

Chapter 10

Water Quality Initiatives

10.1 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 in a particular watershed or subbasin is included in the subbasin chapter (Chapter 1). DWQ encourages local agencies and organizations to learn about and become active in their local watersheds.

In an effort to provide water quality information and gain input from local resource agency staff and local officials, DWQ held a roundtable in Boone (November 2005). The purpose of the roundtable was to inform local resource agency staff, officials and watershed groups of water quality concerns in the Watauga River basin and to seek input prior to writing the basinwide water quality plan. Participants provided comments on specific waters throughout the basin and generalized issues related to urbanization and land use changes, streamside management, enforcement, permitting, monitoring, water quantity, funding sources, and local initiatives.

An important benefit of local initiatives is that local people make decisions that affect change in their own communities. Local initiatives can overcome a variety of limitations including: state government budgets, staff resources, lack of regulations for nonpoint sources, the rulemaking process and many others. Multiple 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. A few of the local organizations are highlighted in Table 14. Specific projects are described in the subbasin chapter (Chapter 1). Nonpoint source program descriptions, Soil and Water Conservation Districts (SWCD), NC Cooperative Extension Service and USDA Natural Resources Conservation Service (NRCS) contact information can be found in Appendix VIII.

DWQ applauds the foresight and proactive response to potential water quality problems in the watersheds identified in the subbasin chapter (Chapter 1). 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 (Sections 10.2 and 10.3).

Table 14 Local and Regional Water Quality Initiatives

<p>Watauga River Conservation Partners (WRCP) Banner Elk, North Carolina</p> <p>WRCP is a nonprofit membership organization that works in partnership with the Western North Carolina Alliance (WNCA), NC Cooperative Extension Service and the Tennessee Valley Authority (TVA) to provide education activities for local public schools and the general public, monitor compliance with environmental laws, and monitor stream health. WRCP works to support conservation groups and protect, preserve and restore the Watauga River and its tributaries. For more information about WRCP, contact:</p>		
Richard Demott	Phone: (828) 963-8682 Email: watauga@wnca.org	http://www.wnca.org
<p><i>Accomplishments/Projects:</i></p> <ul style="list-style-type: none"> • Riverfest is an annual event to increase public understanding of the condition of and the risks facing the Watauga River. The festival also serves as a catalyst for community activism to protect water quality and quality of life throughout the area. • WRCP has been influential in shaping local policy and improving local conditions by working with land use planning boards and community councils. 		
<p>Watauga County Boone, North Carolina</p> <p>Watauga County administers an Erosion Control Ordinance that exceeds those required by the NC Sedimentation Pollution Control Act (SPCA). The local program requires a sediment and erosion control permit for all projects that disturb more than 0.5 acres or more. SPCA requires a permit for one acre or more of disturbed land. In addition to the Local Program, a Zoning Ordinance is administered in the Foscoe and Grandfather Mountain Communities. The ordinance requires a 50-foot vegetated corridor along the Watauga River mainstem and along Boone Fork and a 40-foot vegetated corridor along all perennial streams as denoted as solid blue lines on USGS topographic maps. For more information contact:</p>		
Randy Woodrow Property Development Coordinator	Phone: (828) 265-8043 Email: randy.woodrow@ncmail.net	www.wataugacounty.org
<p>Town of Boone Boone, North Carolina</p> <p>The majority of the Town of Boone drains into the South Fork New River in the New River basin. With the increase of commercial and residential properties however, the Town now extends into the Watauga River basin. The Town administers a local Sediment and Erosion Control program that requires that all projects (regardless of land area disturbed) implement measures to prevent the movement of sediment off-site or into a waterbody. The town has also adopted specific grading regulations to control erosion on steep slopes. More information about grading and soil erosion and sediment control can be found in the Unified Development Ordinance (UDO) (www.townofboone.net/departments/development/index.html).</p>		
James Perry Environmental Planner	Phone: (828) 262-4540 Email: james.perry@townofboone.net	www.townofboone.net

(NPS). Information on the North Carolina Section 319 Grant Program and the application process is available online at www.ncwaterquality.org/nps/application_process.htm.

During this assessment period, one project in the Watauga River basin was funded through Section 319 base funding. The project will focus on water quality education and the implementation of best management practices (BMPs) on urban and non-urban lands (i.e., forests, Christmas tree farms, pasturelands and row crops). The education component will focus on water quality protection, BMPs for various land uses and pollution prevention. North Carolina State University (NCSU) will work with local resource agency staff and the NC Cooperative Extension Service to educate and work with school children, landowners and community leaders throughout the Watauga River Basin to change behaviors and attitudes related to water quality. The project comes at a time when the high quality waters of the river are being threatened by an increasing amount of nonpoint source runoff and sedimentation from rapidly expanding residential and recreational (i.e., resorts, golf courses) developments. Previous local educational programs and monitoring efforts have been successful and this project will allow for that continued effort. Descriptions of projects and general Section 319 Program information are available at www.ncwaterquality.org/nps/Section_319_Grant_Program.htm.

10.3 State Initiatives

10.3.1 North Carolina Ecosystem Enhancement Program (NCEEP)

The North Carolina Ecosystem Enhancement Program (NCEEP) is responsible for providing ecologically effective compensatory mitigation in advance of permitted impacts associated with road projects and other development activities. The fundamental mission of the program is to restore, enhance and protect key watershed functions in the 17 river basins across the state. This is accomplished through the implementation of wetland, stream and riparian buffer projects within selected local watersheds. The vital watershed functions that NCEEP seeks to restore and protect include water quality, floodwater conveyance and storage, fisheries and wildlife habitat. NCEEP is not a grant program, but can implement its restoration projects cooperatively with other state or federal programs such as Section 319 (Section 10.2.1). Combining NCEEP-funded restoration or preservation projects with Section 319 or other local watershed initiatives (i.e., those funded through the Clean Water Management Trust Fund or local/regional Land Trusts) increases the potential to improve the water quality, hydrologic and habitat functions within selected watersheds.

The selection of optimal sites for NCEEP mitigation projects is founded on a basinwide and local watershed planning approach, which results, respectively, in the development of *River Basin Restoration Priorities* and *Local Watershed Plans*.

In developing *River Basin Restoration Priorities (RBRP)*, NCEEP identifies local watersheds (14-digit Hydrologic Units) with the greatest need and opportunity for restoration, enhancement or preservation projects. These high-priority watersheds are called targeted local watersheds (*TLWs*). Targeted local watersheds are identified, in part, using information compiled by DWQ's programmatic activities (i.e, Basinwide Assessment Reports and Basinwide Water Quality Plans). Local factors considered in the selection of *TLWs* include:

- Water quality impairment;
- Habitat degradation;
- The presence of critical habitat or significant natural heritage areas;
- The presence of water supply watersheds or other high-quality waters;
- The status of riparian buffers;
- Estimates of impervious cover and existing or planned transportation projects; and
- The opportunity for local government partnerships.

Recommendations from local resource agency professionals and the presence of existing or planned watershed projects are given significant weight in the selection of *TLWs*.

TLWs represent those areas where NCEEP resources can be focused for maximum benefit to local watershed functions. *TLWs* are therefore given priority by NCEEP for the implementation of new stream and wetland restoration/enhancement projects (and/or for the acquisition of preservation easements), providing that willing landowners are available for such projects.

The 2002 *Watershed Restoration Plan* for the Watauga River basin can be found on the NCEEP website <http://www.nceep.net/services/restplans/watershedplans.html>. NCEEP is currently updating their selections of *TLWs* within the Watauga basin. Table 15 provides a summary of proposed *TLWs* for the Watauga Basin as of August 2006. NCEEP is seeking comments from local resource professionals regarding these selections. To provide comments on these proposed *TLWs*, please contact the lead watershed planner for the Watauga River Basin. Contact information can be found in Appendix VIII.

NCEEP *Local Watershed Plans (LWPs)* are usually developed within *TLWs* identified in the *RBRPs*. Through the local watershed planning process, NCEEP conducts watershed characterization and field assessment tasks to identify critical stressors in local watersheds. The NCEEP planners and their consultants coordinate with local resource professionals and local governments to identify optimal watershed projects and management strategies to address the major functional stressors identified. The *LWPs* prioritize restoration/enhancement projects, preservation sites, and best management practices (BMP) projects that will provide water quality improvement, habitat protection and other environmental benefits to the local watershed.

Currently, there are no NCEEP funded *LWPs* in the Watauga River basin; however, it is possible that such an effort will be undertaken in the future. Decisions regarding the possible need for new *LWP* initiatives within a given basin are made annually by NCEEP planners. These decisions are based primarily on the quantity and type of compensatory mitigation projects the Program is required to implement in future years, as well as the opportunity for local partnerships within selected 14-digit hydrologic units within the basin.

10.3.1.1 NCEEP Projects in the Watauga River Basin

To date, NCEEP has implemented one stream mitigation project in the Watauga River basin. Located on Hanging Rock Creek [AU# 8-22-5], the project consisted of approximately 2,800 feet of stream restoration and 1,000 feet of stream enhancement. Hanging Rock Creek is a tributary to the Elk River, just outside the Town of Banner Elk. The NCEEP project is in the third year of post-construction monitoring.

Table 15 Proposed Targeted Local Watersheds in the Watauga River Basin

Name of Watershed [major streams]	14-digit HU Code	Rationale for Selection as TLW for NCEEP Projects
Watauga River headwaters, including Boone Fork, Dutch Creek and Laurel Fork	06010103 010010	Habitat degradation & water quality threats associated with increasing development pressures, impervious surfaces, stormwater runoff from industry/mining, impoundments (ponds/lakes), sediment inputs and degraded riparian zones; presence of one or more stream restoration projects; natural heritage element occurrences and significant natural heritage areas; HQW, ORW and designated Trout waters
Cove Creek and tributaries, including Vanderpool Creek	06010103 010020	Habitat degradation & water quality threats associated with agricultural land uses (primarily pasture; some tree farms), unrestricted livestock access to streams, increasing residential uses, narrow or degraded riparian zones, streambank instability, nutrient inputs and sedimentation; existing stream & wetlands restoration project; numerous candidate sites for additional stream restoration projects
Beaverdam and Little Beaverdam Creeks	06010103 010040	Impaired water quality [proposed 303(d) listing for Beaverdam Crk] and degraded habitat; stressors include mixed residential and agricultural land uses, degraded or absent riparian zones, cattle access to streams; numerous candidate sites for stream restoration projects; designated Trout waters
Elk River and headwater tributaries, including Cranberry Creek	06010103 020010	Habitat degradation & water quality threats from increasing development, impervious surfaces, agriculture, direct cattle access, nutrient inputs, septic systems and possible straight-pipe discharges, sediment inputs; designated Trout waters; stormwater BMPs & greenway in Banner Elk; existing NCEEP stream project (Hanging Rock Creek)

For additional information about NCEEP’s Project Implementation efforts, visit: www.nceep.net/services/implementation/project_implementation.htm. For additional information about NCEEP in general, including its various program activities and products, visit www.nceep.net/.

10.3.2 Clean Water Management Trust Fund

The CWMTF offers approximately \$40 million annually in grants for projects within the broadly focused areas of restoring and protecting state surface waters and establishing a network of riparian buffers and greenways. In the Watauga River basin, 17 projects have been funded for a total of \$7,562,928 (Table 16). For more information on the CWMTF or these grants, call (252) 830-3222 or visit the website at www.cwmtf.net.

Table 16 Projects in the Watauga River Basin Funded by the Clean Water Management Trust Fund

Project Number	Application Name	Proposed Project Description	Amount Funded
1997A-076	NCSU Cooperative Extension Service - Acq/Restoration/Stormwater-Watauga River	Restore up to 1.6 miles of degraded streams, protect 10-acre wetland, restore 40-acre wetland, provide education to landowners.	\$394,103
1999B-402	Blue Ridge RC&D - Restoration & Stormwater/Watauga River	Restore 10,000 ft of streambank and restore 6 acres of wetlands. Build constructed wetland to treat 65-acre watershed. Monitor results for stream restoration and stormwater component.	\$880,000
2000M-003	Blue Ridge Rural Land Trust - Beech Ck Bog Acq Minigrant	Minigrant to pay for preacquisition costs for land that borders Beech Creek Bog.	\$25,000
2001B-002	Blue Ridge Rural Land Trust - Acquisition/ Watauga R and tributaries	Provide funds to cover transactional and stewardship costs on four donated conservation easements to protect 240 acres along the Beech and Cove Creeks.	\$124,900
2002A-017	Nature Conservancy - Acq/ Boone Fork Cr.	Acquire a permanent conservation easement on 720 acres on Grandfather Mountain along Boone Fork Creek. Grandfather Mountain, Inc to donate a minimum of 206 acres on adjacent property in the Green Creek watershed. Would protect a total of 925 acres.	\$3,350,000
2002A-601	Region D COG - Watauga/Wilkes Straight Pipe Elimination	Eliminate up to 125 straight pipe systems in Watauga and Wilkes Counties in the headwaters of the Watauga, New, and Yadkin River Basins. Install septic tank systems in homes without systems and upgrade failing drain fields.	\$338,000
2002B-408	Watauga Soil & Water Conservation District - Restoration/Agricultural BMPs	Install livestock exclusion systems, including fencing, critical area stabilization, riparian plantings and alternate watering facilities, in various locations in the Watauga, New and Yadkin River Basins.	\$38,000
2003A-015	High Country Conservancy - Acq./ Valle Crucis, Craborchard Creek	Purchase permanent conservation easements on 227 acres along Craborchard, Pigeonroost and Dutch Creeks.	\$706,000
2004B-025	Nature Conservancy - Acq/ Grandfather Mountain, Profile Trail	Minigrant to pay for pre-acquisition costs associated with the purchase of a permanent conservation easement on 73 acres, including 26 riparian acres, along Shanley Spring Branch and the Watauga River.	\$712,000
2004B-404	Valle Crucis Park, Inc. - Rest/ Watauga Park Greenway Restoration	Design, permit and construct a stream stabilization project on 400 feet of the Watauga River in the Valley Crucis Park. Establish 50 ft permanent conservation easements on streambanks. Excessive erosion occurred from Hurricanes Ivan and Frances.	\$107,000

2004D-006	Blue Ridge Rural Land Trust - Donated Minigrant/ Dishman Tract, Watauga River	Minigrant to pay for transactional costs for a donated permanent conservation easement on 50 acres along the Watauga River.	\$25,000
2004D-014	High Country Conservancy - Donated Minigrant, Cooper Tract	Minigrant to pay for transactional costs for a donated permanent conservation easement on 22 acres along Dutch Creek and the Watauga River.	\$12,925
2005A-401	NCSU Cooperative Extension Service- Rest/ Watauga Restoration, Cove & Dutch Creeks; Elk River	Design, permit and construct a natural channel stream restoration project on 1,800 LF of the Watauga River, 1,300 LF of Cove Creek and 900 LF of the Elk River.	\$561,000
2005B-046	Southern Appalachian Highlands Conservancy - Acq/ Roan Mountain Tract, Elk River	Protect through fee simple purchase 97 acres, including 41 riparian acres, along Cranberry Creek. Tract is within the Nationally Significant Roan Mountain Massif Natural Heritage Area, adjacent to Pisgah Natl Forest, & upstream of another protected tract.	\$214,000
2005D-016	Blue Ridge Rural land Trust - Thornton Farm Tract, Cove Creek	Minigrant to pay for transactional costs for a donated conservation easement on 70 acres of the Thornton farm on North Fork Cove Creek	\$25,000
2005M-001	Blue Ridge Rural Land Trust - Mini - Teeter- Beech Creek Project	Minigrant to pay for pre-acquisition and transactional costs associated with the donation of conservation easements on 170 acres along Beech Creek. Easements would be on the Teeter tract and 12 other tracts.	\$25,000
2005M-004	Conservation Trust for North Carolina - Mini/ Lankford Tract, Boone Fork Creek	Minigrant to pay for pre-acquisition costs associated with the fee simple purchase of the 22.7 acre Lankford tract along Boone Fork Creek as it travels from Grandfather Mountain to Julian Price Lake.	\$25,000
Total Funded			\$7,562,928

Notes:

- (1) The entire Watauga River basin is within the CWMTF's Western Piedmont Region.
- (2) The total funded amount excludes funded projects that were subsequently withdrawn by the applicant.
- (3) Several regional and statewide projects were funded in areas that include the Watauga River basin. These projects include various riparian corridor planning projects and straight pipe/septic system discharge elimination programs.

10.3.3 NC Construction Grants and Loans Programs

The NC Construction Grants and Loans (CG&L) 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 five major programs that assist local governments. Of these, two are federally funded programs administered by the state: the Clean Water State Revolving Fund (SRF) Program and the State and Tribal Assistance Grants (STAG). The STAG is a direct congressional appropriations for a specific "special needs" project within the State of North Carolina. The High Unit Cost Grant (SRG) Program, the State Emergency Loan (SEL) Program and the State Revolving Loan (SRL) Program are

state funded programs, with the latter two being below market revolving loan money. In the Watauga River basin, one facility received over \$1.2 million in grants and loans from CG&L (Table 17).

As a technical resource, CG&L in conjunction with the Environmental Protection Agency (EPA) has initiated the Municipal Compliance Initiative 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 CG&L website www.nccgl.net.

Table 17 Projects Supported by the NC Construction Grants and Loans Section in the Watauga River Basin

Program	Applicant ¹	Offer Date	Project Description	Loan/Grant Offered
SRF ²	Beech Mountain	08/29/2005	WWTP Upgrade	\$ 1,229,100

1 Projects/Applicants on this list are either funded or funding is expected (i.e., offer not yet made).

2 Clean Water State Revolving Fund (SRF) Program

10.3.4 Clean Water Bonds – NC Rural Center

Outdated wastewater collection systems, some more than 70 years old, allow millions of gallons of untreated or partially treated wastewater to spill into the state’s rivers and streams. The NC Rural Economic Development Center, Inc. (Rural Center) has taken the lead role in designing public policy initiatives to assist rural communities in developing and expanding local water and sewer infrastructure. The Rural Center is a private, nonprofit organization. The Rural Center’s mission is to develop sound, economic strategies that improve the quality of life in North Carolina, while focusing on people with low to moderate incomes and communities with limited resources.

To support local economic growth and ensure a reliable supply of clean water, the Rural Center administers three Water and Sewer Grant Programs to help rural communities develop water and sewer systems. The *Supplemental Grants Program* allows local governments and qualified nonprofit corporations to improve local water and sewer systems by addressing critical needs for public health, environmental protection and/or economic development. The maximum grant amount is \$400,000 and must be used to match other project funds. The *Capacity Building Grants Program* provides funding for local governments to undertake planning efforts to support strategic investment in water and sewer facilities. Projects typically include preliminary engineering reports, master water/sewer plans, capital improvement plans, feasibility studies, and rate studies. The maximum grant amount is \$400,000. The *Unsewered Communities Grants Program* funds the planning and construction of new central, publicly owned sewer systems. This grant is designed to cover 90 percent of the total cost of a project, not to exceed \$3 million. Qualifying communities for this program must not be served by an existing wastewater collection or treatment system. For each grant program, priority is given to projects from economically distressed counties of the state as determined by the NC Department of Commerce (www.nccommerce.com).

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

Since the program’s beginning, the Rural Center has awarded nearly 500 communities and counties more than \$64 million to plan, install, expand, and improve their water and sewer systems. As a result, these communities have served new residential and business customers, created and preserved thousands of jobs, and leveraged millions of dollars in other water and sewer funds. Table 18 lists the grants that were awarded in the Watauga River basin between 1999 and 2005. For more information on the Water and Sewer Grants administered by the Rural Center visit www.ncruralcenter.org/grants/water.htm.

Table 18 Clean Water Bonds Awarded in the Watauga River Basin

County	Recipient	Grant Amount	Grant	Year Awarded
Avery	Town of Elk Park	\$25,572	Capacity	August 2002
Avery, Watauga	Town of Beech Mountain	\$40,000	Capacity	February 2001
Avery	Town of Banner Elk	\$20,000	Capacity	April 2000
Avery	Town of Banner Elk	\$15,750	Capacity	December 1999