Chapter 34
Water Quality Initiatives

34.1 The Importance of Local Initiatives

As the Basinwide Planning Program completes its third 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 1-24. DWQ encourages local agencies and organizations to learn about and become active in their watersheds.

In an effort to provide water quality information and gain public input, DWQ held public workshops in Greensboro, Pittsboro, Fayetteville, Clinton and Wilmington during May 2004. The purpose of the workshops was to inform people of the 2005 update plan and to seek input prior to finalizing the plan. Participants provided comments on specific waters in the Cape Fear River basin and generalized issues related to urbanization and land use changes, water supply quantity and protection, enforcement, permitting, monitoring and funding sources. Refer to Appendix IX for specific comments received during the public workshops.

An important benefit of local initiatives is that local people 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 rule-making process, and many others.

These 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 are 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 (Table 60) are highlighted to share their efforts towards water quality improvement. Specific projects are described in the subbasin chapters (Chapters 1 – 24).

DWQ applauds the foresight and proactive response to potential water quality problems in the watersheds listed above. 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 below.

34.1.1 Cape Fear Assembly

Office location: Fayetteville, North Carolina
Executive Director: Don Freeman
Website: http://www.cfra-nc.org/
Contact: cfra@faynet.com Phone: (910) 223-4601

The Mission of the CFRA is to provide for the highest quality of life possible for the residents of the Cape Fear River basin, through the proper management of the Cape Fear River, its tributaries, and adjacent land uses. This mission will be accomplished through our support of efforts to investigate, educate and effectuate. Scientific study coupled with economic analyses will provide the information needed to make the best possible decisions regarding this river system and its uses. Education will provide for a better informed public, and thereby, improved stewardship of the river system as a resource. Then finally, development of policy will bring into effect the benefits of the information and education. The assembly also works with the three monitoring coalitions in the Cape Fear River basin (Appendix V).

The Cape Fear River Assembly received $933,675 through EPA's Targeted Watershed Program to address impaired water quality areas. They proposed to develop, demonstrate, and evaluate an innovative water quality nutrient trading program for the Jordan Lake watershed within the Cape Fear River Basin. The project will provide a much needed example of integrating urban stormwater management into a credit trading and watershed permitting program. The project will involve developing a water quality protection platform that combines traditional BMPs with nonstructural BMPs. Economic incentives will be created for developers to implement more environmentally sustainable land use patterns that promote more permeable surfaces. This project will result in a program that will protect the watershed's valuable water resources while allowing for continued economic growth.

34.1.2 Haw River Assembly/Haw River Watch/Stream Steward Campaign

Office location: Bynum, North Carolina
Executive Director: Elaine Chiosso chiosso@hawriver.org
Website: www.hawriver.org
Contact: info@hawriver.org and riverwatch@hawriver.org Phone: (919) 542-5790

The Haw River Assembly is a nonprofit citizen organization working to restore the Haw River and protect Jordan Lake using education, citizen water quality monitoring and research as tools. The Assembly shares water quality monitoring information collected by the Haw River Watch volunteers with state biologists and are working with state and federal agencies in the areas of land conservation, nonpoint source pollution education and dam removal. The Haw River Assembly has been instrumental in drawing attention to the Impaired streams in our river basin.

The Haw River Assembly's Stream Steward campaign has been funded through the 319 program since 2000 to conduct educational outreach on nonpoint source pollution to communities with impaired streams. The campaign has targeted Robeson Creek (Chapter 4) and the upper Haw River (Chapter 1). In 2004 the campaign received a new 319 grant to expand the campaign to the entire Haw River watershed, focusing particularly on communities with streams on the impaired waters list.

34.1.3 Piedmont Triad Council of Governments

Office location: Greensboro, North Carolina
Environmental Projects Coordinator: Carol Patrick cpatrick@ptcog.org
Website: http://www.ptcog.org/
Contact: (336) 294-4950

The Piedmont Triad Council of Governments (PTCOG) is a voluntary association of municipal and county governments, enabled by state law to promote regional issues and cooperation among members. The PTCOG serves 41 member governments in the following seven counties: Alamance, Caswell, Davidson, Guilford, Montgomery, Randolph and Rockingham. The COG is involved in the Jordan stakeholders' process (Chapter 36), Upper Cape Fear Basin Association (Appendix V), as well as various TMDLs being developed in the region.

34.1.4 Triangle J Council of Governments

Office location: Research Triangle Park, North Carolina
Water Resources Program Manager: Sydney Miller smiller@tjcog.org
Website: http://www.tjcog.dst.nc.us/index.shtml
Contact: tjcog@tjcog.org Phone: (919) 549-0551

The Triangle J Council of Governments promotes the wise and responsible stewardship of our region's water resources. TJCOG facilitates regional approaches to water resources management and provides technical assistance to local governments, and state and federal agencies. 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 the protection of public water supplies. The Triangle J Council of Governments has worked closely with local, state and federal agencies to develop several ongoing projects, such as the Triangle Area Water Supply Monitoring Project.

34.1.5 UNC Wilmington Center for Marine Science Research Programs

Office location: Wilmington, North Carolina
Website: http://www.uncwil.edu/cmsr/
Contact: Nancy Stevens stevensn@uncw.edu Phone: (910) 962-2301

The Center for Marine Science Research administers the Lower Cape Fear Program (Appendix V) as well as a host of other environmental monitoring and research in the Cape Fear River basin. Researchers at UNC-CMS have been involved in post-hurricane monitoring of water quality and studies of impacts of land use changes and intensive farming in the Northeast Cape Fear and Black River watersheds.

34.2 Federal Initiatives

34.2.1 Clean Water Act – Section 319 Program

Section 319 of the Clean Water Act provides grant money for nonpoint source demonstration and restoration projects. Approximately $1 million is available annually through base funding for demonstration and education projects across the state. An additional $2 million is available annually through incremental funding 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. 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.

There are 12 projects in the Cape Fear River basin that have been funded through the Section 319 Program between 1996 and 2003, many of which have basinwide applications (Table 36). Many are demonstration projects and educational programs that allow for the dissemination of information to the public through established programs at NC State University and the NC Cooperative Extension Service. Other projects fund stream restoration activities that improve water quality.

Descriptions of projects and general Section 319 Program information are available at http://h2o.enr.state.nc.us/nps/Section_319_Grant_Program.htm.

34.3 State Initiatives

34.3.1 North Carolina Ecosystem Enhancement Program

The North Carolina Ecosystem Enhancement Program (NCEEP) is responsible for implementing wetland and stream restoration projects as part of a statewide effort to provide more ecologically effective compensatory mitigation. The focus of the program is to restore, enhance and protect key watershed functions in the 17 river basins across the state through the implementation of wetlands, streams and riparian buffer projects within selected local watersheds *in advance of permitted impacts*. These vital watershed functions include water quality protection, floodwater conveyance & storage, fisheries & wildlife habitat, and recreational opportunities. The NCEEP is not a grant program. Instead, the program funds local mitigation projects directly through its various in-lieu fee receipts.

Through the development of ***River Basin Restoration Priorities*** (formerly called Watershed Restoration Plans), the NCEEP identifies local watersheds (14-digit Hydrologic Units) with the greatest need and opportunity for watershed mitigation projects. The *RBRP*s are developed, in part, using information compiled by DWQ's programmatic activities. Additional local resource data and locations of existing or planned watershed projects are considered in the selection of "Targeted Local Watersheds", which are identified and mapped within the *RBRP*s. ***Targeted Local Watersheds*** represent those areas within a given river basin where NCEEP resources can be most efficiently focused for maximum benefit to local watershed functions. The NCEEP *RBRPs* are periodically updated and presented on the NCEEP website: http://www.nceep.net.

Table 36 Projects Funded Through Clean Water Act Section 319

Fiscal Year	Name	Description	Agency	Amount
1996	McLendens Creek	BMP Implementation	NCSU	$198,000.00
2000	Stream Steward Education Campaign	Educational	Haw River Assembly	$6,000.00
2000	Retention Pond to Biorention Conversion Project	BMP Demonstration	Greensboro, City of Storm Water Management Division	$150,000.00
1999	Robeson Creek Watershed Assessment	TMDL Development	NCSU	$210,000.00
2002	Stream Steward Campaign	Education and BMP installation	Haw River Assembly	$26,989.00
2002	Burnt Mill Creek Watershed Outreach and Demonstration Project	Education and BMP installation	Wilmington, City of Storm Water Services	$120,000.00
1998	Jordan Lake Stakeholder Project	Stakeholder Development	Triangle J Council of Governments	$39,730.00
2003	Stream Steward Campaign	Educational	Haw River Assembly	$32,300.00
2003	Little Troublesome Creek Fecal Coliform Bacteria TMDL Implementation Plan	TMDL Implementation	Piedmont Triad COG	$366,248.00
2003	Town Branch Fecal Coliform Bacteria TMDL Implementation Plan	TMDL Implementation	Piedmont Triad COG	$163,308.00
2003	Robeson creek NPS Restoration Watershed Project	TMDL Implementation	NCSU	$300,000.00
2004	Quantification of Water Quality Improvement in Sandy Creek, after Stream and Riparian Restoration and Wetland Treatment Cell Creation (proposed)	Wetlands Restoration/ Enhancement	Duke University	$338,337.00
			Total	$1,950,912

The NCEEP can perform restoration projects cooperatively with other state or federal programs or environmental groups (such as 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, hydrologic and habitat benefits of both projects.

The NCEEP is also developing comprehensive **Local Watershed Plans**, often within Targeted Local Watersheds identified in the *RBRPs*. Through the Local Watershed Planning process, EEP conducts comprehensive watershed assessments to identify stressors in local watersheds, and

then coordinates with local resource professionals and local governments to identify and implement watershed projects and management strategies to address these problems. The Plans identify and prioritize wetland areas, stream reaches, riparian buffer areas and best management practices that will provide water quality improvement, habitat protection and other environmental benefits to the local watershed. There are currently six local watershed planning efforts that are either completed or underway in the Cape Fear River basin, as described below. These planning efforts are also discussed in the subbasin chapters.

Troublesome Creek and Little Troublesome Creek Local Watershed Plan (Chapter 1). The Plan is available at: http://www.nceep.net/services/lwps/Troublesome_Creek/troublesome.htm

Morgan Creek and Little Creek Local Watershed Plan (Chapter 6). The Plan is available at: http://www.nceep.net/services/lwps/Morgan_Creek/morgan.htm

Middle Cape Fear and Kenneth/Harris Local Watershed Plan (Chapter 7). The Plan is available at: http://www.nceep.net/services/lwps/Harris-Kenneth/Harris-Kenneth.htm

Rocky River Local Watershed Plan is not yet complete (Chapter 12). The Plan is due to be completed in 2005.

New Hanover County Local Watershed Plan (Chapter 23). The Plan is available at: http://www.nceep.net/services/lwps/new%20hanover/newhanover.htm

34.3.2 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 Cape Fear River basin, 71 projects have been funded for a total of $54,330,400 (Table 37). For more information on the CWMTF or these grants, call (252) 830-3222 or visit the website at www.cwmtf.net.

Table 37 Projects in the Cape Fear River Basin Funded by the Clean Water Management Trust Fund (July 2004)

Project Number	Application Name	Amount Funded	Subbasin
1997A-085	Orange Water and Sewer Authority – Acquisition / Cane River Resv	$1,042,500	03-06-04
1997A-087	NC Wildlife Resources Commission – Acquisition / Suggs Mill Pond	$2,250,000	03-06-16
1997A-097	Triangle J COG – Acq and Restoration Plan / Upper Cape Fear River	$70,000	03-06-03
1997A-104	Durham County – Acquisition / New Hope Creek	$750,000	03-06-05
1997A-119	Fayetteville – Acquisition / Little Cross Ck	$502,500	03-06-15
1997B-008	Piedmont Land Conservancy – Acq / Sandy Creek Reservoir/Ramseur	$134,000	03-06-09
1997B-009	Triangle Land Conservancy – Acq and Greenway / New Hope Creek	$2,750,000	03-06-05
1997B-904	Greensboro – Acq and Stormwater Wetland / South Buffalo Creek	$800,000	03-06-02

1998A-004	Triangle Land Conservancy – Deep River Acquisition	$1,189,000	03-06-10
1998A-005	NC Wildlife Resources Commission – Bellhammon Tract Acq / NE Cape Fear	$1,070,000	03-06-23
1998A-101	New Hanover Co – Airlie Gardens and Tidal Creeks Acquisition / Stormwater	$6,000,000	03-06-24
1998A-103	Chapel Hill – Dry Creek Acquisition and Greenway	$200,000	03-06-05
1998A-301	Brunswick County – Wastewater Reuse System	$1,500,000	03-06-17
1998A-302	Cape Fear Botanical Garden – Streambank Stabilization / Cross Creek	$77,000	03-06-15
1998A-505	Ramseur – Sewer Rehabilitation / Deep River	$344,000	03-06-09
1998A-807	Fayetteville – Little Cross Creek Pollutant Susceptibility Study	$63,200	03-06-15
1998B-001	Haw River Assembly – Haw River Headwaters Acquisition	$24,500	03-06-01
1998B-012	Nature Conservancy – Acquisition / Black and South Rivers	$2,000,000	03-06-20
1998B-015	Sanford – Acquisition / Little Buffalo Creek	$765,000	03-06-11
1998B-409	Piedmont Triad Reg. Water Authority – Acquisition / Deep River	$615,000	03-06-08
1998B-505	New Hanover Co / Dept. Env Mgmt – Landfill Leachate Treatment	$785,000	03-06-23
1999A-007	NC Wildlife Resources Commission – Little Lake Singletary Acq	$1,810,406	03-06-16
1999A-701	NC WRP – Restoration and Stormwater / Sandy Creek	$582,500	03-06-05
1999A-901	Cape Fear RC&D – Bladen Co / No-Till Drill	$18,550	03-06-16 03-06-18 03-06-19 03-06-20
1999B-007	Haw River Assembly – Conrad Tract Acquisition / Mears Fork Creek	$200,000	03-06-01
1999B-010	NC Coastal Land Trust – Town Creek Conservation Easements	$1,441,000	03-06-17
1999B-103	Graham – Haw River Trail Feasibility Study	$20,000	03-06-02
1999B-506	Franklinville – WWTP Improvements	$1,052,000	03-06-09
1999B-512	Garland – Backup generation	$45,000	03-06-18
2000A-002	Cary – Acquisition and Greenway Feasibility / White Oak Creek	$86,000	03-06-05
2000A-009	NC Coastal Land Trust – Acquisition / Town Creek	$305,000	03-06-17
2000A-504	Erwin – WWTP Improvements	$300,000	03-06-07
2000A-701	Raeford – Acq and Stormwater Wetland Design / Peddlers Branch	$194,000	03-06-15
2000A-803	Moore County Soil and Water Conservation District – Sediment Monitoring / Cane Creek	$9,724	03-06-14
2000B-008	NC Coastal Land Trust – Foy Creek Acquisition	$1,251,000	03-06-24
2000B-505	Chatham County – Wastewater Reuse	$1,000,000	03-06-04
2000B-509	Liberty – Sewer Rehabilitation	$212,020	03-06-12
2001A-015	NC Coastal Land Trust – Henry Prop / Town and Russell Creeks Acq	$277,000	03-06-17

2001A-016	NC Coastal Land Trust – Henline Tract / NE Cape Fear Acquisition	$181,000	03-06-23
2001A-018	NC Div Forest Resources – Mulford Creek / Bladen Lakes State Forest Acquisition	$315,000	03-06-16
2001A-025	Orange Water and Sewer Authority – Phase II Cane Creek Reservoir Acquisition	$687,000	03-06-04
2001B-001	Apex – Acquisition / Beaver Creek	$387,000	03-06-05
2001B-004	Cary – Acquisition / White Oak Creek	$1,084,000	03-06-05
2001B-008	Graham – Acquisition / Haw River	$140,000	03-06-02
2001B-017	Nature Conservancy – Acquisition / Bear Garden and Angola Bay Tracts / NE Cape Fear River and tributaries	$7,900,000	03-06-23
2001B-025	NC Coastal Land Trust – Acquisition / Burney Tract / Shelter Creek and Corbington Branch	$783,000	03-06-23
2001B-026	NC Coastal Land Trust – Acquisition / Holland Tract / Shelter Creek and Angola Creek	$442,000	03-06-23
2001B-807	Piedmont Triad COG – Riparian Corridor Plan / Haw River	$65,000	03-06-02
2001M-008	Triangle Land Conservancy – Acquisition Minigrant	$25,000	03-06-11
2001M-010	Haw River Assembly – Acquisition Minigrant	$14,500	03-06-02
2002A-003	Carrboro, Town of – Acquisition / Bolin Creek	$202,000	03-06-06
2002A-018	Nature Conservancy – Acquisition / Burgaw Creek	$606,000	03-06-23
2002A-019	Nature Conservancy – Acquisition / Shelter Swamp	$148,000	03-06-23
2002A-030	Triangle Land Conservancy – Acquisition / Deep River Justice Tract	$1,825,000	03-06-11
2002A-404	Pilot View RC&D – Stream Restoration and Stormwater / Koerner Place Creek	$175,000	03-06-08
2002A-504	Liberty, Town of – Rocky River Sewer System Rehabilitation	$203,000	03-06-09
2002A-705	Greensboro, City of – Stormwater Wetland / South Buffalo Construction	$570,000	03-06-02
2002A-708	Raeford, City of – Stormwater Wetland / Peddler's Branch Construction	$296,000	03-06-15
2002B-012	NC Coastal Land trust – Acquisition / IP Realty, Town Creek	$2,095,000	03-06-17
2002B-702	Fayetteville, City of – Stormwater /Little Cross Creek	$766,000	03-06-15
2002M-001	Piedmont Land Conservancy Minigrant / Troublesome Creek	$25,000	03-06-01
2002M-006	New Hanover Soil and Water Conservation District Minigrant /Eagle Island	$25,000	03-06-17
2003A-010	Conservation Fund – Acquisition / Goshen Swamp and Grove Creek	$55,000	03-06-22
2003A-019	Nature Conservancy, The – Acquisition / Corbett Tract, NE Cape Fear	$671,000	03-06-23
2003A-023	NC Coastal Land Trust – Acq / Humphrey Tract, Shaken Creek	$366,000	03-06-23
2003A-024	NC Coastal Land Trust – Acq / McKeithan Tract, NE Cape Fear	$992,000	03-06-23
2003A-038	Sandyfield, Town of – Acquisition / Beaverdam Creek Wetlands	$161,000	03-06-16

2003A-512	Ramseur, Town of – Wastewater / Deep River Collection Rehabilitation	$278,000	03-06-09
2003A-515	Wallace, Town of – Wastewater / Rock Fish Creek Regionalization	$1,037,000	03-06-22
2003M-002	Sandhills Area Land Trust Minigrant – Methodist College River Tract	$25,000	03-06-15
2003M-004	Haw River Assembly – Minigrant – Alston Quarter, Saxapahaw	$25,000	03-06-04
2003M-008	Orange Water and Sewer Authority – Minigrant / Cane Creek Dairy	$25,000	03-06-04
		$54,330,400	

Notes:

(1) The total funded amount excludes funded projects that were subsequently withdrawn by the applicant.

(2) Several regional and statewide projects were funded in areas that include the Cape Fear River basin. The projects include various riparian corridor planning projects, a straight pipe and septic system discharge elimination program, and a Watershed Assessment and Restoration Program.

34.3.2 NCSU Water Quality Group

The water quality group is a multidisciplinary team that implements, analyzes and evaluates nonpoint source pollution control technologies and water quality programs in North Carolina and nationwide. The Water quality group is a component of the NC Cooperative Extension Service, Biological and Agricultural Engineering Department, and the NCSU Soil and Water Environmental Technology Center.

The mission of the Water Quality Group is to enhance NCSU's water quality programs by conducting research, dessiminating information and providing technical assistance on nonpoint source pollution control for agriculture, forestry, urban land uses, construction an on-site wastewater systems. This role improves the effectiveness and increases the benefits derived from research and extension efforts and NCSU by facilitating interdepartmental and inter-institutional cooperative efforts to understand and address environmental problems.