

Chapter 22

Water Quality Initiatives

22.1 The Importance of Local Initiatives

As the Basinwide Planning Program completes its fourth cycle of plan development, there are many efforts being undertaken at the local level to improve water quality. Information about local efforts particular to a watershed or subbasin is included in Chapters 1-14. DWQ encourages local agencies and organizations to learn about and become active in their watersheds.

An important benefit of local initiatives is that citizens make decisions that affect change in their own communities. There are a variety of limitations local initiatives can overcome including: state government budgets, staff resources, lack of regulations for nonpoint sources, the rulemaking process, and many others.

Local organizations and agencies are able to combine professional expertise in a watershed. This allows groups to holistically understand the challenges and opportunities of different water quality efforts. Involving a wide array of people in water quality projects also brings together a range of knowledge and interests, and encourages others to become involved and invested in these projects. By working in coordination across jurisdictions and agency lines, more funding opportunities become available, and it is easier to generate necessary matching or leveraging funds. This will potentially allow local entities to do more work and be involved in more activities because their funding sources are diversified. The most important aspect of these local endeavors is that the more localized the project, the better the chances for success.

The collaboration of these local efforts are key to water quality improvements. There are good examples of local agencies and groups using these cooperative strategies throughout the state. The following local organizations and agencies are highlighted to share their efforts towards water quality improvement. Additional projects are also described in the subbasin chapters.

DWQ applauds the foresight and proactive response to potential water quality problems. Federal and State government agencies are interested in assisting local governments and citizen groups in developing their water quality management programs. The distribution of several grantors is discussed.

22.2 Local Initiatives

22.2.1 Ellerbe Creek Watershed Association

Dedicated to restoring Ellerbe Creek and making it an asset for the citizens of Durham, the Ellerbe Creek Watershed Association gained official 501(c)(3) nonprofit status in April of 1999. In July 1999, it was awarded a matching grant by Durham County to purchase six wooded acres along Ellerbe Creek for an urban nature reserve and public trail. ECWA is working with NC State and NC Wetlands Restoration Program watershed specialists to restore sections of Ellerbe Creek and demonstrate ways to utilize stormwater in wetland gardens. ECWA is promoting the creation of a unique wildlife/recreation area on waste ground behind Durham's closed landfill

and working with developers, homeowners and city government to reduce stormwater impacts on the creek and preserve greenspace. ECWA is also involving volunteers in periodic monitoring of Ellerbe Creek's water quality through a Stream Watch Program. Long-term goals for the organization include the establishment of a volunteer network throughout the watershed, completion of an urban trail system throughout the watershed, preservation of Ellerbe Creek's headwaters and other special features, and restoration of the creek's lower floodplain. Visit the association's website at <http://www.ellerbecreek.org/>.

22.2.2 Friends of South Ellerbe Creek

The Friends of South Ellerbe Creek is an informal group of citizens dedicated to conserving and enhancing the scenic, recreational, natural and historic qualities of South Ellerbe Creek and its landscape. From its headwaters near Greystone Baptist on Hillsborough Road, South Ellerbe Creek flows for three miles through some of Durham's oldest and most densely developed neighborhoods: Old West Durham, Walltown, Northgate Park, Trinity Park. Another branch of South Ellerbe flows north out of downtown Durham, through Durham Central Park and Trinity Park. South Ellerbe then joins Ellerbe Creek in a small forest just northwest of the I-85/Roxboro Road interchange. Along some wooded stretches, the creek quietly flows through areas as scenic as any in North Carolina. Elsewhere, South Ellerbe is a troubled creek.

Efforts to clean up urban streams throughout the city of Durham are paying off. But nowhere is that progress more evident than in the Ellerbe Creek watershed. The Friends of South Ellerbe Creek and other neighborhood volunteer groups are helping to focus community awareness on the need to protect and restore streams in Durham. For more information or to get involved, visit <http://www.owdna.org/fosec.htm>.

22.2.3 Eno River Association

The Eno River Association is a 501c3 non-profit conservation organization whose mission is to conserve and protect the natural, cultural and historic resources of the Eno River basin. Since 1966, the Association has worked actively to protect the lands and waters along the Eno River and its tributaries. Efforts to date have resulted in almost 5,500 acres of protected lands. These acres are largely contained within five public parks: the [Eno River State Park](#), the [Occoneechee Mountain State Natural Area](#), [West Point on the Eno Durham City Park](#), [Penny's Bend Nature Preserve](#) and the [Little River Regional Park](#). For more information, call (919) 620-9099 or visit <http://www.enoriver.org/>.

22.2.4 Upper Neuse River Basin Association

In 1996, fourteen local governments formed the Upper Neuse River Basin Association (UNRBA) to provide an ongoing forum to address watershed management issues of mutual concern in the 770-square mile watershed above the Falls Lake Dam. The upper Neuse basin includes nine man-made water supply reservoirs that serve about one-half million people. It also includes water resources that are essential for a variety of wildlife and a variety of recreational opportunities.

The UNRBA has created a comprehensive, integrated watershed management plan for the Upper Neuse River Basin. The plan was developed in partnership with the state Division of Water Quality and accepted by the UNRBA Board of Directors in 2003. It aims to support, coordinate,

and build upon local and state government water resource management efforts. The plan includes:

- an assessment of water quality and related water quantity management in the Upper Neuse River Basin;
- a description of the goals and objectives for protection and improvement of water quality and related water quantity management in the basin; and,
- a work plan that describes proposed water quality protection strategies, including point and nonpoint source programs, for achieving the specified goals and objectives

UNRBA is currently developing an Implementation Approach for the Watershed Management Plan, a process that will produce an Implementation Plan. The Technical Advisory Committee (TAC) is responsible for developing the Implementation Plan, with assistance from UNRBA staff and the Implementation Steering Committee (ISC). The Implementation Plan will specify:

- tasks,
- timetables for action,
- responsibilities of state and local agencies,
- a water quality monitoring framework,
- and sources of funding.

It will also include a system of performance indicators and benchmarks that will be used to measure progress on implementing the Watershed Management Plan.

UNRBA is currently developing two components of the Implementation Plan:

- templates for Local Management Strategy Reviews, which will be used to assess progress on implementation
- [recommendation sheets](#), which detail how a given watershed management strategy might be implemented, locally or regionally

For more information on the UNRBA or the Watershed Management Plan, visit <http://www.unrba.org>.

22.2.5 Upper Neuse Clean Water Initiative

Overview of the Upper Neuse Clean Water Initiative:

The Upper Neuse Clean Water Initiative is a partnership effort to prioritize and, through voluntary actions, protect those lands most critical for the long-term safety and health of all drinking water supplies for the communities in the Upper Neuse River Basin (UNRB). The project prioritizes lands that meet water supply protection goals, but also considers local land conservation goals, such as recreation and natural lands protection, as well as stormwater retention.

The Initiative is comprised of three major components: comprehensive conservation planning; outreach to landowners, local governments, and the public; and acquisition through the purchase or donation of land or conservation easements from willing sellers of properties identified in the plan

as high priority. Land conservation provides a voluntary, non-regulatory option for protecting water supplies and is one of the most cost-effective tools for ensuring safe drinking water.

Conservation Planning Methods and Results:

The Triangle J Council of Governments (TJCOG), in collaboration with The Trust for Public Land (TPL), used Geographic Information System (GIS) technology and computer modeling to identify properties within the UNRB that offer the greatest protection value for the Basin's water quality. TPL and TJCOG assembled a Technical Advisory Team of local experts in water quality, water resources management, and GIS to help develop and weight model criteria and identify the highest quality data. The final model included data on land use cover, hydrology, elevation, headwater catchments, parcel data, groundwater wells, vertical hydraulic conductance, critical catchment areas, and soil type. Priority tracts are typically found along streams or water bodies, at headwater areas, and/or contain wetland areas. Because the model considers parcels throughout the 770 square mile Basin and considered all of the Basin's nine drinking water supplies equally, the priority parcels are scattered throughout the Basin. For more detailed information and specific parcel priorities, contact Conservation Trust for North Carolina at (919) 828-4199 or www.ctnc.org.

Local governments, land trusts, watershed associations and others have been working for years to conserve sensitive lands in the Upper Neuse River Basin. As a result of these efforts, over 50,000 acres of land have been permanently protected (as of 5/06) which are park lands and nature preserves; lands managed for preservation by local/regional land trusts; and privately owned lands protected by conservation agreements. Of UNRB lands not already protected, the model identified approximately 24,000 acres as high priority for conservation to protect water quality. Together, these high-priority acres represent fewer than 5 percent of the Upper Neuse River Basin.

Continuing their collaborative work, state and local government programs, the Ellerbe Creek Watershed Associations, Upper Neuse River Basin Association, Eno River Association, Tar River Land Conservancy, Triangle Greenways Council, Triangle Land Conservancy, Trust for Public Land, and willing landowners, as well as other critical partners can utilize a variety of conservation options including conservation easements/agreements, fee-simple purchase, donations, bargain sales, etc to address conservation of the plan's priority parcels.

Due to population growth and development however, the opportunities for protecting these priority tracts may be short-lived. Most experts agree there is a threshold ratio of impervious surface to natural land which, when crossed, results in a measurable decline in water quality in the watershed. Many believe the threshold occurs when the watershed is 10 percent impervious. Based on the region's current rate of population growth, more than one-third of the sub-watershed in UNRB will exceed the 10 percent threshold by 2025.

Additionally, a report released by Triangle Green Print Project (2002), the current rate of land protection in the region must double to increase protected land from 8 percent to a region-wide goal of 15 percent within 25 years.

Updated status of the Upper Neuse Clean Water Initiative:

Since the inception of the Upper Neuse Clean Water Initiative, 1669 acres bordering over 15 miles of streams have been protected. Currently, the local land trusts are working on 31 projects that would result in protecting an additional 3,785 acres along over 36 miles of stream.

For a copy of the plan and additional information on the Upper Neuse Clean Water Initiative please go to: <http://www.ctnc.org/upperneuse.htm>

22.2.6 Wake County Watershed Plan

The Wake County Commissioners established a task force to provide input to the watershed management plan. The task force included an elected official from each of the other local governments within the county. A member of the Soil and Water Conservation District Board, the Open Space Advisory Committee, and the Human Services Board was also appointed. There were eight at-large appointments that included members of the development community, local landowners, agriculture and citizens groups. The task force met monthly throughout the project. Other stakeholders were invited to each meeting and were given opportunity to participate in the discussion.

The assessment of current conditions included reviewing available biological and chemical data. Benthic data were collected at an additional 24 sites within the county, and habitat/geomorphology data were collected at 86 sites within the county. These data along with land use information such as the percentage of impervious cover and amount of forested land within riparian buffers were used to classify each of the watersheds into one of the following categories: healthy, impacted, impacted/restorable, degraded, degraded/restorable. Thirty watersheds were classified as healthy, 33 as impacted/restorable, four as impacted, eight as degraded/restorable, and five as degraded.

The task force reached consensus on 23 recommendations in several categories, including buffers, floodplain protection, conservation subdivisions and open space conservation. Some highlights of those recommendations are:

- Require 100-foot stream buffers on perennial streams within priority watersheds, and 50-foot buffers in other watersheds. These are strips of trees, grass or shrubs along river and stream banks. Buffers help protect streams from runoff and temperature changes, and provide a source of organic material for stream aquatic life.
- Allow no development or filling in the 100-year floodplain with the exception of utilities and infrastructure.
- Allow and encourage conservation subdivisions, which preserve large tracts of open space within new subdivisions.
- If municipal water and sewer are available to a site, a minimum of 30 percent open space should be preserved to qualify as a conservation subdivision.
- Use incentives to help meet targets for less impervious surfaces in priority watersheds. Impervious surfaces, such as pavement and rooftops, keep water from soaking into the soil, creating more stormwater runoff.
- Better educate homeowners about well and septic system maintenance.

For more information see website at <http://www.wakegov.com/water/watershed/taskforce/default.htm>.

22.3 Regional Initiatives

22.3.1 Riparian Corridor Conservation Program

An additional source of information on the Basin's land conservation priorities are riparian corridor conservation plans. The Clean Water Management Trust Fund (CWMTF) – Conservation Trust for North Carolina (CTNC) Riparian Corridor Conservation Program facilitates the identification and establishment of integrated networks of protected areas and forested riparian corridors. More specifically, the program involves pass through funding from CWMTF, through CTNC, to the state's 24 local and regional land trusts to develop conservation plans with detailed analysis of a defined project area and prioritization of waterfront parcels for protection and restoration based on each property's impacts on water quality in a targeted stream segment. Additionally the program funds implementation of existing plans in which land trusts undertake landowner outreach, education (often in the form of workshops), easement negotiations, acquisition negotiations and other recommendations laid out in previously established riparian corridor conservation plans. This statewide coordinated effort to protect and restore riparian buffers and greenways represents the most cost-effective long-term protection of water quality possible.

Riparian Corridor Conservation Plans developed thus far in the Upper Neuse River Basin include:

- Upper and Lower Eno River – written by the Eno River Association (919) 620-9099
- Little River (Orange & Durham Counties) - written by the Eno River Association (919) 620-9099
- Upper Neuse River Basin – written by Triangle Greenways Council (www.trianglegreenways.org).

22.3.2 Conservation Trust for North Carolina

The Conservation Trust for North Carolina and CWMTF have funded three riparian corridor conservation plans in the Neuse River basin. Plans were prepared for the Eno River, upper Neuse subbasin and Lower Swift Creek.

22.3.3 Triangle Greenways Council

The Triangle Greenways Council is an advocacy group for the promotion of greenways in the RTP area. The Conservation Trust for North Carolina awarded the Triangle Greenways Council a grant to prepare a riparian corridor conservation design for the upper Neuse River basin. The goal of the design project is to identify and prioritize areas where preservation and restoration projects would have the greatest positive effect on water quality. Potential parcels have been identified on Walnut Creek, Crabtree Creek, Reedy Creek and the Flat River. For more information, visit <http://www.trianglegreenways.com/>.

22.3.4 Triangle Land Conservancy

Triangle Land Conservancy (TLC) is a local non-profit land trust in the Triangle with over 3000 members. Since 1983, TLC has been protecting important open space—stream corridors, forests, wildlife habitat, farmland and natural areas—in Chatham, Durham, Johnston, Lee, Orange and Wake counties to help keep the Triangle Region a healthy and vibrant place to live

and work. To accomplish this goal, TLC identifies the most significant and threatened lands in the triangle region; plans with local communities for their protection; conserves these lands through purchase or private conservation agreements; manages these lands; and promotes positive conservation approaches and the protection of open space. In doing so, TLC helps keep our water and air clean, makes sure we have places for recreation, and helps families stay on their farms. To date, TLC has protected more than 10,000 acres of our community's most important open space.

In the Neuse River Basin, TLC helps implement the Upper Neuse Clean Water Initiative through land owner outreach and conservation of priority lands. Additionally, TLC focuses its efforts in three other core areas in the basin including the Marks Creek Rural Lands Initiative (at the Johnston/Wake County Line), Swift Creek (in Wake and Johnston Counties), and the Neuse River Lowlands (in southern Johnston County). TLC has created conservation assessments for each of these areas and works to protect water quality through voluntary conservation of high priority lands. TLC also focuses on regional connectivity of important conservation areas and was instrumental in creating the Triangle Greenprint (<http://www.trianglegreenprint.org/>) which identifies key conservation areas and connectors in the Triangle Region. For more information on TLC, call (919)-833-3662 or visit <http://www.tlc-nc.org/>.

The Conservation Trust for North Carolina awarded the Triangle Land Conservancy a grant to prepare a conservation assessment for the Lower Swift Creek. The assessment recommends conservation strategies designed to protect water quality in Swift Creek in Wake and Johnston counties.

22.3.5 Triangle J Council of Governments

The Triangle J Council of Governments is recognized as a leader in water supply protection efforts. TJCOG assisted local governments in the development of their watershed management regulations and has strongly encouraged the development of the state's minimum standards for protection of public water supplies. It has also played an important role in the ongoing effort to develop an initial watershed protection plan for Falls of the Neuse Reservoir.

TJCOG has worked closely with local, state and federal agencies to develop the Triangle Area Water Supply Monitoring Project. Under way since 1988, the program involves systematic sampling and analysis of water quality at several major water supplies in the region. Through this effort local communities now have important information about the existing and potential quality of the public's water supply. For more information on The Triangle Council of Governments water quality initiatives, visit <http://www.tjcog.dst.nc.us/>.

22.3.6 Neuse River Foundation

The Neuse River Foundation, Inc. is a membership-based, 501(c)(3) nonprofit organization with more than 2,400 members. Since its inception in 1980, NRF has been educating the public, advocating for clean water and fighting to stop water pollution. In 1993, NRF hired North Carolina's first Riverkeeper. In late 2001, NRF hired a second Riverkeeper to provide coverage throughout the river basin. The upper Neuse Riverkeeper is based in Raleigh and looks after the Neuse from its headwaters down to Goldsboro. The lower Neuse Riverkeeper is based in New Bern and is responsible for the river from Goldsboro to the Pamlico Sound. For more information on the NRF or to contact the Neuse Riverkeeper®, visit <http://www.neuseriver.org/>.

22.3.7 Lower Neuse Basin Association

The Lower Neuse Basin Association (LNBA) is an association that represents 23 permitted facilities owned by 18 municipalities and industries with wastewater treatment facilities permitted to discharge treated wastewater into the Neuse River below Falls of the Neuse Dam. The association was formed for information exchange and undertakes activities best accomplished by a group effort. The LNBA currently monitors water quality 48 sites in 9 counties.

The Lower Neuse River Basin Association and the Neuse River Compliance Association have estimated that their members have spent in excess of 200 million dollars to construct and retrofit their wastewater treatment plants to comply with the nutrient reduction requirements. In addition, they have spent over 17 million dollars to construct reuse projects which will further reduce the nutrient load to the river. For more information on the LNBA, visit their website at <http://www.lnba.net/>.

22.4 Federal and State Initiatives

22.4.1 Federal Clean Water Act – Section 319 Program

Section 319 of the Clean Water Act provides grant money for nonpoint source demonstration and restoration projects (Table 56). Through annual base funding, there is approximately \$1 million available for demonstration and education projects across the state. An additional \$2 million is available annually through incremental funds for restoration projects. All projects must provide nonfederal matching funds of at least 40 percent of the project's total costs. 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 (NPS). Information on the North Carolina Section 319 Grant Program application process is available online at http://h2o.enr.state.nc.us/nps/application_process.htm. Descriptions of projects and general Section 319 Program information are available at http://h2o.enr.state.nc.us/nps/Section_319_Grant_Program.htm.

Many 319 projects are demonstration projects and educational programs that allow for the dissemination of information to the public through established programs at NC State University (NCSU) and the NC Cooperative Extension Service. Other projects fund stream restoration activities that improve water quality. Table 65 describes the 319 funded projects in the Neuse River basin.

Table 65 Neuse River Basin 319 Projects (1999 – 2006).

Fiscal Year	Contract Number	Name	Description	Agency	Funding
1999	EW20008	Crabtree Creek Urban Planning BMP	Urban Stormwater, Education, BMP Installation	NCSU	\$86,152
1999	EW20012	Watershed Septic System Training	Onsite Wastewater, Education	NCSU	\$100,000

Fiscal Year	Contract Number	Name	Description	Agency	Funding
1999	E2145	Upper Neuse NPS Team	Education	NC DENR, DWR	\$45,000
1999	EW01068	Nutrient Management for Agriculture in NC	Agriculture, BMP Modeling	NCSU	\$23,100
1999	EW200025	Mid Neuse NPS Team	Education	Wayne County CES	\$97,000
1999	EW04062	Cleanwater Education Partnership	Urban Stormwater, BMP Demonstration	Triangle J COG	\$15,000
1999, 2000, 2001, & 2003	EW05067	Rocky Branch Creek Restoration	Stream Restoration, Urban Stormwater	NCSU, Sea Grant	\$625,000
1999 & 2002	EW03021	Superior Alternative Technology	Agriculture	USGS	\$38,500
2000	EW02003	Toisnet Creek	Urban Stormwater, Education, BMP Installation	NCSU	\$90,000
2000	EW01042	Crabtree Creek Urban Planning BMP Phase II	Urban Stormwater, BMP Demonstration	NCSU	\$89,543
2000	EW01023	Facilitating Accurate Nutrient Management Via Yield Records	Agriculture, Database	NCSU	\$150,000
2000 & 2001	EW05071	Water Quality Improvement to North Creek	Urban Stormwater, Stream Restoration	NCSU	\$80,000
2001	EW02022	Demo BMPs for Restoration of Degraded Coastal Plain Stream System	Coastal NPS, BMP Demonstration	NCSU Sea Grant	\$100,000
2001	EW06035	Enviroscape Educational Tool	Construction, Education	City of Wilson	\$686
2001	EW03034	Restoration of Small Urban Stream, Raleigh (Greenroofs)	Urban Stormwater, BMP Demonstration	NCSU	\$80,000
2001	EW02018	Contentnea Creek Geology & Geomorphological Framework to Support Groundwater Model Upscaling	Groundwater Protection, Mapping, GIS	NC DENR, DLR, NCGS	\$96,000
2002	EW03004	Clemmons Educational Forest Education Program	Forestry Education	NC DENR, DFR	\$8,697
2002	EW03003	Comparison of onsite & offsite wastewater treatment	Onsite Wastewater, Monitoring	NC DENR, DEH	\$96,500

Fiscal Year	Contract Number	Name	Description	Agency	Funding
2002	EW03011	Carteret Upper South River Watershed BMP Demo Project	Agriculture, Innovative BMP	Duke University Marine	\$210,000
2002	EW04001	NPS Land Use Data Collection and Inventory Development	Mapping, GIS	NC DENR, DSWC	\$37,700
2002	EW03053	Development of GIS Tools for Evaluating Impact of BMP & Restoration Projects on Nitrogen Loading from Coastal Plain Watersheds	Agriculture, Mapping, GIS	NCSU, Greene & Pitt Counties	\$100,000
2002	EW04022	Wetland and Buffer Enhancement of a Pond	Urban Stormwater, Wetlands Protection	NCSU, Craven County	\$12,320
2003	EW04036	Continuation Upper Neuse River NPS Team	Urban Stormwater, Planning	NC DENR, DWR	\$53,000
2003	EW04035	Shallow Aquifers and Confining Units in the Neuse River Basin: Surry to Suffolk Scarp	Groundwater Protection, Modeling	NCGS, DLR	\$150,000
2003	EW06012	Installation & Comparative Evaluation of Bioretention for Treatment of run off from Vehicle Fleet Service Facility	Urban Stormwater, BMP Demonstration	City of Raleigh	\$34,000
2003	EW04015	LID Demo & Education, Raleigh UT to Marsh Creek	Urban Stormwater, Education, BMP Installation	NCSU	\$170,100
2003 & 2004	EW07015	Evaluation & Remediation of Nitrate Flux from Biosolid Application Fields to Surface Waters of Neuse River	Innovative BMP, Monitoring, Education	NCSU	\$101,329
2004	EW06010	Pigeon House Branch Water Quality Improvement Project Wet Detention Pond & Monitoring at Fred Fletcher Park	Urban Stormwater, BMP Implementation	City of Raleigh	\$328,000
2004	EW05082	Stoney Creek Watershed Demonstration of BMPS for LID	Agriculture, Education, BMP Installation	NCSU, Wayne County	\$159,500
2004	EW05018	Adapt a Site Evaluation Tool (SET) for use by local governments in Upper Neuse Basin in determining w/stormwater performance standards for new development	Urban Stormwater, BMP Modeling	Upper Neuse River Basin Association	\$39,750

Fiscal Year	Contract Number	Name	Description	Agency	Funding
2004	EW06077	Cost Effectiveness of Agricultural and Urban BMPs	BMP Modeling	NCSU	\$30,000
2005	EW06076	Continuation Upper Neuse River NPS Team	Education, BMP Installation, Planning	Neuse River	\$46,000
2005	EW06062	NC Survey of Stormwater Enterprises for Region J	Planning	Triangle J COG	\$8,616
2005	EW06065	Black Creek Watershed Assessment, Monitoring, & Restoration Planning	Stream Restoration	NCSU	\$175,765
2006	EW07026	Lick Creek Watershed Restoration Plan	Watershed Restoration	Upper Neuse River Basin Association	\$145,140
2006	EW07025	Developing a Comprehensive Assessment of the TMDL for the Neuse River Estuary, NC. Using Advanced Unattended Water Quality Monitoring	TMDL Development	UNC Chapel Hill	\$244,024
2006	EW07060	An Integrated Approach to Watershed Management Planning and Implementation in Selected Watersheds of the Falls Lake Reservoir	Watershed Restoration	Wake County	\$180,500
				Total Funding	\$4,046,922

22.4.2 North Carolina Ecosystem Enhancement Program (NCEEP)

The NC Ecosystem Enhancement Program (NCEEP) combines an existing wetlands-restoration initiative by the NC DENR with ongoing efforts by the NC Department of Transportation (DOT) to offset unavoidable environmental impacts from transportation-infrastructure improvements. The U.S. Army Corps of Engineers joined as a sponsor in the historic agreement, which is committed to restoring, enhancing and protecting the wetlands and waterways across the State of North Carolina. NCEEP can provide:

- High-quality, cost-effective projects for watershed improvement and protection;
- Compensation for unavoidable environmental impacts associated with transportation-infrastructure and economic development; and
- Detailed watershed-planning and project-implementation efforts within North Carolina's threatened or degraded watersheds.

NCEEP can perform restoration projects cooperatively with other state or federal programs or environmental groups. For example NCEEP 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 NCEEP actively seeks landowners throughout the state that have restorable wetland, riparian, and stream restoration sites. For more information about NCEEP, visit <http://www.nceep.net/> or call (919) 715-7452.

22.4.3 Coastal and Estuarine Land Conservation Program

The Coastal and Estuarine Land Conservation Program (CELCP) was established by Congress “for the purpose of protecting important coastal and estuarine areas that have significant conservation, recreation, ecological, historical, or aesthetic values, or that are threatened by conversion from their natural or recreational state to other uses.” The program provides funding for projects that ensure conservation of these areas for the benefit of future generations, giving priority lands which can be effectively managed and protected, and that have significant ecological value. The Division of Coastal Management administers the CELCP program in North Carolina. For more information on funding opportunities and guidelines see <http://www.nccoastalmanagement.net/Facts/CELCP.htm>.

22.4.4 Community Conservation Assistance Program

Community Conservation Assistance Program (CCAP) is a voluntary, incentive-based program designed to improve water quality through the installation of various best management practices (BMPs) on urban, suburban and rural lands, not directly involved in agricultural production. CCAP consists of educational, technical and financial assistance provided to landowners by local Soil and Water Conservation Districts. CCAP will focus its efforts on stormwater retrofits to existing land uses. It will not be used to assist in new development sites to meet state and federal stormwater mandates. CCAP encourages local governments, individual landowners and businesses to incorporate stormwater BMPs within their landscape. Interested landowners submit applications to their local Soil and Water Conservation Districts. Applications will be ranked based on local water quality priorities. If eligible, a conservation plan is prepared for the applicant to install the BMP (a landscaper may be used). The landowner may be reimbursed up to 75 percent of the pre-established average cost of the BMP.

The Soil and Water Conservation Commission have approved standards and specifications for 15 BMPs. These practices include: impervious surface conversion, permeable pavement, grassed swale, critical area planting, bioretention areas, backyard rain gardens, stormwater wetlands, backyard wetlands, diversion, riparian buffer, stream restoration, streambank and shoreline protection, cisterns, abandoned well closure and pet waste receptacles.

As North Carolina’s land use is changing and rapidly becoming more urbanized, CCAP can educate landowners on water quality and stormwater management, as well as retrofit practices to treat polluted stormwater runoff and ultimately improve the water quality of our state’s waterways.

22.4.5 Clean Water Management Trust Fund

The CWMTF 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 Neuse River basin, -- projects have been funded for a total of \$27,814,098 (Table 66). For more information on the CWMTF or these grants, call (252) 830-3222 or visit the website at www.cwmtf.net.

Table 66 Clean Water Management Trust Fund Projects.

Application Name	Proposed Project Description	Amount Funded	County	Approval Date
Neuse River Foundation- Gum Thicket Acq/Neuse River	Acquire a conservation easement on 238 acres of riparian land and wetlands along the Neuse River and Gum Thicket Creek. Includes removal of homesites, and density and impervious limits on 118 acres. Also includes protection of an additional 212 acres.	\$1,250,000	Pamlico	5/15/2001
Wake Forest - Acq & Greenway/ Smith Creek	Acquire through fee simple purchase 141 acres along Smith and Toms Creek that will become part of a greenway system.	\$1,128,300	Wake	10/23/2000
Cape Fear RC&D - Nash Co/ No-till Drill/Tar & Neuse	Provide funds for a no-till drill to be used primarily in the watersheds for Stoney Creek, Tar River, and Fishing Creek of the Tar-Pamlico River Basin, as well as Beaverdam Creek and Turkey Creek in the Neuse River Basin.	\$20,000	Nash	10/23/2000
NC Div Parks & Recreation - Eno River Acq	Acquire through fee simple purchase 71 acres along the Eno River. CWMTF funds to purchase 20 riparian acres.	\$141,000	Durham	11/15/2001
Wake County Parks & Recreation- Cedar Ck Acq & Greenway	Acquire through fee simple purchase and permanent conservation easements 112 acres along Cedar Creek. CWMTF funds to purchase 46 riparian and wetland acres.	\$350,000	Wake	5/15/2001
Craven County Board of Educ- WW Discharge Removal/Neuse R	Connect West Craven Middle School to Town of New Bern's wastewater collection and treatment system. Rescind NPDES NC 0029904 wastewater discharge permit.	\$292,500	Craven	5/15/2001
Smithfield, Town of - Stormwater Wetland Prelim Design/Spring Branch	Design an off-line constructed wetland pond capable of treating water from 204 acre watershed (40% impervious surface).	\$90,000	Johnston	5/15/2001
Kinston, City of - Adkins Branch Sewer Rehabilitation	Replace one of the major sewer outfalls. Phase 1 of the project includes the replacement of 21,200 linear feet of and 62 manholes. Phase 2 of the project includes the replacement of 8,500 feet and 26 manholes. Monitor results.	\$3,000,000	Lenoir	11/15/2001
Kinston, City of - Pocket Stormwater Wetland/ Peters Creek	Construct a 1.5 acre pocket stormwater wetland to treat runoff (runoff from first inch of rainfall) from the City's Public Service Complex & upstream 56 acre watershed. City to establish permanent conservation easement on wetland and buffers. Monitor wq.	\$124,000	Lenoir	11/13/2002
NC Coastal Land Trust - Weyerhaeuser Tracts	Purchase permanent conservation easement on 785 riparian acres along Swift Creek and the Neuse River. Landowner to donate an additional 949 acres and other funding sources to purchase an easement on 894 acres. Total of 2,628 acres to be protected.	\$1,376,000	Craven	7/22/2003
Triangle Greenways Council- Acq Minigrant	Minigrant to pay for reacquisition costs for six tracts (64 acres) that border Walnut Creek.	\$25,000	Wake	11/15/2001
Ellerbe Creek Watershed Association-Design For Stream Restoration & Stormwater Wetland/ Ellerbe Cr.	Provide funds to design a stream restoration project for 3,000 linear feet of Ellerbe Creek using natural channel design and for a 6.6 acre stormwater wetland to treat runoff from a 160 acre drainage area.	\$75,000	Durham	12/10/2002
Wake Forest - Stream Restoration/ Richlands Cr. Restoration & Greenway	Fund restoration design for 2,250 linear feet of Richland Creek (segments 1&2) and provide funds to cover acquisition transaction costs for about 48 donated acres (10 tracts). NC Wetlands Restoration Program to restore a third segment.	\$240,000	Wake	7/22/2003
Application Name	Proposed Project Description	Amount Funded	County	Approval Date

NC Div Parks & Recreation - Acq./Eno R. State Park	Acquire through fee simple purchase 815 acres along the Eno River. This tract will become part of the Eno River State Park.	\$47,000	Orange	7/22/2003
Pitt Soil & Water Conservation District - Acq./Little Contentnea	Acquire through fee simple purchase 3.03 acres along Little Contentnea Creek. The tract, along with 7 adjacent acres, would become part of a greenway and environmental educational facility.	\$25,000	Pitt	7/22/2003
Smithfield, Town of - Restoration/Bufalo Cr.	Design and permit a natural channel restoration project for 1,600 linear feet of an unnamed tributary to Buffalo Creek, including a design for improved stormwater treatment through the use of level spreaders and wetland plantings.	\$71,000	Johnston	11/18/2003
Dover, Town of - Wastewater Regionalization/Moseley Cr	Eliminate 279 failing septic tanks in the Town by constructing a collection system and 10 miles of force main and pumping the waste to Kinston's WWTP. Would reduce pollutant delivery to Mosley Creek.	\$333,000	Craven	7/22/2003
LaGrange, Town of - Septic Systems/Moseley Cr.	Rehabilitate 6,305 feet of collection sewer line and replace 110 sewer service lines along Moseley Creek.	\$400,000	Lenoir	7/22/2003
Pitt County Comm. Schools and Rec Mini-Grant/ Swift Creek	Minigrant to pay for preacquisition costs for approximately 15 acres that border Swift Creek.	\$25,000	Pitt	2/17/2003
NC Div Forest Resources - Acq./Clemmons Forest, Strickland Creek	Acquire through fee simple purchase 355 acres along Strickland and Beddingford Creeks. Property to become part of Clemmons Educational State Forest.	\$1,772,000	Wake	11/18/2003
Triangle Land Conservancy - Acq./Regional Park, Marks Creek (Assigned to Wake County)	Acquire through fee simple purchase 358 acres along Marks Creek, including 180 acres of riparian or floodplain acres. Property will eventually become part of a greenway system.	\$1,776,000	Wake	11/18/2003
Bridgeton, Town of- Wastewater/ Neuse Non-discharge	Design, permit and fund acquisition costs of a project to upgrade Bridgeton's wastewater treatment plant and land apply the wastewater. If built, the Town would retire its discharge permit of 0.75 MGD and eliminate its waste discharge to the Neuse River.	\$116,000	Craven	11/18/2003
Farmville, Town of- Wastewater/ Little Contentnea Creek	Design and permit an alternative sludge treatment system for its land application system near Little Contentnea Creek. System would reduce amount of sludge to be applied and produce a Class A pathogen-free product that could be used in landscaping.	\$119,000	Pitt	11/18/2003
Bay River Metropolitan Sewer District- Septic Tanks/ Reelsboro, Goose & Broad creeks	Design and permit a wastewater reuse project near Oriental. If constructed, project would allow BRMSD to expand centralized sewer collection to a number of unsewered communities with chronic septic system failures.	\$136,000	Pamlico	11/18/2003
Trent Woods, Town of- Septic Tanks/ Trent River	Design and permit a collection system to hook up 800 septic systems in the Town of Trent Woods that drains to the Trent River. If constructed, wastewater would be treated by the City of New Bern's WWTP.	\$524,000	Craven	11/18/2003
Kinston, City of - Storm./Country Club, Catfish Branch	Design & permit stormwater BMPs along 4,000 LF of Catfish Branch. BMPs to treat runoff from 135 acres (59% impervious) and would include dry retention ponds, revegetation and resloping of the channel, and grassy swales.	\$25,000	Lenoir	11/18/2003
Application Name	Proposed Project Description	Amount Funded	County	Approval Date

Smithfield, Town of - Storm./ Spring Branch Constructed Wetland	Design, permit and construct a 3-acre off-line stormwater wetland and greenway on Spring Branch. Wetland will treat stormwater runoff from a 640 acre watershed (22% impervious). Monitor water quality. Includes donation of permanent CE on wetland site.	\$660,000	Johnston	11/18/2003
Goldsboro - Acq./ Stoney Creek, Seymour Johnson AFB	Acquire through fee simple purchase and permanent conservation easements 531 riparian and wetland acres on streams & perennial drainage to Walnut and Stoney Creeks. Project would also eliminate agricultural impacts to those waters and restore wetlands.	\$1,737,000	Wayne	7/12/2004
Durham Soil & Water Conservation District - Rest./ Lick Creek	Fund design and permitting costs of a proposed natural channel stream restoration project on 3,100 linear feet of Lick Creek.	\$97,000	Durham	7/12/2004
Lucama, Town of - Wastewater/ Outfall Reroute, Black Creek	Replace 8,800 linear feet of deteriorated collection lines and construct a new pump station. Project would reduce sewage overflows to Black Creek, a tributary to Contentnea Creek.	\$349,000	Wilson	8/8/2005
Trenton, Town of - Wastewater/ Land Application, Trent River	Relocate wastewater discharge from the Trent River to a land application site. CWMTF funds to install collection system and force main, and construct holding lagoon and irrigation system.	\$1,369,000	Jones	7/12/2004
Wilson, City of- Wastewater/ Reuse, Toisnot Swamp	Design, permit and construct expanded wastewater reuse collection system for 2 additional industries, commercial lawn irrigation and a City-owned carwash. Includes 15,000 linear ft of reclaimed water mains & associated equipment to benefit Toisnot Swamp.	\$1,196,000	Wilson	7/12/2004
Cove City, Town of - WW/Septic/ Core Creek	Construct wastewater collection system to hook up 230 residences in Cove City to Kinston's Northside WWTP. Many of the existing septic systems are failing or in unsuitable soils. Reduces bacterial and nutrient input into Core Creek.	\$333,000	Craven	7/12/2004
Durham County- Acq/ Little River Corridor, South Fork Little River	Protect through fee simple purchase 50 acres along the South Fork Little River, which contains an endangered aquatic species. Includes the purchase of 15.7 riparian acres.	\$170,000	Durham	11/15/2004
NC Coastal Land Trust - Acq/ Hughes Tract, Upper Broad Creek	Protect through permanent conservation easements 130 acres along Upper Broad Creek, an anadromous fish spawning area. CWMTF funds to purchase easement on the 47 riparian acres. Tract is in close proximity to other conservation lands.	\$394,000	Craven	8/8/2005
NC Div Parks & Recreation - Acq/ Umstead State Park Expansion, Big Lake	Protect through fee simple purchase 125 acres to expand Umstead State Park and protect Big Lake and Sycamore Creek.	\$2,000,000	Wake	11/15/2004
Wake County-Acq/ Southeast County Park, Middle Creek	Protect through fee simple purchase 132 acres along Middle Creek. Wake County will manage the property as part of a County park.	\$714,000	Wake	8/8/2005
Ayden, Town of - WW/ Sewer Rehabilitation, Swift Creek	Design, permit and construct a new 8,000 LF force main and pump station to replace an existing 1,100 LF gravity line plagued with infiltration/inflow problems. Project will decrease fecal coliform and nutrient delivery to Swift Creek.	\$300,000	Pitt	11/15/2004
Contentnea Metropolitan Sewerage District - WW/ Grifton Sewer Rehabilitation	Rehabilitate sewer line between Grifton and Ayden by inspecting, cleaning and lining 107,000 LF of collection line. Includes funds to design and permit associated by-pass pumping and manhole replacement. Will reduce wastewater overflows to Swift Creek.	\$962,000	Pitt	11/15/2004
Application Name	Proposed Project Description	Amount Funded	County	Approval Date

Kinston, City of - WW/ Land Application Enhancement, Neuse River	Design, permit and construct an expanded land application system for a portion of the City's wastewater (max 500,000 gpd). Purchase 135 ac for wastewater system, with 79 acres available for irrigation and 56 riparian bottomland acres put into conservation.	\$1,290,000	Lenoir	11/15/2004
LaGrange, Town of - WW/ Reuse, Mosely Creek	During the growing season, eliminate nearly 100% of discharge to Mosely Ck by routing 0.5 MGD wastewater flow from the Town's WWTP to Wight Nursery, which will use the reuse quality wastewater for irrigation. Construct sewer line & pump stations.	\$1,075,000	Lenoir	8/8/2005
Friends of the NC Museum of Natural Sciences - Storm/ Green Environmental Education Center, Richlands Creek	Design, permit and construct a stormwater wetland and bioretention area to treat and reuse runoff from 20 acres (50% impervious) as part of an environmental education center. Stormwater BMP areas will become part of an existing greenway.	\$49,000	Wake	11/15/2004
Grifton, Town of - Plan/ Stormwater Planning, Contentnea Creek	Develop a plan to address stormwater management needs for Buckleberry and Contentnea Creeks.	\$40,000	Pitt	11/15/2004
Triangle Greenways Council- Minigrant/Young Heirs Tract, Walnut Creek	Minigrant to pay for pre-acquisition costs associated with the fee simple purchase of 28 acres along Walnut Creek.	\$25,000	Wake	11/15/2004
Goldsboro - Acq/ Seymour Johnson AFB, Stoney Creek, Phase II	Protect through fee simple purchase and conservation easements 850 acres along Caraway and Walnut Creeks. Tracts are near Seymour Johnson Air Force Base landing fields and the represent the second phase of acquisitions near the landing fields.	\$3,000,000	Wayne	8/8/2005
Kinston, City of - Acq/ Floodplain Protection and Open Space Project, Adkin Branch	Protect through fee simple purchase 588 acres impacted by hurricanes, including 422 riparian acres, along the Neuse River, Adkins Branch and tributaries. CWMTF funds to purchase 182 floodplain acres. Tracts will become part of a greenway system.	\$1,181,000	Lenoir	8/8/2005
NC Coastal Land Trust - Acq/ Cherry Point, Piney Island	Protect through fee simple purchase or permanent conservation easements 4,904 ac, including 3,972 riparian or wetland ac, along several waterbodies in association with Cherry Point Marine Corps Air Station's base in Havelock & Piney Island bombing range.	\$3,000,000	Statewide/Regional	8/8/2005
Triangle Greenways Council - Acq/ Young Heirs Tract, Walnut Creek	Protect through fee simple purchase 28 floodplain acres along Walnut Creek. Tract complements other protection efforts in area & will become part of the Walnut Creek Wetlands Park. Project includes donation of an additional 5-acre conservation easement.	\$65,000	Wake	8/8/2005
Ayden, Town of - WW/ Collection System Rehabilitation, Swift Creek	Rehabilitate 1,000 LF of sewer collection lines as part of an extensive on-going effort to reduce infiltration and inflow to the Contentnea Metro Sewerage District and exfiltration of fecal coliform bacteria and nutrients to Swift Creek.	\$178,000	Pitt	8/8/2005
Pikeville, Town of - WW/ Collection Rehabilitation, The Slough	Address infiltration/inflow problems by rehabilitating or replacing 22,000 LF of sewer line (CWMTF to fund 9,000 LF) & associated equipment and manholes. Project will reduce nutrient & fecal coliform delivery to The Slough, a tributary to Nahunta Swamp.	\$750,000	Wayne	

22.4.6 Clean Water Bonds – NC Rural Center

Outdated wastewater collection systems, some more than 70 years old, allow millions of gallons of untreated or partially treated wastewater to spill into the state's rivers and streams. The NC Rural Economic Development Center, Inc. (Rural Center) has taken the lead role in designing

public policy initiatives to assist rural communities in developing and expanding local water and sewer infrastructure. The Rural Center is a private, nonprofit organization. The Rural Center’s mission is to develop sound, economic strategies that improve the quality of life in North Carolina, while focusing on people with low to moderate incomes and communities with limited resources.

To support local economic growth and ensure a reliable supply of clean water, the Rural Center administers three Water and Sewer Grant Programs to help rural communities develop water and sewer systems. See Table 67 for more information on the current grants programs. For each grant program, priority is given to projects from economically distressed counties of the state as determined by the NC Department of Commerce (www.nccommerce.com).

The water and sewer grant programs are made possible through appropriations from the NC General Assembly and through proceeds from the Clean Water Bonds. In 1998, North Carolina voters approved an \$800 million clean water bond referendum that provided \$330 million to state grants to help local governments repair and improve water supply systems and wastewater collection and treatment. The grants also address water conservation and water reuse projects. Another \$300 million was made available as clean water loans.

Since the program’s beginning, the Rural Center has awarded nearly 500 communities and counties more than \$64 million to plan, install, expand, and improve their water and sewer systems. As a result, these communities have served new residential and business customers, created and preserved thousands of jobs, and leveraged millions of dollars in other water and sewer funds. Table 67 lists the grants that were awarded in the Neuse River basin between 1999 and 2005. For more information on the Water and Sewer Grants administered by the Rural Center visit www.ncruralcenter.org/grants/water.htm.

Table 67 Funded Grant (Clean Water Bond or SRG) Projects.

Projects on this list are either funded or are anticipated to be funded (i.e. offer not yet made)

Applicant	Grant Offered	Project	Date of Offer
New Bern	\$3,000,000	Provide reuse quality water to Quarry and Turf Farm	7/29/2002
Wilson	\$1,586,003	New sewer interceptor, reclaimed water lines & nutrient removal facilities	7/29/2002
Farmville	\$3,000,000	Sewer line rehabilitation and new effluent reuse facilities	12/18/2002
Zebulon	\$1,928,340	Rehabilitation of sewers & WWTP upgrade with effluent reuse system	12/18/2002
Bay River MSD	\$3,000,000	New collection and transport sewers to serve Reelsboro area	2/26/2003
Benson	\$932,267	Rehabilitation of sewers & addition of an effluent reuse system	8/18/2003
Pikeville	\$3,000,000	Expand & upgrade existing land application WWTP & sewer rehabilitation	4/14/2004
Ayden	\$3,000,000	Sewer rehabilitation & land application system at Contentnea MSD	6/24/2004
Pink Hill	\$1,400,000	Provide sewer service to 2 schools and expand land application	6/29/2004
Kinston	\$1,550,000	WWTP	2/11/2003
Neuse Reg. W&S	\$1,831,600	Adkins branch sewer rehabilitation	9/30/2003
Cary	\$1,314,750	Regional water system for the Neuse Regional Water & Sewer Authority	9/14/2004
		Addition of a biosolids dryer facility	

Funded State Revolving Loan (SRL) Projects

Applicant	Loan Offered	Project	Date of Offer
Clayton	\$916,667	WWTP for nitrogen removal	12/10/2001
Wilson	\$463,810	New sewer interceptor, reclaimed water lines & nutrient removal facilities	7/23/2004
Farmville	\$2,000,000	Sewer line rehabilitation and new effluent reuse facilities	1/16/2003
Walnut Creek	\$1,564,897	Close WWTP and pump to Goldsboro for treatment	4/14/2004
Pikeville	\$500,000	Expand & upgrade existing land application WWTP & sewer rehabilitation	12/15/2004

Funded State Emergency Loan (SEL) Projects

Applicant	Loan Offered	Project	Date of Offer
Contentnea MSD	\$900,000	Sewer rehabilitation	4/28/2005

Funded State Revolving Fund (SRF) Projects

Applicant	Loan Offered	Project	Date of Offer
Cary	\$11,084,334	Thermal Biosolids Dryer	11/6/2003
Cary	\$5,000,000	Western Wake Planning Loan	1/14/2005
Johnston County	\$2,131,000	Central Johnson County WWTP Improvement	7/23/2001
Johnston County	\$4,552,601	Reclaimed Water System, Biosolids	4/24/2002
Johnston County	\$16,000,000	WWTP upgrade to 7MGD	7/29/2002
Wilson	\$932,024	Interceptor replacement, and increased reuse capacity	5/23/2001
Wilson	\$19,794,886	Hominy Creek WWTP Upgrade	4/21/2004
Clayton	\$3,921,798	Little Creek Water Reclamation	1/14/2005
New Bern	\$20,000,000	WWTP Upgrade	5/23/2001
New Bern	\$1,420,350	Diffuser	12/18/2002
Kinston	\$1,879,554	North Side WWTP Expansion	8/29/2002
Kinston	\$765,000	Upper Adkin Branch sewer rehabilitation	2/26/2003
Goldsboro	\$3,359,512	Supplemental Loan to Previous Loan (CS370482-04)	7/4/2001
Farmville	\$1,453,000	Upgrade existing WWTF	3/10/2005

Clean Water Bonds as administered by the NC Rural Economic Development Center, Inc.

Supplemental Grants Program - Enables local governments and qualified non-profit corporations to improve local water and sewer systems. Projects may address public health, environmental and/or economic development critical needs. The maximum grant amount for this program is \$400,000. Rural Center funds must be used to match other project funds.

Capacity Building Grants Program - Provides funding for local governments to undertake planning efforts that support strategic investments in water and sewer facilities. Funds typically are used to prepare preliminary engineering reports, master water/sewer plans, capital investment plans, water/sewer feasibility studies, rate studies and grant applications. The maximum amount for this program is generally \$40,000.

Unsewered Communities Grants Program - Provides funding for the planning and construction of new central, publicly-owned sewer systems. Qualified communities must be unserved by wastewater collection or treatment systems. Unsewered communities grants are designed to cover 90 percent of the total cost of a project but will not exceed \$3 million.

22.4.7 Oyster Shell Recycling

The North Carolina Oyster Shell Recycling Partnership is encouraging restaurants, seafood dealers, community organizations and individuals to participate in the effort to collect oyster shells and use them to build oyster reefs in protected oyster sanctuaries. More information about this recycling effort can be found at <http://www.ncfisheries.net/shellfish/recycle1.htm>. Oyster recycling sites within the Neuse River basin include

Craven County:

Havelock: Tripp's Seafood Market (172 W. Hwy 70)

Vanceboro: Juanita's Seafood (7065 Hwy 17 N.)

GDS Solid Waste and Recycling Locations:

Bridgeton (Hwy 55), New Bern (Thurman Rd. off Hwy 70)

Tuscarora: Tuscarora Landfill (7400 Old Hwy 70 W.)

Pamlico County:

Alliance: Crop Production Services (Hwy 55)

Grantsboro: Grantsboro Recycling Center (Hwy 306), Fresh Ketch Seafood (2492 Hwy)

Oriental: Town "N" Country Grocery (Broad St., Hwy 55)

22.4.8 Clean Marina Program

The Clean Marina is a voluntary program that began in the summer of 2000. The program is designed to show that marina operators can help safeguard the environment by using management and operations techniques that go above and beyond regulatory requirements. This is a nationwide program developed by the National Marine Environmental Education Foundation, a nonprofit organization that works to clean up waterways for better recreational boating. The foundation encourages states to adapt Clean Marina principles to fit their own needs. North Carolina joins South Carolina, Florida and Maryland as states with Clean Marina programs in place. The Division of Coastal Management should have a Clean Marinas coordinator in place in early 2009. The Division of Water Quality will work closely with the coordinator of the program to insure compliance with water quality standards at and around marinas in the Neuse River basin.

Marina operators who choose to participate must complete an evaluation form about their use of specific best management practices. If a marina meets criteria developed by N.C. Marine Trades Services and the Division of Coastal Management, it will be designated as a Clean Marina. Such marinas will be eligible to fly the Clean Marina flag and use the logo in their advertising. The flags will signal to boaters that a marina cares about the cleanliness of area waterways. Marinas that do not meet the standards will be able to learn about improvements needed for Clean Marina designation. Marina owners can reapply after making the necessary changes. DWQ encourages all marinas within the Neuse River basin to participate in the Clean Marina Program and encourages DCM to consider making this a mandatory program for all new marinas and 10-slip docking facilities.

For more information about the program, see <http://dcm2.enr.state.nc.us/Marinas/clean.htm> or <http://www.nccoastalmanagement.net/Marinas/marinas.htm>, or contact N.C. Coastal Reserve Education at 252-728-2170 or Coastal Management at 919-733-2293.

In the Neuse River basin, DEH reports 45 acres of closed shellfishing waters because of marina slips between growing areas F-1 to F-7. There are three Clean Marinas and nine marinas with pump-out facilities in the Neuse River basin, as listed below:

Clean Marinas

Deaton Yacht Service and Sales

1306 Neuse Drive
Oriental, NC 28571
Phone: 252-249-1180

Northwest Creek Marina

104 Marina Drive
New Bern 28560
Phone: 252-638-4133

Matthews Point Marina

2645 Temples Point Road
Havelock, NC 28532
Phone: 252-444-1805

Marinas with Pump-Out Facilities

BridgePointe Marina, New Bern

Phone: 252-637-7372, Trent and Neuse Rivers

River Bend Marina & Café, New Bern

Phone: 252-633-2006, Trent River

Wayfarers Cove Marina, Arapahoe

Phone: 252-249-0200, Neuse River

Hurricane Harbor Marina, Bayboro

Phone: 252-229-7500, Bay River

Marine Mechanical, Oriental

Phone: 252-249-2925, Neuse River

Oriental Harbor Village Center & Marina, Oriental

Phone: 252-249-3783, Neuse River

Pecan Grove, Oriental

Phone: 252-249-2532, Neuse River

Sea Harbour Yacht Club, Oriental

Phone: 252-249-0808, Neuse River (Pierce Creek)

Whittaker Creek Yacht Harbor, Oriental

Phone: 252-249-1020, Neuse River

A coastal marine pump-out station locator tool can be found at
<http://dcm2.enr.state.nc.us/Marinas/map.html>