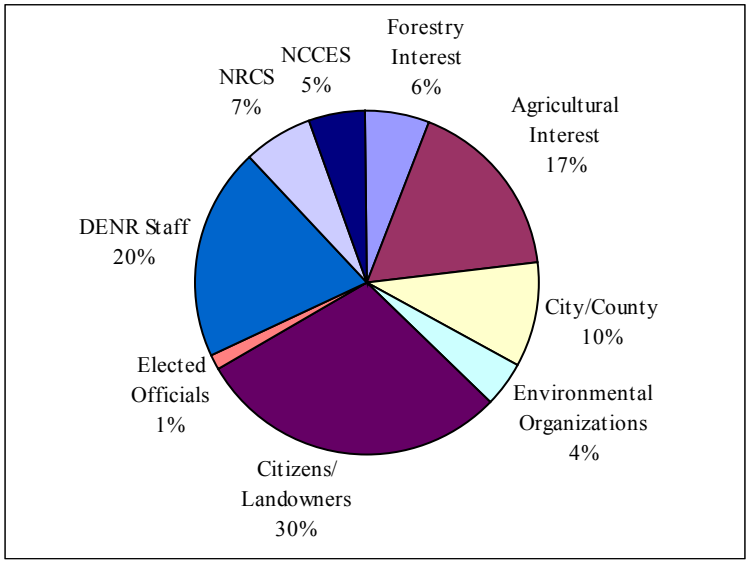


Figure C-1 Percent of Total Attendance by Various Interests at DWQ Water Quality Workshops in the Tar-Pamlico River Basin (2003)

DWQ staff gave presentations about general water quality in the Tar-Pamlico River basin, basinwide planning and the Wetlands Restoration Program. Participants at each workshop also gave brief presentations about local water quality initiatives. Workshop attendees were asked to discuss the following questions in small groups:

1. What are the main threats to water quality in the Tar-Pamlico River basin?
2. Where are the problem areas or waters?
3. What recommendations do you have for addressing these problems/waters?
4. What local agencies or organizations should be involved in addressing the problems?

A detailed outline of each small group's discussion of these questions is available upon request. Good discussion was generated at each workshop, and all of the information was considered and, in some cases, incorporated into this draft plan. The most frequently cited threats to water quality identified by workshop participants are discussed below.

Important Issues Identified at Workshops

The most important issues identified by workshop participants were related to development. Increasing development was a concern identified in the upper basin in Franklin County. There were also concerns that NSW rules were not being enforced. Losses of farm and forestland and increases in impervious surface, home fertilizer use and stormwater runoff were identified as a threat to water quality at all the workshops. Issues related to enforcement of existing rules and monitoring were also of concern at all workshops. Refer to Appendix V for summary tables from the workshops.

Important Issues Identified Through Public Meetings

In December 2003, there were four public meetings held by DWQ in the Tar-Pamlico River basin at Louisburg, Nashville, Greenville and Washington. There were 73 people in attendance representing a variety of interests. Concerns were expressed over the cost of BMP implementation, implementation of the buffer rules, and DOT construction activities. There were also concerns that agriculture related water quality issues were difficult to find in the basin plan. A single summary section was added to condense some of this information.

1.2 Federal Initiatives

1.2.1 Clean Water Act – Section 319 Program

Section 319 of the Clean Water Act provides grant money for nonpoint source demonstration projects (see Table C-1). Approximately $1 million is available annually for demonstration and education projects across the state. Project proposals are reviewed and selected by the North Carolina Nonpoint Source Workgroup, made up of state and federal agencies involved in regulation or research associated with nonpoint source pollution. Information on the North Carolina Section 319 Grant Program, including application deadlines and requests for proposals, are available online at http://h2o.enr.state.nc.us/nps/bigpic.htm.

There are 21 projects in the Tar-Pamlico River basin that have been funded (federal Section 319 money must be matched with nonfederal dollars) through the Section 319 Program between 1997 and 2002.

Many projects sponsored through Section 319 funding have basinwide applications. Many are demonstration projects and educational programs that allow for the dissemination of information to the public through established programs such as through NC State University and the NC Cooperative Extension Service.

Descriptions of the projects listed below and other Section 319 Program information are available online at http://h2o.enr.state.nc.us/nps/319.htm.

Table C-1 Projects Funded Through Clean Water Act Section 319

FY	Project Name	Agency	Description
1997	Outdoor Education Center	Franklin SWCD	General Educational
1997	Tar-Pam Coordinator	DSWC	Agriculture Staffing
1998	Tar-Pam Coordinator	DSWC	Agriculture Staffing
1998	Decision Making for TP SW Rules	NCSU	Urban Stormwater Facilitation
1998	Model Local Stormwater Program	NSCU	Urban Stormwater Facilitation
1999	Tar-Pam Coordinator	DSWC	General Staffing
1999	Cover Crop Establishment Project	Nash SWCD	Agriculture Innovative BMP Demonstration
1999	Nutrient Management Project – Teaching How to Write NMP	Beaufort SWCD	Agriculture Education and BMP installation
2000	Tar-Pam Coordinator	DSWC	Agriculture Staffing
2000	Delineating Ag in Tar-Pamlico River Basin	NCSU Soil Science	Agriculture BMP Modeling
2001	Tar-Pamlico Coordinator	DSWC	Agriculture Staffing
2001	Tar-Pamlico TMDL Technical Support for TMDL Implementation	DSWC	TMDL Staffing
2002	Tar-Pamlico Coordinator	DSWC	Agriculture Staffing
2002	Effects of Drainage Ditches and Roads on Watershed Ecology Hydrology, and Water Quality within the Emily and Richardson Pryer-Buckridge Coastal Reserve	DCM and NCSU	Wetlands and Hydrologic Modification and Wetlands Enhancement
2002	NPS Land Use Data Collection and Inventory Development	DSWC	Agriculture Mapping/GIS
2002	Delineating Ag in Tar-Pamlico River Basin	NCSU Soil Science	Agriculture BMP Modeling
2002	Tar-Pamlico Technical Assistance - Agricultural Nutrient Reduction	DSWC & DWQ	Agriculture Staffing
2002	Small Watershed Monitoring for Effectiveness of Tar-Pamlico and Neuse Agriculture Rules	DSWC & DWQ	Urban Stormwater Monitoring
2003	Tar-Pam Coordinator	DSWC	General Staffing
2003	Retrofitting Stormwater BMPS in the Neuse and Tar-Pamlico River Basins	NCSU	Urban Stormwater BMP Demonstration
2003	Tar-Pamlico Ag BMP Implementation	DSWC	Agriculture TMDL Implementation

1.2.2 USDA – NRCS Environmental Quality Improvement Program (EQIP)

The Environmental Quality Incentives Program provides technical, educational and financial assistance to eligible farmers and ranchers to address soil, water and related natural resource concerns on their lands in an environmentally beneficial and cost-effective manner. The program provides assistance to farmers and ranchers in complying with federal and state environmental laws and encourages environmental enhancement. The purposes of the program are achieved through the implementation of a conservation plan that includes structural, vegetative and land management practices on eligible land. Five to ten-year contracts are made with eligible producers. Cost share payments may be made to implement one or more eligible structural or vegetative practices, such as animal waste management facilities, terraces, filter strips, tree planting and permanent wildlife habitat. Incentive payments can be made to implement one or more land management practices, such as nutrient management, pest management and grazing land management.

Fifty percent of the funding available for this program will be targeted at natural resource concerns relating to livestock production. The program is carried out primarily in priority areas that may be watersheds, regions or multistate areas and for significant statewide natural resource concerns that are outside of geographic priority areas. EQIP's authorized budget of $1.3 billion is prorated at $200 million per year through the year 2002.

NRCS district contacts for the Tar-Pamlico River basin are included on the nonpoint source contact sheet found in Appendix VI or visit the website at http://www.nc.nrcs.usda.gov/Programs/eqip.htm for more information.

1.3 State Initiatives

1.3.1 Albemarle-Pamlico National Estuary Program

The Albemarle-Pamlico National Estuary Program (APNEP), formerly known as the Albemarle-Pamlico Estuarine Study (APES), was among the first National Estuary Programs established by the EPA in 1987. The mission of the APNEP is to identify, restore and protect the significant resources of the Albemarle-Pamlico estuarine system. Unlike traditional regulatory approaches to environmental protection, the APNEP is a cooperative effort jointly sponsored by the North Carolina Department of Environment and Natural Resources (NCDENR) and the US Environmental Protection Agency (EPA) in cooperation with the Virginia Department of Conservation and Recreation (DCR). This unique program targets a broad range of issues and engages local communities in the process.

The program focuses not just on improving water quality in the region's estuaries, but on maintaining the integrity of the whole system -- its chemical, physical and biological properties, as well as its economic, recreational and aesthetic values. Important components of the APNEP are the consideration of water quality, fisheries resources, land and water habitats, and the interaction of humans with the natural resources of the estuarine system. The APNEP is designed to encourage local communities to take responsibility for managing the resources in their respective jurisdictions.

Comprehensive Conservation and Management Plan

Since 1987, research generated by the APNEP has been instrumental to the development of a Comprehensive Conservation and Management Plan (CCMP). This plan is composed of recommendations for management strategies that address concerns in the Albemarle-Pamlico Sounds region and to protect the system's estuarine resources.

During the development of the CCMP, the APNEP was guided by a 95-member Management Conference that represented diverse interests. Four committees were responsible for identifying problems in the estuarine system, generating research where gaps in knowledge existed, increasing public awareness of environmental issues, and finding solutions to address those issues. As a result of these efforts, more is known about the Albemarle-Pamlico estuarine system than ever before.

One of the recommendations of the CCMP was to develop a regional council in each of the five major river basins within the Albemarle-Pamlico watershed. The purpose for establishing the regional councils was to engage the public in the implementation of CCMP management actions, and in 1995, an Executive Order was issued by the Governor of North Carolina calling for their creation.

CCMP Development Involved Diverse Interests Including:

- Federal and state government
- University researchers
- Environmental groups
- Agriculture representatives
- Forestry interests
- Industry representatives
- Developers
- Fishermen
- Local elected officials

The APNEP is administered by program staff located in Raleigh, Washington and Greenville, NC and Suffolk, Virginia. Staff work closely with the EPA to implement the many objectives and key management actions contained in the Comprehensive Conservation and Management Plan.

Tar-Pamlico River Basin Regional Council

The river basin regional council is comprised of elected and appointed county and municipal officials, representatives from agriculture, silviculture, commercial and recreational fishing, conservation, environmental science, business/industry and tourism group. The council is charged with identifying and implementing a demonstration project that utilizes innovative or unique management strategies to address a priority watershed problem. The council provides a forum for public involvement in the APNEP.

For more information regarding the Albemarle-Pamlico National Estuary Program, the Tar-Pamlico River Basin Regional Council, or the Comprehensive Conservation and Management Plan, visit the website at http://www.apnep.org.

1.3.2 NC Agriculture Cost Share Program

The North Carolina Agriculture Cost Share Program was established in 1984 to help reduce the sources of agricultural nonpoint source pollution to the state's waters. The program helps owners and renters of established agricultural operations improve their on-farm management by

using best management practices (BMPs). These BMPs include vegetative, structural or management systems that can improve the efficiency of farming operations while reducing the potential for surface and groundwater pollution. The Agriculture Cost Share Program is a voluntary program that reimburses farmers up to 75 percent of the cost of installing an approved BMP. The program is implemented by the Division of Soil and Water Conservation (DSWC). The cost share funds are paid to the farmer once the planned control measures and technical specifications are completed. The annual statewide budget for BMP cost sharing is approximately 6.9 million.

From 1997 to 2003, $5,797,748 was provided for projects in counties wholly or partially in the Tar-Pamlico River basin. The projects affected over 116,000 acres (NCDENR-DSWC, October 2003, personal communication).

Soil and Water Conservation District contacts for the Tar-Pamlico River basin are included in Appendix VI or visit the website at http://www.enr.state.nc.us/DSWC/files/acs.htm for more information.

Agricultural Sediment Initiative

In 2000, the NC Association of Soil and Water Conservation Districts and the NC Soil and Water Conservation Commission initiated an effort to assess stream channels and watersheds of streams on the state's 2000 303(d) list due to sediment where agriculture was included as a potential source. The primary objective of the Agricultural Sediment Initiative is to evaluate 303(d) listed waters in order to assess the severity of sedimentation associated with agricultural activities within the watershed and to develop local strategies for addressing sedimentation both in stream and in the watershed. The initiative involved 47 Impaired stream segments in 34 counties and 11 river basins.

In 2001, the Soil and Water Conservation Commission allocated $1 million of Agriculture Cost Share Funds to 17 soil and water conservation districts to implement agricultural BMPs in selected watersheds of Impaired streams. This funding was complemented by funds from the Clean Water Management Trust Fund ($1 million for agricultural BMPs in the Haw River and Ararat River watersheds in Alamance and Surry counties) and the EPA Section 319 Program ($367,900 for agricultural BMPs in six soil and water conservation districts).

Table C-2 summarizes the results of Agricultural Sediment Surveys for three watersheds in three counties in the Tar-Pamlico River basin. District staff requested approximately $161,000 for restoration and protection work in the Chicod Creek watershed.

Table C-2 Summary of Agricultural Sediment Initiative Surveys

Stream	County	Problems Identified	Funds Requested by District
Chicod Creek	Pitt	• Streambank erosion • Development causing increased stormwater runoff	$161,000
Fishing Creek	Granville	Assessment not yet completed	

Stony Creek	Nash	Assessment not yet completed	

1.3.3 Coastal Habitat Protection Plans

The North Carolina Fisheries Reform Act of 1997 requires the North Carolina Department of Environment and Natural Resources to prepare Coastal Habitat Protection Plans (CHPPs) for the "long-term enhancement of coastal fisheries associated with each coastal habitat…." The plans describe the fisheries, fishery habitats and water quality affecting coastal fisheries stocks in the eight river basins that drain to the coast of North Carolina. Although staff of the Division of Marine Fisheries (DMF) is responsible for actually writing the plans, DWQ and the Wildlife Resources Commission, as well as the Divisions of Coastal Management (DCM) and Environmental Health (DEH), are heavily involved in the program. The Environmental Management, Coastal Resources and Marine Fisheries Commissions review and approve the plans, and those commissions are responsible for any new rules necessary for implementation of the plans.

The plans are organized by geographic area with 11 management units, including the Tar-Pamlico River basin, that generally correspond with the DWQ Basinwide Planning Program units. A general source document includes regional and summary information. The management unit plans are specific to their areas, including detailed information and specific recommendations addressing conservation, habitat protection and enhancement, water quality improvement, research and monitoring, and administrative actions. A complete plan includes both the source document and the management unit plan. The first two area plans are underway in 2001: Chowan and Coastal Ocean.

For additional information about CHPPs, contact Mike Street by calling 1-800-682-2632 (in NC) or by email at mike.street@ncmail.net. You may also visit the DMF website at http://www.ncfisheries.net/habitat/chpp1.htm.

1.3.4 Ecosystem Enhancement Program

In July 2003, the NC Wetlands Restoration Program was officially merged with compensatory mitigation resources of the NCDOT to become the Ecosystem Enhancement Program (EEP). EEP is administered as a new program area within NCDENR and has essentially replaced the WRP. EEP's central mission includes the same goals of the former WRP. The Memorandum of Agreement of July 2003 between NCDENR, NCDOT and the Army Corps of Engineers further stipulates that EEP mitigation projects will be: 1) provided in advance of the permitted NCDOT impacts; 2) designed to address functional replacement of stream, buffer and wetlands impacts; and 3) identified and implemented within the context of a watershed approach based on multiple scales of planning.

The EEP planning approach will continue to include the development of *Watershed Restoration Plans* on a basinwide scale, GIS-based screening analyses of 8-digit cataloguing units (CUs), and local watershed planning (LWP) initiatives applied at the scale of 14-digit hydrologic units (HUs) and component subwatersheds. A new *Planning Guide* will be prepared in 2004 to describe the updated EEP approach to watershed restoration planning at these various scales, including the selection of *Targeted Local Watersheds*, which will continue to play a key role in our program's watershed restoration strategies.

EEP is a nonregulatory program responsible for implementing wetland and stream restoration projects throughout the state. The focus of the program is to improve watershed functions in the 17 river basins across the state by restoring wetlands, streams and riparian buffers within selected local watersheds. These vital watershed functions include water quality protection, floodwater retention, fisheries and wildlife habitat, and recreational opportunities. The EEP is not a grant program. Instead, the program funds local restoration projects directly through the Wetlands Restoration Fund.

Restoration sites are targeted through the development and use of Watershed Restoration Plans (formerly called "Basinwide Wetland and Riparian Restoration Plans"). The restoration plans are developed, in part, using information compiled in DWQ's Basinwide Water Quality Plans and Basinwide Assessment Reports. The EEP Plans evaluate resource data and existing water quality initiatives within local watersheds in order to select "Targeted Local Watersheds". Targeted Local Watersheds are areas with the greatest need and opportunity for stream and wetlands restoration efforts, and where EEP resources can be most efficiently focused for maximum restoration benefit. The EEP Watershed Restoration Plans are updated every five years on the same timeline as DWQ's Basinwide Water Quality Plans.

The selection of Targeted Local Watersheds (at the scale of NRCS 14-digit Hydrologic Units, or HUs) does not necessarily restrict the location of EEP restoration project sites. However, these targeted HUs are given higher priority than nontargeted HUs in considering the selection of EEP candidate restoration project sites. Targeted Local Watersheds are simply local watersheds where stream, wetland and riparian buffer restoration projects will make the most sense in the context of overall watershed and wetlands protection.

The EEP can perform restoration projects cooperatively with other state or federal programs or environmental groups. For example, the EEP's efforts can complement projects funded through the Section 319 Program. Integrating wetlands or riparian area restoration components with Section 319-funded or proposed projects will often improve the overall water quality and habitat benefits of the project. The EEP actively seeks landowners within the Tar-Pamlico River basin that have restorable wetland, riparian and stream sites.

For more information about the EEP and its Watershed Restoration Plans, please contact Hal Bryson at (919) 733-5208 or visit the DWQ website at http://h2o.enr.state.nc.us/ (click on Wetlands Restoration Program).

Table C-3 below lists the EEP's Targeted Local Watersheds [stream names and 14-digit HU codes] in the Tar-Pamlico River basin. This table also indicates the pertinent factors that led to the selection of each Targeted Local Watershed. The Targeted Local Watersheds are selected on the basis of available data indicating the need and opportunity for local stream and wetlands restoration projects. Factors such as water quality problems, degraded aquatic habitat, cleared riparian buffers, significant natural areas or species, and increasing development pressures in the watershed are weighted heavily in determining these priority watersheds. Also, the presence of existing or planned water quality or habitat restoration projects in the same local watershed can be a significant factor in the choice of these watersheds. In some cases, EEP has used the water quality information alone (e.g., use impairment, potential increases in nonpoint source pollution)

to support the selection of a specific Targeted Local Watershed. Targeted local watersheds are presented in Figure C-2.

The EEP is also working to develop comprehensive Local Watershed Plans within certain Targeted Local Watersheds identified in the Watershed Restoration Plans. These locally-based plans develop comprehensive watershed assessments to identify causes and sources of nonpoint source impairment. They also identify and prioritize wetland areas, stream reaches, riparian buffer areas and best management practices that will provide significant water quality and habitat improvements and other environmental benefits to local watersheds. The EEP will coordinate with local community groups, local governments and others to develop and implement these plans.

Selection of a watershed as a Targeted Local Watershed does not mean that a Local Watershed Plan will be initiated in that area. Local Watershed Plans are developed in areas that have extensive future mitigation needs, while Targeted Local Watersheds are selected as part of the EEP planning process for the Basinwide Watershed Restoration Plans.

The plans also identify and prioritize wetland areas, stream reaches, riparian buffer areas and best management practices that will provide significant water quality improvement and other environmental benefits to the local watershed. There is currently one local watershed planning effort underway in the Tar-Pamlico River basin and it is described below.

Tar-Pamlico Local Watershed Plan

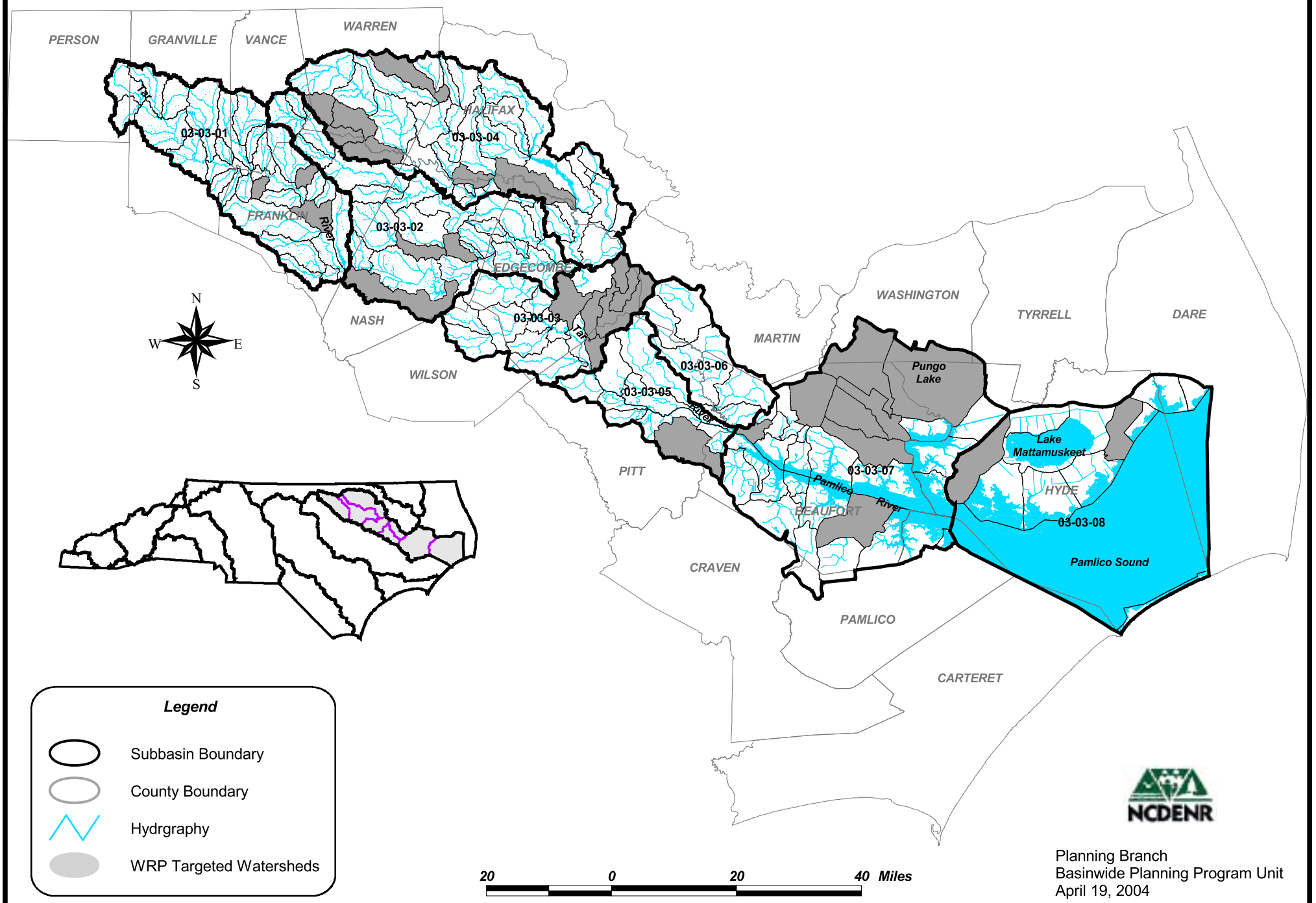
The EEP initiated a Local Watershed Planning effort in August 2003 to identify watershed functional deficits and assets with an emphasis on water quality, aquatic and terrestrial habitat, and hydrology within the Tar-Pamlico watershed. The watershed area encompasses Hendricks Creek; Crisp Creek, a tributary of Conetoe Creek; Greens Mill Run; and Cow Swamp, a major tributary of Chicod Creek; as well as the towns of Princeville and Tarboro and the City of Greenville. The end result of this planning effort will yield wetland, stream and riparian buffer enhancement and restoration projects, best management practice projects, as well as some policy and protection recommendations. Several of the creeks and streams within this area are classified as Nutrient Sensitive Waters; and thus, restoration and functional rehabilitation efforts are likely to be focused on this key degradation issue. The technical assessment for this effort will be completed in 2004, and the Local Watershed Plan will be completed in 2005.

Table C-3 Ecosystem Enhancement Program Targeted Local Watersheds (2004)

Subbasin	Local Watershed Name and HU code	Impaired Stream(s)	Public Water Supply	SA Waters	ORW or HQW	Aquatic NHP Elements	Existing, Planned Projects	Local Resource Professional Recommendation
03-03-01	03020101040020 Billys Creek	No	No	No	No	No	Yes EEP	
03-03-01	03020101040060 Bear Swamp Creek	No	No	No	No	No	Yes EEP	
03-03-01	03020101040070 Wolfpen Branch	No	No	No	No	No	Yes EEP	
03-03-02	03020101000020 Stony Creek	Yes	No	No	No	No	No	
03-03-02	03020101000040 Stony Creek	Yes	No	No	No	No	No	
03-03-02	03020101080020 Tar River Reservoir	No	Yes	No	No	No	No	
03-03-03	03020103050010 Conetoe Creek	Yes	No	No	No	No	Yes EEP	
03-03-03	03020103050020 Conetoe Creek	Yes	No	No	No	No	Yes EEP	
03-03-03	03020103050030 Conetoe Creek	Yes	No	No	No	No	Yes EEP	
03-03-03	03020103050040 Conetoe Creek	Yes	No	No	No	No	Yes EEP	
03-03-03	03020103050050 Conetoe Creek	Yes	No	No	No	No	Yes EEP	
03-03-03	03020103010020 Hendricks Creek	No	No	No	No	No	Yes EEP	
03-03-04	03020102010010 Shocco Creek	No	No	No	No	Yes	No	Yes
03-03-04	03020102010020 Shocco Creek	No	No	No	No	Yes	No	Yes

Subbasin	Local Watershed Name and HU code	Impaired Stream(s)	Public Water Supply	SA Waters	ORW or HQW	Aquatic NHP Elements	Existing, Planned Projects	Local Resource Professional Recommendation
03-03-04	03020102010030 Little Shocco	No	No	No	No	Yes	No	Yes
03-03-04	03020102010040 Shocco Creek	No	No	No	No	Yes	No	Yes
03-03-04	03020102030030 Little Fishing Creek	No	No	No	No	Yes	No	Yes
03-03-04	03020102040010 Fishing Creek	No	No	No	No	Yes	No	Yes
03-03-05	03020103080010 Chicod Creek	Yes	No	No	No	No	Yes SWCD	No
03-03-07	03020104020020 Kennedy Creek	Yes	No	No	No	No	No	No
03-03-07	03020104060020 South Creek	Yes	No	Yes	No	No	No	No
03-03-07	03020104110010 Upper Pungo Creek	Yes	No	No	No	No	No	No
03-03-07	03020104110020 Lower Pungo Creek	Yes	No	Yes	No	No	No	No
03-03-07	03020104010010 Middle Pantego Creek	Yes	No	Yes	No	No	No	No
03-03-07	03020104010020 Lower Pantego Creek	Yes	No	Yes	No	No	No	No
03-03-07	03020104080010 Upper Pantego River	No	No	No	No	No	No	No
03-03-07	03020104090010 Pungo River	No	No	No	No	No	No	No
03-03-08	03020105070010 Waupopin Creek	Yes	No	Yes	Yes	No	No	No
03-03-08	03020105030010 Germantown Bay	Yes	No	Yes	Yes	No	No	No

Figure C-2 EEP Targeted Watersheds Map of the Tar-Pamlico River Basin



1.3.5 Clean Water Management Trust Fund

The Clean Water Management Trust Fund offers approximately $40 million annually in grants for projects within the broadly focused areas of restoring and protecting state surface waters and establishing a network of riparian buffers and greenways. In the Tar-Pamlico River basin, 20 projects have been funded for a total of $16,911,235 (Table C-4). For more information on the CWMTF or these grants, call (252) 830-3222 or visit the website at www.cwmtf.net.

Table C-4 Projects in the Tar-Pamlico River Basin Funded by the Clean Water Management Trust Fund (as of 6/03)

Project Number	Application Name	Proposed Project Description	Amount Funded
1997B-501	Bethel – Sewer Rehabilitation	Rehabilitate Bethel's existing wastewater collection system in order to reduce groundwater and rainwater inflow and infiltration into the sanitary sewer system.	$1,531,000
2001B-009	Greenville – Acquisition & Greenway / Tar River and Town Creek	Acquire through fee simple purchase 1.1 acres along one side of the Tar River and Town Creek. Land to become part of an existing greenway system.	$74,000
1997A-018	Grimesland – Wastewater Collection System	Eliminate failing septic systems in Grimesland (230 users – residential, commercial and one school) adjacent to Chicod Creek. CWMTF to provide 15 percent of funds to establish community sewer collection system (30,000 LF) to deliver waste to Greenville WTTP.	$425,000
2001B-012	Louisburg – Acquisition & Greenway / Joyner Town Park / Tar River	Acquire 50 acres through fee simple purchase along the Tar River. Incorporate property into existing greenway system.	$252,000
1999A-704	Mid-East RC&D – Stormwater and Restoration and BMPs / Mill Creek	Construct instream wetland, install water control structures, acquire buffers, and monitor above and below project. Education also.	$333,535
2002A-506	Nash-Rocky Mount Schools – Wastewater Reuse	Eliminate Southern Nash Middle School's discharge, combine with discharge from the Boys and Girls Club and land apply. Includes donation of a permanent conservation easement and greenway trail on 37.5 riparian acres.	$408,000
2000A-007	Nature Conservancy – Acquisition / Fishing Creek	Acquire through fee simple purchase (105 acres) and a permanent conservation easement (100 acres) 201 acres along Fishing Creek.	$210,000
2002A-022	NC Coastal Land Trust – Acquisition / Smith Creek	Acquire 261 acres through fee simple purchase along Smith Creek. CWMTF would fund purchase of 58 percent of the tract.	$313,000
1999A-004	NC Coastal Land Trust – Otter Creek and Tar River Acquisition	Acquire through fee simple purchase 136 acres of riparian buffer along Otter Creek and the Tar River. Total protected acreage of 285 acres includes donated permanent conservation easements on an additional 149	$258,000

		acres.	
2001A-014	NC Coastal Land Trust – Springers Point / Ocracoke Island Acquisition	Acquire through fee simple purchase 31 acres along Pamlico Sound and Old Slough on Ocracoke Island.	$2,016,000
2000A-012	NC Wildlife Resources Commission – Acquisition / Shocco Creek and Maple Branch	Acquire through fee simple purchase 1,623 acres along Shocco Creek. CWMTF funds to acquire the 468 acres of riparian buffers.	$1,132,000
2001A-021	NC Wildlife Resources Commission – Goose Creek Acquisition	Acquire through fee simple purchase 303 acres (Windsong Tract) along Smith, Campbell and Carrie Creeks.	$1,045,000
1999A-006	NC Wildlife Resources Commission – Hyde Co Acquisition / Pamlico Sound and Alligator River	Acquire two tracts through fee simple purchase totaling 8,848 acres along Pamlico Sound and Lake Mattamuskeet.	$2,710,000
1999B-012	NC Wildlife Resources Commission – Van Swamp Tract Acquisition	Acquire through fee simple purchase 5,784 acres along Van Swamp.	$1,172,700
1997B-011	Pamlico -Tar River Foundation – Restor / Local Outreach / Swift and Fishing Creek	Educate landowners on buffers and restoration. Restore Gupton property ($8,000) on Sandy/Swift Creeks with water control, moving streamside road, and planting buffer.	$27,000
1997A-010	Rocky Mount – Acquisition / Tar River	Acquire a buffer strip of approximately 412 acres along 8.5 miles of the Tar River between the Tar River Reservoir and the Sunset Avenue Water Treatment Plant.	$200,000
2000A-516	Scotland Neck – Sewer Rehabilitation	Rehabilitate Scotland Neck's existing wastewater collection system (8,000 LF) and repair 19 manholes in order to reduce groundwater and rainwater inflow and infiltration into the sanitary sewer system.	$430,000
2001A-507	Scotland Neck – WWTP Improvements	Replace obsolete and failing components of the wastewater treatment plant (WWTP) including: refurbishment of an in-plant pump station, repair of the grit removal auger, and renovation of one clarifier.	$100,000
2001A-508	Spring Hope – Sewer Rehabilitation	Replace 2,179 linear feet of a partially collapsed sewer line in Spring Hope.	$201,000
1998B-706	Washington – Constructed Wetlands / Pamlico River	Make major modifications to stormwater management system to cease direct discharges, and reroute stormwater through a grassed swale into a created wetlands for treatment of one third of city's drainage. Replace road with greenway.	$4,073,000
		Total Funded	$16,911,235

1.3.6 North Carolina Stream Watch

The realization that local residents are best suited to keep an eye on their nearby waterways is what prompted North Carolina to begin project Stream Watch. With Stream Watch, citizen's groups "adopt" a waterway, or a portion of one, and act on its behalf. Stream Watchers become the adoptive parents of a stream and, as such, become its primary caretakers.
With the help of the Department of Environment and Natural Resources' Division of Water Resources, Stream Watchers become informed stewards, learning how to react to the changing stream conditions. Local efforts combined with state support allow North Carolina's 37,000 miles of waterways to be monitored by those with the best view--local residents. For more information on Stream Watch, call (919) 715-5433 or visit the website at http://www.ncwater.org/Education_and_Technical_Assistance/Stream_Watch/.

1.3.7 North Carolina Coastal Nonpoint Source Program

Section 6217 of the Federal 1990 Coastal Zone Act Reauthorization Amendments (CZARA) requires every state participating in the Coastal Zone Management Act Program to develop a Coastal Nonpoint Source Program (CNPSP). The purpose of this requirement, as stated in the Act, is to "strengthen the links between Federal and State coastal zone management and water quality management programs and to enhance State and local efforts to manage land use activities that degrade coastal waters and coastal habitats." To accomplish these goals, the federal agencies established 56 Management Measures that are to be used by each state to address the following nonpoint source pollution categories (first five items) and that provide tools to address the various sources of nonpoint pollution (last item):

- *Agricultural Sources*
- *Forestry*
- *Urban Areas* (urban runoff; construction activities; existing development; on-site disposal systems; pollution prevention; and roads, highways and bridges)
- *Marinas and Recreational Boating* (siting and design; and marina and boat operation/maintenance)
- *Hydrologic Modification* (channelization and channel modification; dams; and streambank and shoreline erosion)
- *Wetlands, Riparian Areas and Vegetated Treatment Systems*

At the federal level, the program is called the Coastal Nonpoint Pollution Control Program and is administered jointly by the National Oceanic and Atmospheric Administration (NOAA) and the Environmental Protection Agency (EPA). Within North Carolina, the state program is administered by the Division of Water Quality (DWQ) and the Division of Coastal Management (DCM) and is referred to as the Coastal Nonpoint Source Program. The state program currently has one full time permanent staff person and one temporary employee, both located in the Nonpoint Source Planning Unit of DWQ.

The 56 Management Measures are defined in Section 6217(g)(5) of CZARA as: "economically achievable measures for the control of the addition of pollutants from existing and new categories and classes of nonpoint sources of pollution, which reflect the greatest degree of pollutant reduction achievable through application of the best available nonpoint pollution control practices technologies, processes, siting criteria, operating methods or other alternatives." Detailed descriptions of the management measures, where they are intended to be applied, their

effectiveness, and their costs can be found in EPA's *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters* at the following website: http://www.epa.gov/owow/nps/MMGI/.

North Carolina received approval from NOAA and EPA for its state program on August 13, 2003. To receive this approval, North Carolina had to identify that we have enforceable policies and mechanisms for the 56 Management Measures and establish our program boundary. We are now required to develop a strategy to ensure all applicable Management Measures to protect and restore water quality are implemented within 15 years.

North Carolina is relying on existing authorities and programs and proposed projects to meet federal requirements, but it may become apparent in the future that additional Management Measures and new regulations are needed to address significant sources of nonpoint sources. If a need arises for new or modified regulations, they would be proposed under existing agency frameworks.

The core of the state's CNPSP is increased communication and coordination between DWQ and key state agencies that have regulatory responsibilities for controlling nonpoint sources of pollution. This increased dialogue is facilitated in part by the state's CNPSP Coordinator and promotes identification of gaps, duplications, inadequacies and/or inefficiencies of existing programs and policies. Responsibilities of the state program coordinator also include developing the 15-year Strategy Plan, serving as a liaison between DWQ and DCM, and participating in the development of nonpoint source outreach and educational activities. For more information, contact the NC Coastal Nonpoint Source Program Coordinator at (919) 733-5083, ext. 567 or gloria.putnam@ncmail.net.

1.3.8 North Carolina Flood Plain Mapping Program

The State of North Carolina, through the Federal Emergency Management Agency's (FEMA's) Cooperating Technical Partnership initiative, has been designated as the first Cooperating Technical State (CTS). As a CTS, the state will assume primary ownership and responsibility of the National Flood Insurance Program (NFIP). Flood Insurance Rate Maps (FIRMs) for North Carolina CTS Flood Mapping Program will include conducting flood hazard analyses and producing updated, digital FIRMs. For more specific information on the Tar-Pamlico River basin efforts, visit the website at http://www.ncfloodmaps.com/pubdocs/Final_Basin_Plan_TarPamlico.pdf.

1.4 Regional Initiatives

1.4.1 Tar River Land Conservancy and Upper Tar River Collaboration

The Tar River Land Conservancy (TRLC) was founded in 2000 as a 501c(3), and its mission is to preserve the natural and cultural resources of the Tar River basin by working in partnership with private landowners, businesses, public agencies and others to protect rural landscapes and riparian corridors. Its governing board of directors represents a diverse cross-section of landowners, government agencies, business people and industry from across the watershed. TRLC maintains an office at 211 N. Main Street in Louisburg and works primarily in the following counties: Edgecombe, Franklin, Granville, Halifax, Nash, Person, Vance and Warren.

Since inception, TRLC has protected over 1,500 acres of land, with a goal for the next five years to protect 5,000 acres more.

TRLC focuses its land protection work along riparian corridors in Swift Creek, Fishing Creek and the headwaters of the Tar River (that portion of the Tar River West of Highway 85). TRLC concentrates on these areas in order to protect aquatic biodiversity and preserve open space. TRLC's efforts are guided by Riparian Corridor Conservation Plans for Swift Creek and Fishing Creek subbasins; these plans identify priority tracts for both restoration and preservation and are catalogued in an extensive GIS database. TRLC is working on the plan for the Tar River headwaters section that will be completed by late 2003. Land protection is accomplished primarily in the form of conservation easements with private landowners.

Tar River Land Conservancy serves as the coordinating entity for the Upper Tar River Collaboration, a group of individuals who have a strong interest in protecting the Tar River and its natural resources. Collaborators include US Fish and Wildlife Service, NC Wildlife Resources Commission, The Nature Conservancy, NC Department of Environment and Natural Resources, NC Natural Heritage Program, Natural Resource Conservation Service, NC Division of Forest Resources, county representatives, the Council of Governments, Conservation Reserve Enhancement Program, Department of Transportation and other individuals. The group works to address resource needs in the Upper Tar River through information sharing, collaboration on grants and future planning needs, and partnerships on land protection projects. Results from the collaboration include funding by the US Fish and Wildlife Service Private Stewardship Program for an incentive project to fence cattle out of Fishing Creek and Swift Creek. For more information, visit the website at http://www.tarriver.org/.

1.4.2 Pamlico Tar River Foundation

The Pamlico Tar River Foundation was founded in 1981. It is a private, nonprofit organization dedicated to protecting, preserving and promoting the environmental quality of the Tar-Pamlico River and its watershed. PTRF is a grassroots organization, supported by nearly 1,400 citizen members -- "River Givers". PTRF achieves its mission through education, advocacy and research. Starting in 2003, the foundation started sponsoring the Tar-Pamlico Riverkeeper®. For more information or to get involved, visit the website at http://www.ptrf.org/ or contact the Riverkeeper at riverkeeper@ptrf.org.

1.4.3 Tar-Pamlico Basin Association

A coalition of 16 point source dischargers called the Tar-Pamlico Basin Association (Association), comprising approximately 93 percent of permitted point source flows, agreed to a collective annual, incrementally decreasing, combined nitrogen and phosphorus loading cap. If they exceeded their cap, they would pay a per-kg offset fee to fund agricultural nutrient best management practices (BMPs) to be targeted within the basin under the state's Agriculture Cost Share Program. See also page 61 for further information. The Association is forming a monitoring coalition (page 85).