

Section C - Chapter 1

Current Water Quality Initiatives

1.1 Workshop Summaries

In September 2003, there were three workshops held by DWQ in the Catawba River basin in the towns of Dallas, Hickory and Newton. There were 112 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.

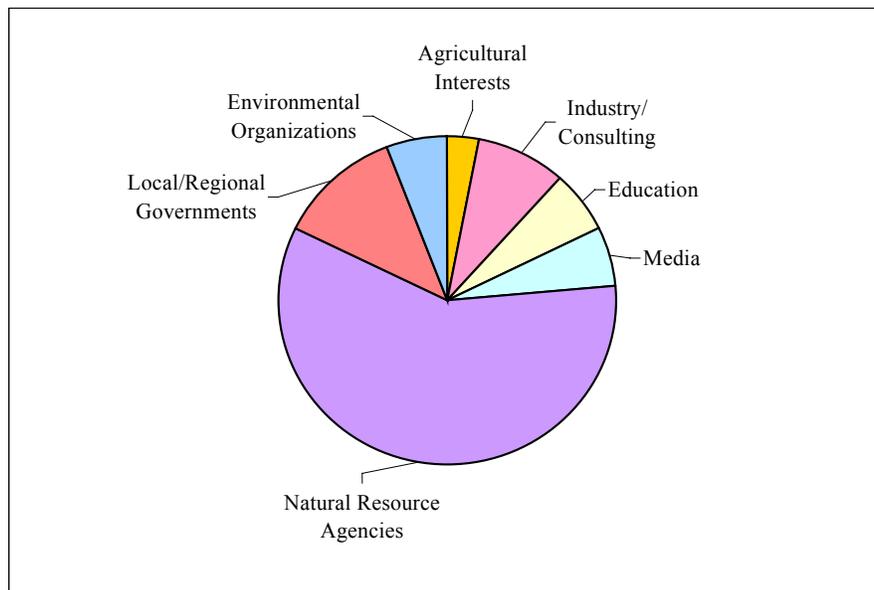


Figure C-1 Total Attendance by Various Interests at DWQ Water Quality Workshops in the Catawba River Basin (2002)

DWQ staff gave presentations about general water quality in the Catawba River basin, basinwide planning and the Wetlands Restoration Program (since reorganized as Ecosystem Enhancement Program, or EEP). 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 Catawba 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 Basinwide

The most important issues identified by workshop participants were related to development and nonpoint sources of pollution. Increasing urbanization was a concern identified throughout the basin. Losses of forestland and wetlands, increases in nutrient loading from many sources, and stormwater runoff were identified as threats to water quality at the workshops. Issues related to enforcement of existing rules and monitoring, lack of BMP maintenance, mercury contamination, and better drought planning were also of concern. Refer to Appendix V for summary tables from the workshops.

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. USEPA, the granting agency, allocates approximately \$4.6 million for Section 319 in North Carolina; three quarters of which the state designates to competitively selected projects. 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, is available online at <http://h2o.enr.state.nc.us/nps/>.

From 1992-2004, approximately \$1,427,000 was allocated by the Section 319 Program to initiate or complete projects in the Catawba River basin. These projects include land acquisition, stream restoration and education. The projects vary greatly in scope and scale, many having basinwide applications. Descriptions of the projects listed below and other Section 319 Program information are available 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	Project Area	Total Amount Funded
1992	Long Creek Monitoring	Gaston County	Agriculture	190,000
1994	Long Creek-Agriculture BMP Evaluation	NCSU	Agriculture	157,500
1995	Catawba River Land Acquisition	City of Morganton	Watershed Protection	250,000
1995	Long Creek Watershed Project	NCCES	Agriculture	354,298
1997	Catawba River Basin Buffers	NCSU-NRLI	General	25,282
1998	South Fork Catawba River	NCSU	Urban Stormwater	88,392
1998	Caldwell County Rain Garden and Streambank Stabilization	NCSU CES, BAE	Urban Stormwater	10,800
2000	Stream Restoration Project in Gaston County (New Hope Branch)	Gaston County NRCD	Wetlands and Hydrologic Modification	68,137
2000	Demonstration of Low Impact Development (LID) Strategies for NPS Pollution Prevention and Stream Restoration in the Catawba River Basin	UNC-Charlotte	Urban Stormwater	180,000
2001	Mountain Island Reservoir (MIR) BMPs Education State Forest	DFR	Forestry	103,108

1.2.2 USDA EQIP

The Environmental Quality Incentives Program (EQIP) was reauthorized in the Farm Security and Rural Investment Act of 2002 (Farm Bill) to provide a voluntary conservation program for farmers and ranchers that promotes agricultural production and environmental quality as compatible national goals. EQIP offers financial and technical help to assist eligible participants to install or implement structural and management practices on eligible agricultural land.

EQIP offers contracts with a minimum term that ends one year after the implementation of the last scheduled practices to a maximum term of ten years. These contracts provide incentive payments and cost shares to implement conservation practices. Persons who are engaged in livestock or agricultural production on eligible land may participate in the EQIP program. EQIP activities are carried out according to an environmental quality incentives program plan of operations developed in conjunction with the producer that identifies the appropriate conservation practice or practices to address the resource concerns. The practices are subject to NRCS technical standards adapted for local conditions. The local conservation district approves the plan.

EQIP may cost share up to 75 percent of the costs of certain conservation practices. Incentive payments may be provided for up to three years to encourage producers to carry out management practices they may not otherwise use without the incentive. However, limited resource producers and beginning farmers and ranchers may be eligible for cost shares up to 90 percent. Farmers and ranchers may elect to use a certified third-party provider for technical assistance. For application information, refer to any county extension office or visit the website at <http://www.nc.nrcs.usda.gov/programs/EQIP/>.

1.3 State Initiatives

1.3.1 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 Division of Soil and Water Conservation (DSWC) implements the program. 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.

Soil and Water Conservation District contacts for the Catawba River basin are included in Appendix VI or visit the website at <http://www.enr.state.nc.us/DSWC/pages/agcostshareprogram.html> for more information.

1.3.2 Ecosystem Enhancement Program (Formerly Wetlands Restoration Program)

In July 2003, the NC Wetlands Restoration Program (WRP) 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 Catawba River basin that have restorable wetland, riparian and stream sites.

Table C-3 below lists the EEP's Targeted Local Watersheds [stream names and 14-digit HU codes] in the Catawba 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 are currently two local watershed planning efforts underway in the Catawba River basin and each are described below.

For more information about the EEP and its Watershed Restoration Plans, please call (919) 715-0476 or visit the EEP website at <http://www.nceep.net/>.

Catawba Local Watershed Plans

Charlotte Area Local Watershed Plan

In 2002, the EEP initiated the Charlotte Area Local Watershed Plan in conjunction with Charlotte Storm Water Services, Mecklenburg Storm Water Services, Charlotte-Mecklenburg Utilities Department, and Mecklenburg Department of Environmental Protection. The 251-square mile planning area included Little Sugar, Long, McDowell, Irwin, Sugar and McAlpine Creeks, all listed on North Carolina's 2002 303(d) Impaired stream list. The primary purpose of this study was to identify stream and wetland restoration opportunities as well as potential

stormwater and nonpoint source pollution Best Management Practices that could be implemented in the study area to address water quality problems and habitat degradation. The EEP contracted with CH2MHill to conduct a detailed watershed assessment that involved compiling existing water quality, habitat and land use data and using this information to assess the health of 318 individual catchments (<1 square mile) across the study area. CH2MHill also developed a calibrated water quality model for the study area to predict total suspended solids, phosphorus and zinc concentrations and loadings under alternative management scenarios.

Based on the assessment data, the stakeholders selected five small focus areas or grouping of catchments (0.5 to 7 square miles) for detailed field assessment. The focus areas represented various land use patterns found across the study area from urban built-out areas to suburban areas under development. The field assessments evaluated restoration project opportunities including stream and wetland restoration as well as stormwater and water quality BMPs. The Local Watershed Plan provides detailed information about the recommended projects including cost and pollutant removal at the project and watershed scale. The plan was completed in August 2003. The EEP is currently focusing project implementation in the McDowell Creek and Long Creek watersheds. For more information about this project, contact Kristin Cozza at (704) 572-0955 or to view the technical reports and watershed plan, visit the website at h2o.enr.state.nc.us/wrp/plans/charlotte.htm.

Lower Creek Local Watershed Plan

In 2003, the EEP initiated a Local Watershed Plan for the Lower Creek Watershed in Burke and Caldwell counties. The Lower Creek watershed (90 square miles) drains the municipalities of Lenoir and Gamewell and includes Zacks Fork, Spainhour Creek, Bristol Creek and Greasy Creek, all on North Carolina's 2002 303(d) list of Impaired streams. The EEP will use the plan to identify and prioritize wetland and stream restoration projects, as well as best management practices to provide water quality and aquatic habitat improvements to the watershed. The watershed characterization, or compilation of existing data about watershed conditions, was completed in December 2003. The detailed watershed assessment, including water quality monitoring and field assessment and restoration plan, is scheduled for completion by June 2005. The EEP will coordinate with local community groups, local governments and others to develop and implement the restoration plan. For more information about the Lower Creek Local Watershed Plan, contact Kristin Cozza at (704) 572-0955.

Targeted Local Watersheds

Table C-2 below lists the EEP's Targeted Local Watersheds [stream names and 14-digit HU codes] in the Catawba 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.

Table C-2 Ecosystem Enhancement Program Targeted Local Watersheds (2003)

Subbasin	Local Watershed Name and HU code	Impaired Stream(s) ¹	Downward Trend in Water Quality ²	Public Water Supply ³	ORW or HQW ⁴	Aquatic NHP Elements ⁵	Existing, Planned Projects ⁶	Municipality(ies); Phase I or II ⁷	Local Resource Professional Recommendation ⁸
03-08-30	West Fork Catawba 03050101010010	No	No	No	Yes	Yes			
03-08-30	Upper Linville River 03050101030010	No	No	Yes	No	Yes			Yes
03-08-30	Paddy Creek 03050101030030	No	No	Yes	No	No			
03-08-30	North Muddy Creek 03050101040010	Yes	Yes	No	No	Yes	SWCD	Marion Phase II	Yes
03-08-30	South Muddy Creek 03050101040020	No	No	No	No	No	SWCD		Yes
03-08-31	Silver Creek 03050101050050	No	No	Yes	Yes	No		Morganton Phase II	
03-08-31	Lower Johns River 03050101070040	No	No 1997 Data	Yes	Yes	Yes			Yes
03-08-31	Warrior Fork 03050101060020	No	Yes	Yes	Yes	Yes			Yes
03-08-31	Upper Lower Creek 03050101080010	Yes	No	Yes	No	No	LWP	Lenoir Phase II	
03-08-31	Lower Lower Creek 03050101080020	Yes	No	Yes	No	Yes	LWP	Gamewell Phase II	
03-08-31	Irish Creek 03050101060030	Yes	Yes	Yes	No	No			
03-08-31	Hunting Creek 03050101060050	Yes	No 1997 Data	Yes	No	Yes		Morganton Phase II	
03-08-31	Brown Branch 03050101070020	No	No Data	No	Yes	Yes	EEP		
03-08-31	McGalliard Creek 03050101090010	Yes	Yes	Yes	No	No		Valdese Phase II	
03-08-32	Muddy Fork Creek 03050101120030	No	Yes	Yes	No	No			

Table C-2 Ecosystem Enhancement Program Targeted Local Watersheds (2003)

Subbasin	Local Watershed Name and HU code	Impaired Stream(s) ¹	Downward Trend in Water Quality ²	Public Water Supply ³	ORW or HQW	Aquatic NHP Elements ⁵	Existing, Planned Projects ⁶	Municipality(ies); Phase I or II ⁷	Local Resource Professional Recommendation ⁸
03-08-32	Elk Shoal Creek 03050101130010	No	No	Yes	No	No			
03-08-32	Horseford Creek 03050101090020	No	No Data	No	No	No		Hickory Phase II	
03-08-32	Jumping Run Creek 03050101120040	No	No Data	Yes	No	No	EEP		
03-08-32	Lyle Creek 03050101140010	No	No Data	Yes	No	Yes	EEP		
03-08-33	McDowell Creek 03050101170010	Yes	Yes	Yes	No	No	LWP	Huntersville Phase II	Yes
03-08-34	Long Creek 03050101170020	Yes	No	Yes	No	Yes	LWP	Charlotte Phase I	Yes
03-08-34	Irwin & Sugar Creeks 03050103020020	Yes	Yes	No	No	No	LWP	Charlotte Phase I	Yes
03-08-34	Little Sugar Creek 03050103020030	Yes	Yes	No	No	No	LWP	Charlotte Phase I	Yes
03-08-34	McMullen Creek 03050103020040	No	No	No	No	No	LWP	Charlotte Phase I	Yes
03-08-34	McAlpine Creek 03050103020050	Yes	No	No	No	No	LWP DWQ TMDL	Charlotte Phase I	Yes
03-08-35	Clark Creek 03050102030010	Yes	Yes	No	No	Yes	DWQ WARP Study	Hickory Phase II	
03-08-35	Clark Creek 03050102030020	Yes	Yes	Yes	No	No			
03-08-35	Maiden Creek 03050102030030	Yes	No Data	Yes	No	Yes		Maiden Phase II	
03-08-35	Indian Creek 03050102050010	Yes	Yes	Yes	Yes	No			
03-08-36	Long Creek 03050102070020	No	No	Yes	No	Yes		Gastonia Phase II	

Table C-2 Ecosystem Enhancement Program Targeted Local Watersheds (2003)

Subbasin	Local Watershed Name and HU code	Impaired Stream(s) ¹	Downward Trend in Water Quality ²	Public Water Supply ³	ORW or HQW ⁴	Aquatic NHP Elements ⁵	Existing, Planned Projects ⁶	Municipality(ies); Phase I or II ⁷	Local Resource Professional Recommendation ⁸
03-08-37	Crowders Creek 03050101180010	Yes	No	No	No	No		Gastonia Phase II	
03-08-38	Sixmile Creek 03050101030010	Yes	No	No	No	Yes		Charlotte Phase I	
03-08-38	Twelvemile Creek 03050101030020	No	Yes	No	No	Yes			

1 Stream segments (or entire streams) that do not support their designated uses and are, therefore, considered **impaired** based on declining biological ratings [e.g., due to degraded aquatic habitat] and/or failure to meet NCDWQ water quality standards. As identified in the 2003 Draft Basinwide Water Quality Plan (DWQ, 2003).

2 **Downward Trend in Water Quality** as indicated in the 2003 Draft Basinwide Assessment Report (DWQ, 2003).

3 **Water Supply (WS)** = waters used as water supply sources for drinking, culinary or food processing purposes.

4 **ORW** = outstanding resource waters. **HQW** = high-quality waters, which include critical habitat areas or primary nursery areas.

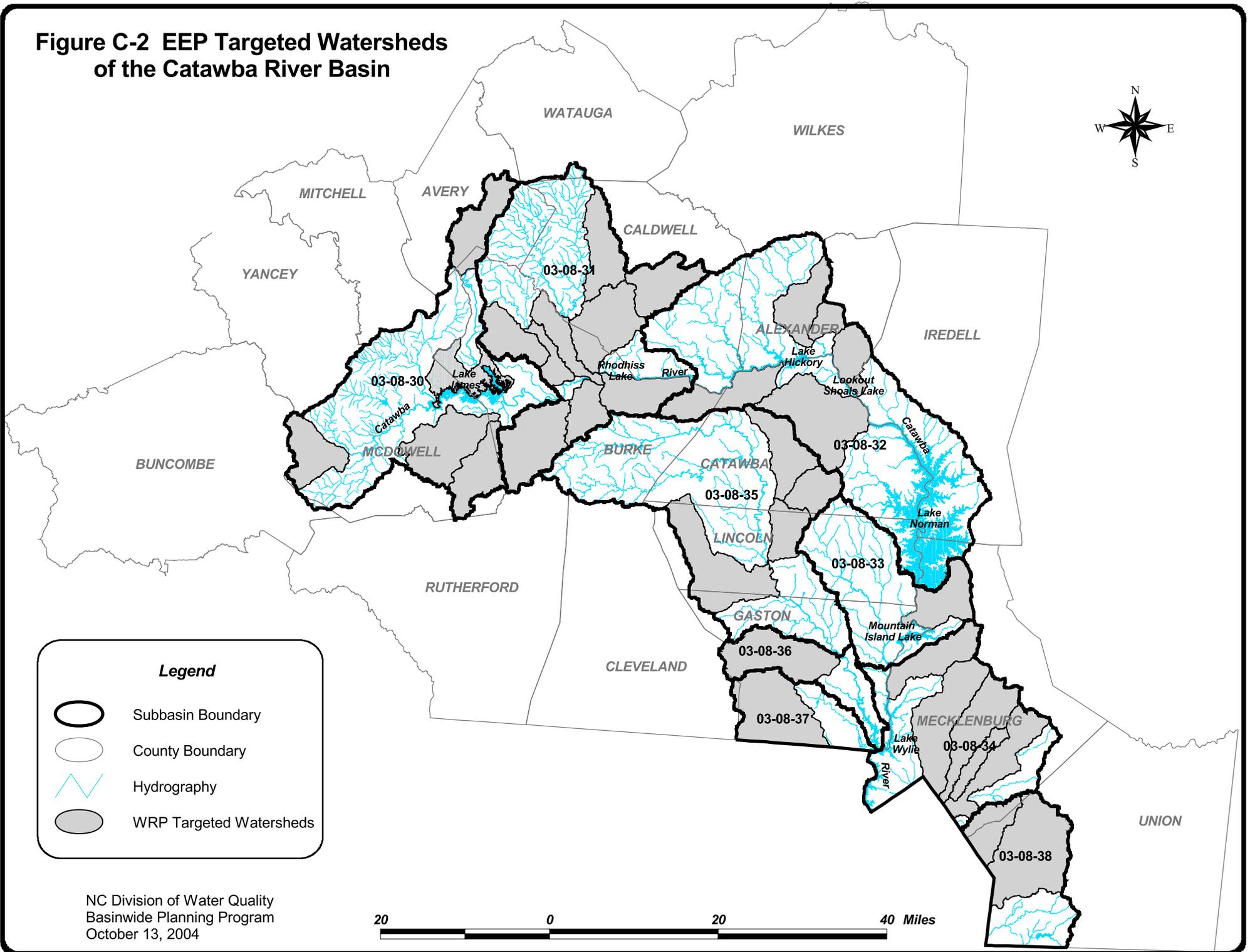
5 **Aquatic Natural Heritage elements** are special species, habitats or community types identified by the NC Natural Heritage Program and that occur, or spend some portion of their life cycle, in wetlands, streams, riparian areas or estuarine waters.

6 **Existing or planned projects** in the following programs: EEP = Ecosystem Enhancement Program; LWP = EEP Local Watershed Plan; CWMTF = Clean Water Management Trust Fund; CES = North Carolina Cooperative Extension Service; 319 = North Carolina Division of Water Quality Section 319 Program; WARP = North Carolina Division of Water Quality Watershed Assessment and Restoration Program.

7 **Associated towns or cities and applicability of NPDES Phase II** stormwater rules, or that are otherwise likely to have significant current or future urban stormwater management issues.

8 **Local Resource Professional Recommendation**, as determined during the outreach process of updating the NCWRP Watershed Restoration Plan.

Figure C-2 EEP Targeted Watersheds of the Catawba River Basin



Legend

-  Subbasin Boundary
-  County Boundary
-  Hydrography
-  WRP Targeted Watersheds

NC Division of Water Quality
 Basinwide Planning Program
 October 13, 2004

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1.3.3 Clean Water Management Trust Fund

North Carolina's Clean Water Management Trust Fund (CWMTF) was established by the General Assembly in 1996 (Article 13A; Chapter 113 of the North Carolina General Statutes). At the end of each fiscal year, 6.5 percent of the unreserved credit balance in North Carolina's General Fund (or a minimum of \$30 million) goes into the CWMTF. Revenues from the CWMTF are then allocated in the form of grants to local governments, state agencies and conservation nonprofit organizations to help finance projects that specifically address water pollution problems. The 18-member, independent, CWMTF Board of Trustees has full responsibility over the allocation of monies from the fund.

The CWMTF provides funding for projects that: 1) enhance or restore degraded waters; 2) protect unpolluted waters; and/or 3) contribute toward a network of riparian buffers and greenways for environmental, educational and recreational benefits. In the Catawba River basin, 61 projects were funded between 1997 and 2003, totaling \$30,511,123. Table C-3 lists the individual grants. For more information on the CWMTF or these grants, call (252) 830-3222 or visit the website at <http://www.cwmtf.net/>.

Table C-3 Projects in the Catawba River Basin Funded by the Clean Water Management Trust Fund (as of 12/02)

FY	Application Name	Proposed Project Description	Amount Funded	Subbasin
2000	Bessemer City – Decommission WWTP and Reroute Waste	Decommission Bessemer City WWTP and rescind permit of 1.5 MGD. Route effluent to Gastonia's nearby regional WWTP. Upgrade Ninth Street Pump Station. Construct new sewer force mains and gravity sewer lines.	\$2,000,000.00	03-08-37
2001	Blowing Rock – China Creek / Johns River Land Acquisition	Acquire through fee simple purchase 192 acres of the headwaters of China Creek. CWMTF funds to purchase 80 riparian acres.	\$201,000.00	03-08-31
2001	Burke County – Planning / Lake James	Conduct a planning project for the Catawba River WS-IV using spatial growth management decisions.	\$62,000.00	03-08-30
1999	Caldwell County – Wilson Creek Acquisition	Acquire through fee simple purchase 4 acres along Wilson Creek.	\$51,000.00	03-08-31
2001	Catawba Lands & Foothills Conservancy – Acquisition / Johnston Creek	Provide funds to cover transactional costs on two riparian conservation easements (385 acres). Overall project would protect 525 acres through donated and purchased easements in Mountain Island Lake Watershed along Johnson Creek.	\$116,000.00	03-08-33
2001	Catawba Lands Cons – Buck & Smith Tract / South Crowders Creek Acq	Acquire through fee simple purchase and permanent conservation easements 107 acres along South Crowders Creek. CWMTF funds to purchase 27.1 acres and establish a CE on 11.3 acres. Landowner to donate CE on 68.4 acres.	\$166,000.00	03-08-37
1998	Catawba Lands Cons – Acq / Ryne Preserve / South Fork Catawba	Acquire through fee simple purchase and permanent conservation easements 245 acres along the South Fork Catawba River and two unnamed tributaries. Acreage includes a donated conservation easement of 185 acres.	\$310,000.00	03-08-35
2002	Catawba Lands Cons – Acq / Ramsey Tract, South Fork Catawba River	Acquire 16.4 acres through fee simple purchase along the South Fork Catawba River. An additional 3.5 acres will be donated. A total of 19.9 acres will be protected.	\$77,000.00	03-08-35

2002	Catawba Lands Cons – Acq / Anderholt Tract South Fork Catawba River	Acquire through fee simple purchase 75 riparian acres along the South Fork Catawba River.	\$343,000.00	03-08-35
2003	Catawba Lands Cons – Donated Minigrant, Colt Thornburg Tract / South Fork Catawba River and Coley Creek	Minigrant to pay for transactional costs for a donated easement on 70 acres along the South Fork Catawba River and Coley Creek.	\$10,000.00	03-08-35
2003	Catawba Lands Cons – Donated Minigrant, Friday Farm Tract / Hoyle Creek	Minigrant to pay for transactional costs for a donated easement on 170 acres along the South Fork Catawba River and tributaries.	\$16,000.00	03-08-35
2003	Catawba Lands Cons – Donated Minigrant, Oakwood Farm Tract / South Fork Catawba River	Minigrant to pay for transactional costs for a donated easement on 63 acres along the South Fork Catawba River and tributaries.	\$25,000.00	03-08-35
1997	Catawba Lands Cons – South Fork Catawba Acquisition Plan	Identify and prioritize riparian buffer protection objectives, meet with landowners to negotiate easements or acquisitions, find funding for acquisitions, and track progress of acquisition through monitoring of water quality and buffer management goals.	\$50,000.00	03-08-35
1999	Catawba Lands Cons – South Fork Acquisition	Acquire through fee simple purchase and permanent conservation easements 207 acres along the South Fork Catawba River and tributaries.	\$905,000.00	03-08-36
1999	Catawba Lands Cons – South Fork Catawba Acquisition	Acquire through fee simple purchase and permanent conservation easement 284 acres along the South Fork Catawba River. CWMTF funds to purchase a 219-acre tract and landowner to donate permanent conservation easement on another 65 acres.	\$811,000.00	03-08-35
2000	Catawba Lands Cons – Acquisition / South Fork Catawba River	Acquire through fee simple purchase 13 acres along the South Fork Catawba River.	\$60,000.00	03-08-35
2001	Catawba Lands Cons – Acquisition Minigrant	Provide funds to cover preacquisition costs for 214 acres that border Long and Little Long Creeks.	\$25,000.00	03-08-36
2001	Catawba Lands Cons – Acquisition / South Fork Catawba River	Purchase riparian areas and to cover monitoring and transactional costs for two tracts. Total protected acreage (fee simple acquisition) will be 75.6 acres along South Fork Catawba River.	\$217,000.00	03-08-35
2003	Catawba Lands Cons – South Fork Catawba Land Acquisition	Acquire through fee simple purchase and permanent conservation easements 252 acres along the South Fork Catawba River. CWMTF funds to purchase 130 acres and landowner to donate a conservation easement on an additional 122 acres.	\$420,373.00	03-08-35
1997	Catawba Lands Cons – Acquisition / Rollins & Banker Tracts, South Fork River	Acquire through fee simple purchase and a permanent conservation easement 115 acres along the South Fork Catawba River. CWMTF to purchase 75 riparian acres and landowner to donate an additional 40 acres. Ties in with already protected stream corridor.	\$286,000.00	03-08-35
2000	Centralina COG – Acq / Mountain Island Lake	Acquire through fee simple purchase 1,231 acres along Mountain Island Lake on the Catawba River.	\$6,560,000.00	03-08-33
2002	Charlotte – Stormwater Demonstration (School Grounds)	Design and construct a wetland system at an elementary school, capable of treating water from 15-acre urban watershed. Maintain wetland system as stormwater treatment works and demonstration site for a minimum of 15 years. Monitor results.	\$200,000.00	03-08-34
1997	Charlotte, City of – Acq / Mountain Island Lake, Gar Creek	Acquire through fee simple purchase 13 acres along Gar Creek Cove of Mountain Island Lake. CWMTF funds to purchase 1/2 of the riparian acres.	\$250,000.00	03-08-33
2001	Claremont – Acquisition Coulters Branch	Acquire through fee simple purchase 7 acres along Coulters Branch.	\$56,000.00	03-08-32

2001	Conover – Sewer Overflow Warning System	Implement sewer collection system overflow prevention and management demo project to expand city’s current warning system and install sewer overflow communicators at manholes that have historically overflowed. Remote and trouble spots targeted.	\$43,000.00	03-08-32
2001	Cons Trust for NC – Duggers Creek / Upper Linville Gorge Acq	Acquire through fee simple purchase 314 acres along Gulf Branch and Duggers Creek.	\$366,000.00	03-08-30
2001	Foothills Conservancy – Acq / Adams Tract, Left Prong Catawba River	Acquire through fee simple purchase 771 acres along the Left Prong Catawba River. CWMTF funds will be used to acquire 320 riparian acres.	\$821,000.00	03-08-30
2000	Foothills Conservancy of NC – Acquisition / Phillips Creek	Acquire conservation easements on 80 acres along Phillips Creek. A donated easement on an upland 34 acres will be included.	\$131,000.00	03-08-31
2003	Foothills Conservancy of NC – Caldwell County Acquisition Minigrant	Provide funds to cover preacquisition costs for land in Caldwell County.	\$25,000.00	03-08-31 & 03-08-32
2003	Foothills Conservancy of NC – Acquisition Blue Ridge Parkway, Linville River	Acquire through fee simple purchase 41 acres along the Linville River. CWMTF funds to purchase 30 riparian acres and landowner to donate an additional 10 acres. Tract is adjacent to the Blue Ridge Parkway and is upstream of Linville Falls.	\$328,000.00	03-08-30
1999	Foothills Conservancy of NC Minigrant – Catawba River	Minigrant to pay for transactional costs for fee simple purchase of the 360-acre Watermill Tract on the Catawba River in Burke County.	\$25,000.00	03-08-30
2002	Gaston County SWCD – Restoration & Stormwater / Duharts Creek Tributary	Construct four wetland areas to treat runoff from school and other developed areas adjacent to the creek. Monitor results.	\$36,000.00	03-08-36
1999	Gastonia – Acquisition and Greenway / Catawba Creek	Acquire through fee simple purchase 77 acres along Catawba and Anthony Creeks.	\$347,000.00	03-08-37
2000	Gastonia – Water’s Edge Tract Acquisition / Mountain Island Lake	Acquire through permanent conservation easements 425 acres (Water’s Edge Tract) along Mountain Island Lake.	\$1,000,000.00	03-08-33
1997	Gastonia – Catawba Creek Tributary Restoration	Design and construct natural design stream restoration project along 2,000 feet of stream. Revegetate stream buffer. Place restored area under open space conservation easement.	\$219,250.00	03-08-37
1998	Gastonia – Decommission Catawba Creek WWTP and Reroute Waste	Decommission failing Catawba Creek WWTP and convert plant to a 7.5 MGD pumping station. Construct force main (8,400 LF) to take wastewater to Long Creek plant, a "state-of the art" system and a preferred discharge location. Includes backup generator.	\$1,000,000.00	03-08-37
1998	Granite Falls – Sewer Rehabilitation / Gunpowder Creek	Replacement of Granite Fall’s existing sewer line (15,400 LF) along Bill Branch in order to eliminate discharge of raw sewage into surface waters and to reduce groundwater and rainwater inflow and infiltration into the sanitary sewer system.	\$1,228,000.00	03-08-32
2002	Granite Falls, Town of – Acquisition / Lake Rhodhiss	Acquire through fee simple purchase 166 acres along the Lake Rhodhiss and tributaries. CWMTF funds will be used to acquire 80 riparian acres.	\$890,000.00	03-08-31
1997	Hildebran – Wastewater Collection System / Drowning Creek	Construct wastewater collection system in the Drowning Creek watershed to eliminate 29 failing residential septic systems.	\$136,000.00	03-08-32
1997	Lenoir – Acquisition and Greenway / Zacks Fork	Acquire through fee simple purchase 5 acres along Zacks Fork.	\$50,000.00	03-08-31
1997	Maiden – Acquisition / Maiden and Allen Creeks	Acquire a permanent conservation easement on 18 acres along Maiden Creek.	\$360,000.00	03-08-35

1998	McDowell County – Wastewater Collection System / Corpening Creek	Design and construct wastewater collection system to serve the Stumptown community and to tie on and treat waste from the Stumptown community.	\$1,500,000.00	03-08-30
1997	McDowell County – Stream Restoration / Catawba River Park	Stabilize streambanks (2 reaches) of Youngs Fork Creek in McDowell County Catawba River Park using natural channel design methods. Also develop riparian buffer and greenway plan along Catawba River.	\$189,000.00	03-08-30
2001	McDowell Co – Restoration / Upper Catawba River / Catawba River Park	Stabilize 2,000 feet of riverbank along the mainstem of the Upper Catawba River in the county's Catawba River Park.	\$200,000.00	03-08-30
1997	Mecklenburg County EPD – Stormwater Demonstration / Edwards Branch	Construct and monitor BMPs in a "built out" 640-acre watershed to demonstrate their effectiveness. Evaluate parking area BMPs, riparian area restoration, wet detention ponds, and structural BMPs (like sand filters, oil and water separators).	\$750,000.00	03-08-34
1998	Mecklenburg County Parks and Recreation – Wetland Restoration / McAlpine Creek	Restore pollutant removal of buffers in McAlpine Creek through a 20-acre demonstration site by rerouting direct drainage from adjacent development through the wetland, so that short circuiting in the wetland is minimized.	\$209,000.00	03-08-34
2000	Mecklenburg County – Stormwater / Little Sugar Creek, Belmont Branch	Construct stormwater wetland and retention basin for a highly urban 400-acre drainage area on Belmont Branch, which is a tributary to Little Sugar Creek. Includes plantings along buffer and rerouting sanitary and stormwater sewers.	\$1,200,000.00	03-08-34
2001	Mecklenburg County – Restoration / Little Sugar Creek Greenway Trail	Fund a stormwater management, stream restoration, and greenway construction project along 5,000 linear feet of Little Sugar Creek.	\$400,000.00	03-08-34
2003	Mecklenburg County EPD – Stormwater / Little Sugar Creek	Design and construct a wetland and basin to treat stormwater from 1200 acres of residential neighborhoods, re-route existing stormwater systems to treatment basins and re-vegetate riparian buffers. Monitor results.	\$940,000.00	03-08-34
2003	Mecklenburg County-Haymarket Tract / Mountain Island Lake Easement	Acquire through a permanent conservation easement 100 acres along Mountain Island Lake. CWMTF funds to purchase CE on 36 acres of riparian land. County to reinvest \$1 grant to acquire other riparian buffers and lands to protect Mountain Island Lake.	\$1,000,000.00	03-08-33
1997	Mecklenburg County Storm Water – Restoration and Stormwater Wetlands / Sugar Creek / Hidden Valley Site	Expand existing grant for construction of 13-acre stormwater treatment system and stream restoration. CWMTF funds to relocate 1,500 feet of sewer line, disconnect storm drains, create stormwater wetlands and ponds, vegetate buffers, and water quality monitoring.	\$1,300,000.00	03-08-34
2000	Mecklenburg County – Storm / Mountain Island Lake, McDowell Creek	Design and permit stormwater BMPs in the McDowell Creek watershed to treat runoff from 918 acres. BMPs would include four stormwater wetlands and a rain garden.	\$200,000.00	03-08-33
2000	Mecklenburg Soil and Water Conservation District – Storm / Briar Creek	Create an Urban Cost Share Program in the Briar Creek watershed. Landowners would contribute 25 percent of the cost for rain gardens, rain barrels, pet waste receptacles, riparian buffers, impervious surface replacement and other BMPs.	\$30,000.00	03-08-34
1998	Morganton – Acquisition and Stormwater / Catawba River	Acquire 2-4 acre buffer. Land was leased by the NC Forest Service until 2002. As part of match, city was to install wet detention basins for site drainage and develop planned greenway facilities.	\$550,000.00	03-08-31
1998	NC Division Forest Resources – Educational Forest Restoration / Mountain Island Lake	Stabilize eroding roads and close unnecessary roads and vegetate and restore bare riparian buffers in the Mountain Island Educational Forest.	\$100,000.00	03-08-33

2003	NC Wildlife Resources Commission – Muddy Creek Restoration	Design and construct natural channel design stream restoration project along 3,500 feet of stream (2,000 feet using CWMTF funds). Conduct watershed assessment. Monitor the stream for changes in sediment and biological aquatic community.	\$169,000.00	03-08-30
2001	NC Wildlife Resources Commission – Restoration / Muddy Creek	Restore 2,400 feet of streambank at 10 worst sites. Also will establish vegetated buffers of at least 50 feet (30 feet of trees and shrubs adjacent to the stream) along the targeted 2,400 feet of stream. Fencing will also be installed where needed.	\$156,500.00	03-08-30
1997	Pilot View RC&D, Inc. – Restoration / Upper Linville River	Design, permit and prepare easements for natural channel stream restoration on unstable stream reaches downstream of several impoundments in the Upper Linville River watershed.	\$257,000.00	03-08-30
2001	Southern Appalachian Highlands Conservancy – Acquisition / Hemphill Tract / Catawba River Headwaters	Protect 318 acres through the purchase of a permanent conservation easement (181 acres) and donated easement (137 acres) in the headwaters of the Catawba River.	\$444,000.00	03-08-30
1997	Western Piedmont COG – Revolving Fund / Failing Septic Systems	Capitalize a revolving fund for low-interest loans to low-income families for the repair of failed or illegal on-site wastewater discharges in a four county area. Initially funds should repair 100 units over two years.	\$450,000.00	03-08-32

1.3.4 NC Construction Grants and Loans Program

The NC Construction Grants and Loans Section provides grants and loans to local government agencies for the construction, upgrade and expansion of wastewater collection and treatment systems. As a financial resource, the section administers two major programs that assist local governments, the federally funded Clean Water State Revolving Fund (SRF) Program, and the NC Clean Water Revolving Loan and Grant Program. These programs can provide both low interest loan and grant funds for wastewater treatment projects (Table C-4).

As a technical resource, the Construction Grants and Loans Section, in conjunction with the Environmental Protection Agency, has initiated the Municipal Compliance Initiatives Program. It is a free technical assistance program to identify wastewater treatment facilities that are declining but not yet out of compliance. A team of engineers, operations experts and managers from the section work with local officials to analyze the facility's design and operation.

For more information, visit the website at <http://www.nccgl.net/>. You may also call (919) 715-6212 or email Bobby.Blowe@ncmail.net.

Table C-4 Projects in the Catawba River Basin Funded by the NC Construction Grants and Loans Section

Funded Grant (Clean Water Bond or SRG) Projects		
Applicant	Grant Offered	Project
Winton	\$2,600,000	Sewer Rehab
Troutman	\$3,000,000	Sewer Rehab
High Shoals	\$2,104,681	Sewer Rehab, WWTP upgrades
Burke County	\$1,533,600	Tie in
Burke County	\$1,466,400	New Collection lines
Catawba County	\$215,653	Tie in
Catawba County	\$1,200,000	Tie in
Old Fort	\$2,968,579	New Collection System
McDowell County	\$3,000,000	New collection lines
Funded Grant State Revolving Loan (SRL) Projects		
Applicant	Loan Offered	Project
Conover	\$4,000,000	WWTP Expansion
Belmont	\$2,681,700	Various upgrades to WWTP
Claremont	\$2,749,350	New 0.3 MGD McLin WWTP
Hickory	\$14,200,000	Expand Henry Fork WWTP, Connect Longview and East Burke County
Long View	\$3,925,000	Connect Hildebran and Longview to Henry Fork WWTP
Gastonia	\$7,500,000	Expand Long Creek WWTP from 8 to 16 MGD, Outfall relocation and nitrogen upgrades
Stanley	\$1,508,400	Dechlorination and Standby Power
Lenoir	\$3,863,970	Lower Creek WWTP upgrade and expansion from 4 MGD to 6 MGD
Valdese	\$3,032,454	WWTP improvements, I/I repair
Troutman	\$1,892,881	Connection to Statesville's Third Creek WWTP
Lincolnton	\$10,000,000	Upgrade to 6 MGD and addition of tertiary treatment

1.3.5 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, citizens' 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/.

1.3.6 South Carolina Department of Health and Environmental Control

In 1991, the South Carolina Department of Health and Environmental Control (SCDHEC) Bureau implemented the Watershed Water Quality Management Strategy in order to more efficiently protect and improve the quality of South Carolina's surface water resources. This management strategy recognizes the interdependence of water quality and all the activities that occur in the associated drainage basin. Under the watershed management approach, monitoring, assessment, problem identification and prioritization, water quality modeling, planning, permitting and other SCDHEC initiatives are coordinated by basin. A watershed water quality assessment document is produced for each basin on a five-year rotating schedule. The first Watershed Water Quality Assessment for the Catawba River basin was published in 1999 and will be updated on a five-year rotational basis.

To obtain a copy of the Watershed Water Quality Assessment or for further information about water quality in the Catawba River basin in South Carolina, contact Mark A. Giffin at (803) 898-4022 or by email giffinma@dhec.sc.gov or visit the website at <http://www.scdhec.net/water>.

1.3.7 Bi-State Catawba River Commission

In an attempt to ensure that North and South Carolina cooperate on the management of the entire Catawba River, legislators in both states approved bills to create the Bi-State Catawba River Commission. Both bills call for a 14-member commission composed of legislators and representatives of Duke Power, the Bi-State Catawba River Task Force, the economic development agency Carolinas Partnership, the basin's three marine commissions, a NC land trust and a SC water-sewer utility. Although the bills were passed, no funding was allocated to support the initiative. Until appropriate funding is provided, progress on this initiative is not likely.

1.3.8 Catawba River Corridor Project

The SCDNR in cooperation with the SC Department of Parks, Recreation and Tourism and the Catawba Regional Planning Council initiated the Catawba River Corridor Planning process in 1992. The goal of this planning process was to create a vision for the Catawba River and its adjacent lands, to manage future growth in a manner that will protect the natural beauty, unspoiled character, and significant features that shape the Catawba River today. This planning process was citizen-based, to ensure that the resulting plan was wholly produced by members of the community in which it will be implemented.

The Catawba River Task Force was assembled, composed of people with the resources, expertise and interest to provide a comprehensive overview of the river and the commitment to implement a final corridor plan developed by community members. Task force members include local

government officials, landowners and representatives of conservation organizations, industries, other local groups, and state agencies. Committees were formed for each of 15 critical issues facing the river corridor, as identified by the task force. Each committee developed a set of policy recommendations and presented them to the task force for discussion and approval. For more information, visit the website at <http://www.dnr.state.sc.us/water/envaff/river/catawbaplan.htm>.

1.4 Local Initiatives

1.4.1 Mecklenburg County S.W.I.M. Program

On October 15, 1996, the Mecklenburg County Board of County Commissioners (Board) took a stand in support of clean, usable surface waters through the adoption of the community's first "Creek Use Policy" calling for all Mecklenburg County surface waters to be "*...suitable for prolonged human contact and recreational opportunities and supportive of varied species of aquatic life.*" At the direction of the Board, a panel of stakeholders was convened in February 1997, including representatives from development and environmental interest groups. This panel worked with staff toward the development of a comprehensive strategy aimed at fulfilling the Board's policy statement. In January 1998, the panel reported back to the Board with a three (3) phased approach for achieving its "Creek Use Policy". The Board approved the approach and the implementation of Phase I began in FY 1998-1999. The approach, entitled Surface Water Improvement and Management or S.W.I.M, prioritized creek basins and tasks using the intent to:

- Prevent further degradation
- Preserve the best waters
- Improve the good waters
- Remediate the worst waters

The following principles are used to guide S.W.I.M. efforts:

- Holistic approach to address the community's water quality, quantity and green space issues
- Basin level community involvement and support
- Basin specific analysis using modeling and stream assessment
- Use proven, scientifically sound watershed management techniques

S.W.I.M. Phase I is aimed at the implementation of measures to address the county's worst pollutants and prevent further water quality degradation. The program has been a tremendous success resulting in significant improvements to water quality conditions in Mecklenburg County including:

1. Enhancement of efforts to enforce erosion control ordinances and educate the development community resulting in a reduction in sediment levels in some streams by as much as 79 percent.
2. Enhancement of measures to protect drinking water supply reservoirs by working in close cooperation with developers to improve land development techniques and protect water quality.
3. Establishment of vegetative stream buffers county wide through the adoption of ordinances. These buffers serve to filter stormwater pollutants and protect water quality.

4. Enhancement of efforts to address elevated bacteria levels in surface waters resulting in reductions in bacteria counts by as much as 76 percent in several urban streams.
5. Implementation of water quality modeling techniques for the development of watershed based management plans aimed at maintaining and restoring water quality conditions.
6. Development of automated water quality monitoring techniques that provide water quality data 24 hours a day, 7 days a week significantly enhancing capabilities for identifying and eliminating pollution problems. This technique was employed in cooperation with NCDOT to ensure the protection of Long Creek from sediment discharges from I-485 construction activities and is being expanded to other locations around the county.
7. Improved coordination between city and county staff involved in stream related activities through the development of the Creek Coordination Committee (CCC), which meets monthly to coordinate stream improvement activities.
8. Implementation of stream inventory and assessment activities to better characterize current stream conditions and identify threats to water quality.
9. Increased public education and involvement resulting in a 75 percent increase in volunteer participation in several water quality restoration initiatives including "Adopt-A-Stream" and "Storm Drain Marking".

S.W.I.M. Phase II was implemented beginning in fiscal year 2002-2003, starting a four-year process aimed at maintaining and/or restoring water quality conditions in identified special interest watersheds to fulfill Mecklenburg County's goal of "swimmable/fishable" waters. During its first year of implementation, S.W.I.M. Phase II made significant progress toward achieving this goal. In general, S.W.I.M. Phase II utilizes the tools developed in S.W.I.M. Phase I, such as water quality monitoring and modeling, to develop a comprehensive watershed based management strategy focusing on the elimination of specific point and nonpoint source pollution problems in special interest watersheds. During FY02-03, these special interest watersheds included McDowell, Gar, Goose, Duck and Stevens Creeks in Mecklenburg County. One of the most progressive water quality ordinances in the southeast was adopted for McDowell and Gar Creeks upstream of the Charlotte-Mecklenburg drinking water intake in Mountain Island Lake as well as those creeks draining to the Rocky River within the jurisdiction of the Town of Huntersville in Mecklenburg County. The objective of this ordinance is to prevent further water quality degradation from continued land development activities utilizing low impact development (LID) techniques and water quality modeling capabilities. In addition, Mecklenburg County is in the process of designing retrofitted structural best management practices (BMPs) to reduce existing pollutant loads in McDowell Creek. For Goose, Duck and Stevens Creeks, which are located within the Town of Mint Hill in Mecklenburg County, a post-construction ordinance utilizing LID and modeling techniques is currently under development with implementation planned for the spring of 2004.

S.W.I.M. Phase III is planned for implementation in 2006 for the purpose of applying the techniques perfected in Phases I and II to the remaining waters county wide with the ultimate goal of achieving the Board's "swimmable/fishable" goal by 2015.

The S.W.I.M. Program is being used to fulfill the Phase II Stormwater Permit requirements for Mecklenburg County and the six towns in the county including Cornelius, Davidson, Huntersville, Matthews, Mint Hill and Pineville. Under the S.W.I.M. Program, a Stormwater Management Program Plan was developed and a joint permit application submitted to the state in February 2003. Implementation of the plan began on July 1, 2003.

1.4.2 The Lake James Task Force

The purpose of The Lake James Task Force is to mobilize public support to protect the existing Burke County [Lake James Land Use Ordinance](#) and to educate the public about the issues involved so that Lake James is protected for future generations. The task force participates in legal actions to protect the watershed from development and has created a legal defense fund from which to operate. For more information, visit the website at <http://www.savelakejames.org/index.html>.

1.4.3 Catawba County

Catawba County, being surrounded by Lakes Hickory, Lookout Shoals and Norman, has taken several proactive approaches to address water quality within the county. In an effort to supplement the state's water quality sampling program, Catawba County has conducted semi-annual water sampling of seven tributaries to Lake Norman for over ten years. These samples are analyzed for several different water quality parameters, such as dissolved oxygen, BOD, nitrogen, phosphorus and fecal coliform. Any infractions found are reported to the NCDENR for follow-up inspection.

In the area of land development ordinances, the county adopted a cluster/open space option for residential subdivisions. This option requires a minimum of 30 percent of the proposed development to be preserved in permanent open space. Priority areas to be preserved are designated floodplains, buffers along streams and ponds, steep slopes and environmentally sensitive areas where development may threaten water quality. Several developers have used the cluster option to preserve approximately 50 percent of the land within their developments.

In an effort to educate its citizenry on the importance of being environmental stewards, Catawba County sponsors a biannual Household Hazardous Waste Day. Citizens are encouraged to bring their household hazardous waste, such as paints and household cleaners, to the collection site for proper disposal (in lieu of disposing in the garbage or pouring down storm drains or in road ditches). The county also operates used motor oil disposal sites at all five of its convenience centers.

1.4.4 Caldwell County

Caldwell County, in cooperation with the municipalities of Granite Falls, Hudson, Cahah Mountain, Sawmills and Gamewell, has begun development of an NPDES Phase II compliant stormwater management program. Caldwell County has hired a professional engineer to oversee the program and has formed the Stormwater Advisory Group (SWAG) to structure the emerging program and tailor it to the community's needs. Caldwell County has begun a Public Education program that targets elected officials and civic leaders, the development community, and realtors. Caldwell County has also begun an inventory of its facilities and operations that could potentially have a detrimental impact on water quality. Caldwell County's Environmental Engineer will be developing Stormwater Pollution Prevention Plans (SWPPP) for priority facilities over the next 12 months.

A preliminary draft of a Stormwater Quality Management and Discharge Control Ordinance has been prepared and will be reviewed by the SWAG in February and March 2004. That draft

ordinance envisions post-construction controls that are more effective than the minimum requirements in the state's proposed permanent NPDES Phase II rules (15A NCAC 2H .0126 and 15A NCAC 2H .1014). It also includes provision for two-zone, 50-foot wide riparian buffers along perennial streams and 30-foot wide buffers along intermittent streams. Finally, Caldwell County staff will give a formal presentation to the Caldwell County Commissioners during 2004, seeking approval for local delegation of the Erosion and Sedimentation Control Program. Local delegation of that program, combined with the remainder of Caldwell County's stormwater management efforts, will ensure more effective review and enforcement, while potentially reducing both the time and expense currently required of Caldwell County's development community.

1.4.5 City of Newton

The City of Newton has conducted a local soil erosion sedimentation control program since October 2001. The program is under the direction of the Planning Director/Assistant City Manager and is administered by the current planner. The local program has fit in well with the city's code enforcement and development liaison approach by having one point of contact throughout the development process. The current planner coordinates the development review process for the city and also reviews all site plans and issues zoning permits and soil erosion permits for projects that require them.

The city uses the standard one-acre disturbed benchmark for plan submittal and permitting, but also requires permits for any project disturbing a half-acre or more up to the one-acre standard that triggers plan submittal. By having the plan reviewer/coordinator as the point of contact, the process works very well in terms of communication and compliance. It is felt that having a local program is more responsive to the concerns for water quality and safety of the community and ensures a higher level of water quality and development. The program has permitted 13 sites since the program began.

1.4.6 Gaston County Projects

The Gaston County Natural Resources Department is responsible for planning and establishing the county's natural resources' conservation programs and implementing county, state and federal natural resource statues. Department staff help landowners, citizens, municipal and county governments, and industry to control erosion and sedimentation for improved water quality, obtain grants for stream and wetland restorations for stormwater management, assist municipalities with bio-solids waste management, assist animal facility operators with animal waste management, assist governments with watershed management issues to ensure quality drinking water supplies, and present environmental conservation education programs to students, groups, organizations, clubs and citizenry. GCNR has several water quality projects in progress, all of which may be viewed at <http://www.co.gaston.nc.us/NaturalResources/index.htm>.

The North Carolina Cooperative Extension Service helps citizens understand things they can do to maintain and protect environmental quality. Extension offers conferences, courses, on-site demonstrations and one-on-one consultations concerning water quality best management practices (BMPs). The Quality of Natural Resources Commission (QNRC) advises county commissioners on environmental issues and guides the development of county policies with

environmental impacts. Extension serves as staff to the QNRC. More information about the work of the Gaston County Center can be found at <http://www.ces.ncsu.edu/gaston/>.

1.4.7 Morganton Greenway

The City of Morganton Comprehensive Long-Term Land Management Plan identifies a six-mile greenway corridor along the Catawba River. An aggressive acquisition and development program began in 1992. The city identified riparian parcels and has initiated negotiations for fee simple acquisition or development of conservation easements. Prioritization of properties was made based upon location, greenway values, and water quality benefit. The greenway is currently a one-mile paved walkway that provides picnic areas, playground, canoe launch, fishing pier, overlooks, and access to shopping and restaurants. It will expand to protect more riparian habitat as funds become available.

1.4.8 Burke County

Burke County has several water quality programs underway. In addition to the county's zoning and subdivision ordinances that protect riparian habitat on Lake James, Lake Rhodhiss, Lake Hickory and the mainstem Catawba River, a planning process is currently underway in cooperation with local landowners, the National Park Service Overmountain Victory Trail, and the US Forest Service to plan and establish multi-use trails throughout the Lake James area and along the mainstem of the Catawba River to the Morganton Greenway. Finally, a planning process, funded by the CWMTF, is underway to develop a water supply watershed model that will result in specific recommendations for land use ordinance revisions. The jurisdictions of Morganton and Glen Alpine are also involved in this project.

1.5 Regional Initiatives

1.5.1 Voices and Choices of the Central Carolinas

Voices and Choices of the Central Carolinas (V&C) is dedicated to ensuring a high quality of life for our region's residents by promoting economic and environmental sustainability throughout the 14-county Central Carolinas region. The organization believes that issues affecting quality of life - such as economic prosperity, clean air and water, open space, and transportation - are best addressed at the regional level, with a diverse coalition of stakeholders involved. Since 1995, V&C has sought to engage individual citizens, corporations, nonprofit organizations and elected officials from city, county and state governments to cooperate on these issues that are so critical to the future of our region.

To update and expand upon previous regional reports, V&C is preparing a publication entitled *The 2003 State of the Region Report*. The report focuses on indicators that reveal favorable and unfavorable growth-related trends in the areas of transportation, land use, environment (air, water, solid waste) and economics. *The 2003 State of the Region Report* will be the first in what will become an annual V&C publication. By highlighting issues affecting quality of life in the four subject areas, V&C hopes to convert discussion into action. For more information, visit the website at <http://www.voicesandchoices.org/index.cfm>.

1.5.2 Sustainable Environment for Quality of Life

Centralina Council of Governments in cooperation with Catawba Regional Council of Governments actively promotes regional solutions for regional issues. One of Centralina's major new programs is designed to address issues of environmental quality. Centralina COG has been awarded a \$275,000 grant from the Environmental Protection Agency to implement and expand regional efforts to protect the quality of life in the bi-state metro Charlotte region. The program is called Sustainable Environment for Quality of Life (SEQL).

The greater Charlotte/Gastonia/Rock Hill region encompasses 15 counties with over 75 political jurisdictions and a population base of 2.1 million people. It is a highly desirable area to live in but faces many challenges: sprawl, air quality problems, and concerns about being the "next Atlanta". SEQL will address these challenges by:

- Allowing local governments the opportunity to work across jurisdictional lines in regional cooperation and collaboration, setting a standard for the nation.
- Providing implementation assistance to local governments on environmental "commitment action items" developed under the Charlotte/Mecklenburg Sustainability Demonstration Project.
- Analyzing multiple air quality issues simultaneously, including ozone, particulate matter and air toxics while also addressing transportation, water, land use, energy use and economic development.

This project will support the region's efforts to develop integrated, long-range plans to ensure economic development and a positive quality of life for its future. The project is structured so that it will be a cooperative undertaking with the Catawba Regional Council of Governments. Centralina and Catawba Regional COGs will work to bring the metro area together.

SEQL will provide an integrated strategy that other local governments across the country could use to address similar quality of life and environmental issues. This initial process began in the fall of 2000, under the leadership of Charlotte Mayor Pat McCrory and past Mecklenburg County Board Chairman Parks Helms. The city received a \$100,000 EPA grant for a Sustainability Demonstration Project to bring together 26 of the region's chief elected officials to learn about air quality, water resource and land use issues. The group developed and recommended "toolbox commitment action items" relating to air, water and land use measures for implementation across the region. In spring 2002, EPA approached Charlotte regional and local governments about expanding this partnership to develop a more integrated strategy and refined tools to address air quality, water quality, transportation, land use planning, energy and economic development. A summary of the SEQL project is as follows:

- Implementation of Sustainability Demonstration Project "commitment action items".
- Design of a regional database for improved decision-making.
- Government/public/stakeholder orientation to the concept of integrated cross-sectoral planning and development of methods to implement it.
- Institutionalization of consideration of integrated environmental impacts in local and regional planning and decision-making.
- Build bridges among elected officials, local government planners, environmental advocates and business/development interests.

1.5.3 Catawba Lands Conservancy

Catawba Lands Conservancy is a nonprofit land trust which acquires and permanently protects land and conservation easements in the lower Catawba River Basin and Southern Piedmont of North Carolina, including all or portions of Catawba, Gaston, Iredell, Lincoln, Mecklenburg and Union counties. The conservancy's projects include significant natural areas, stream and river corridors, fields and forests, working farms, and other open and green spaces. The conservancy's land stewardship and community outreach programs also allow residents to learn about land protection and how they can directly impact conservation and quality of life in the region. The conservancy has protected more than 5,400 acres since 1991. For more information, visit the website at <http://www.catawbalands.org>.

1.5.4 Foothills Conservancy

The Foothills Conservancy of North Carolina, a regional land trust, is dedicated to working cooperatively with landowners and public and private conservation partners to preserve and protect important natural areas and open spaces of the Blue Ridge Foothills region, including watersheds, environmentally significant habitats, forests and farmland, for this and future generations. The conservancy, a 501(c) 3 nonprofit, serves eight counties; Alexander, Burke, Caldwell, Catawba, Cleveland, Lincoln, McDowell and Rutherford; and has succeeded in protecting over 18,000 acres in the Catawba River basin. For more information, visit the website at <http://www.foothillsconservancy.org/index.htm>.

1.5.5 Catawba River Foundation

The Catawba River Foundation (CRF) is an environmental advocacy organization dedicated to promoting the obligation to preserve, protect and restore the fragile ecosystem of our Catawba River basin's rivers, lakes and creeks. Through education, enforcement and coordinated efforts, they are committed to halt present abuse, to restore past beauty, and to assure a watchful balance of community and environmental needs for generations to come.

The primary objective of the CRF is the *Catawba RIVERKEEPER*© Program, which has grown substantially since its inception in 1998. Their initial work has focused on water quality monitoring, responding to reports of pollution events, and forming a solid corps of trained volunteers. They achieve their goals by using a multi-pronged approach including: 1) a volunteer network; 2) public education and collaborative efforts; and 3) legal initiatives and enforcement actions. For more information, visit the website at <http://www.catawbariverkeeper.org/>.

1.5.6 Trout Unlimited

Trout Unlimited's (TU) mission is to conserve, protect and restore North America's trout and salmon fisheries and their watersheds. They accomplish this mission on local, state and national levels with an extensive and dedicated volunteer network. The national office, based just outside of Washington, DC, employs professionals who testify before Congress, publish TU's quarterly magazine, intervene in federal legal proceedings, and work with TU's grassroots volunteers to keep them active and involved in conservation issues. At the state level, TU works closely with state agencies, conservation organizations, corporations, local volunteers and TU members to organize stream clean-ups, public awareness activities and field trips to local streams.

In the Catawba River basin, TU currently has two large restoration/protection projects underway on Steels Creek in Burke County and Muddy Creek in Burke and McDowell counties. The Steel's Creek Watershed Improvement Project is intended to prevent vehicular stream crossings where they occur and to restrict vehicles to designated parking areas nearest the road in order to reduce existing traffic and disturbance in the floodplain. New designated parking areas will be established using wood timbers and gravel. Areas where vehicles are accessing the camping areas will be blocked with large boulders. Storm drainage and erosion issues will be addressed with sediment traps and log ditch checks. Streambank erosion caused by continuous access will be addressed by the creation of designated paths and stone or wood steps. In addition to the watershed improvement activities, there will be removal of hazard trees and trees that fall within the designated parking areas.

TU's Muddy Creek Restoration Project is discussed in detail in Section B, Chapter 1, Part 1.4.4. More information on TU's activities in the basin can be found by visiting the website at <http://www.nctu.org/>.

1.5.7 American Rivers

American Rivers is a national nonprofit conservation organization dedicated to protecting and restoring healthy natural rivers and the variety of life they sustain for people, fish and wildlife. In 2001, American Rivers rated the Catawba River the 13th most endangered river in America. The associated report stated that explosive urban growth along the Catawba River in North and South Carolina threatens to overwhelm the river's capacity to provide drinking water, assimilate sewage, support wildlife, and serve the recreational needs of Charlotte and growing communities throughout the basin. For the entire report and its recommendations, refer to the website at <http://www.amrivers.org/> and enter "Catawba" in the search box.

1.5.8 Catawba-Wateree Relicensing Coalition

The Catawba-Wateree Relicensing Coalition (CWRC) has been working for over three years to facilitate a process to protect, enhance and restore the natural, cultural, recreational and economic resources of the Catawba-Wateree River Basin during the relicensing of Duke Power's 13 hydroelectric facilities and 11 dams. CWRC is dedicated to developing stakeholder consensus on key issues related to this relicensing. The coalition works to achieve full benefit from modern laws and standards that affects two million people, 14 counties, 30 municipalities, two states (NC and SC), 300 miles of river, 1,500 miles of shoreline, and 5,000 square miles of watershed. For more information, visit the website at <http://www.cwrc.info/> or email director@cwrc.info.

1.5.9 Catawba Bi-State Task Force

The Catawba Bi-State Task Force's mission is to preserve and enhance the quality of the Catawba River from its headwaters in the mountains of North Carolina to Lake Wateree, South Carolina as the primary drinking water source for citizens and businesses and as a unique environment and recreational resource. It provides a forum for discussing issues among stakeholders in the Catawba River basin. The Bi-State Task Force quarterly meetings are open to the public. Meetings typically consist of experts addressing key topics and a "River Roundtable" that allows anyone in the group to share concerns. The Task Force also sponsors an

annual public conference at UNCC on such issues as water allocation, ecosystem management and water quality management.

1.6.0 NC Wildlife Federation

Island Adoption Program

Sponsored by the NCWF and Duke Power, the Island Habitat Adoption Program is being modeled in the rapidly developing Catawba River basin for other areas throughout the state. The goal of the Island Habitat Adoption Program is to provide partnerships that will help keep river and lake islands clean of litter, serve as an educational tool for raising public awareness of the proper disposal of litter on public waters and lands, and work toward protecting and enhancing wildlife habitats. The program seeks fishing clubs, duck hunting groups, conservation organizations, and other wildlife enthusiasts to "adopt" an island. Participating groups agree to periodically clean up the litter from their island while providing data on wildlife species that inhabit their island and note positive and negative habitat characteristics and changes. Adopting groups receive wood duck or blue bird nesting boxes to erect on the island, as well as a handsome sign that denotes their participation in the program. More information is available on the website at <http://www.ncwf.org>.

1.6.1 Volunteer Water Information Network Program (VWIN) and Lake James Environmental Association

The Volunteer Water Information Network (VWIN) is a partnership of groups and individuals dedicated to preserving water quality in western North Carolina. Organizations such as RiverLink Inc., the Environmental Conservation Organization of Henderson County (ECO), the Pacolet Area Conservancy (PAC), the Lake Lure Lakefront Owners Association, and the Lake James Environmental Association provide administrative support. The UNC-Asheville Environmental Quality Institute (EQI) provides technical assistance through laboratory analysis of water samples, statistical analysis of water quality results, and written interpretation of the data. Volunteers venture out once per month to collect water samples from designated sites along streams and rivers in the region.

An accurate and on-going water quality database, as provided by VWIN, is essential for good environmental planning. The data gathered by the volunteers provides an increasingly accurate picture of water quality conditions and changes in these conditions over time. Communities can use this data to identify streams of high water quality which need to be preserved, as well as streams which cannot support further development without significant water quality degradation. In addition, the information allows planners to assess the impacts of increased development and the success of pollution control measures. Thus, this program provides the water quality data for evaluation of current management efforts and can help guide decisions affecting future management actions. The VWIN program also encourages involvement of citizens in the awareness, ownership and protection of their water resources.

In May 2001, the Lake James Environmental Association began a VWIN program to monitor five selected stream sites and six lake sites in order to assess water quality conditions in streams flowing into Lake James and to provide continuous assessment of the health of the lake (see Section B, Chapter 1, Part 1.4.1).

As problems were noticed immediately at the site on the North Fork of the Catawba River, two new sites were quickly added to assess this problem. With sedimentation and potential eutrophication of the lake a growing concern, many citizens realize the need for continuous monitoring of the streams flowing into the lake as a means of trying to pinpoint sources of problems. Continuous monitoring of the lake itself is vital to understanding the lake cycles and trends as well as identifying problems as they arise. For more information on VWIN and the Lake James Environmental Association visit the website at <http://ljea.org/index.html>.

1.6.2 The Trust for Public Land

Founded in 1972, the Trust for Public Land (TPL) is a nonprofit working exclusively to protect land for human enjoyment and well-being. TPL helps conserve land for recreation and spiritual nourishment and to improve the health and quality of life of American communities. In the Catawba River Basin, TPL initiated Phase I of the Mountain Island Lake (MIL) Initiative in 1998 with its partners, The Catawba Lands Conservancy, The Foundation for the Carolinas, and the Gaston Community Foundation. The MIL Initiative intends to 80 percent of the shoreline and 80 percent of the major tributaries to Mountain Island Lake. Phase I of the MIL Initiative protected approximately 2,700 acres in the watershed, including the area now known as The Mountain Island Lake State Education Forest, managed by the North Carolina Division of Forest Resources. TPL is now seeking funding to proceed with Phase II of the MIL Initiative.

TPL has recently published a 50-page booklet, *Protecting the Source – Land Conservation and the Future of America's Drinking Water*, in conjunction with the American Water Works Association. TPL is distributing the report to all elected officials in the Mountain Island Lake watershed and key government officials to illustrate the need to protect drinking water supply watersheds. The report can be downloaded at http://www.tpl.org/download_protect_src_report.cfm.

