

Chapter 13

Water Quality Initiatives

13.1 The Importance of Local Initiatives

As the Basinwide Planning Program completes its third cycle of plan development, there are many efforts being undertaken at the local level to improve water quality. Information about local efforts particular to a watershed or subbasin is included in Chapters 1-4. DWQ encourages local agencies and organizations to learn about and become active in their watersheds.

In an effort to provide water quality information and gain public input, DWQ partnered with local watershed associations, the National Resource Conservation Service, and Soil and Water Conservation Districts to host the Western North Carolina Basinwide Water Quality Conference in 2005. The purpose of the conference was to educate people about water quality concerns specific to the mountain region and show how participation in the Basinwide Planning process can benefit local initiatives.

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

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

The collaboration of these local efforts are key to water quality improvements. There are good examples of local agencies and groups using these cooperative strategies throughout the state. A few of the local organizations are highlighted in Table 26. Specific projects are described in the subbasin chapters (Chapters 1 – 4). Nonpoint source program descriptions and contact, Soil and Water Conservation District (SWCD), NC Cooperative Extension Service and USDA Natural Resources Conservation Service (NRCS) contact information can be found in Appendix VII.

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

Table 26 Local Water Quality Initiatives

<p>Little Tennessee Watershed Association (LTWA) Franklin, North Carolina</p> <p>The Little Tennessee Watershed Association is a nonprofit organization dedicated to protecting and restoring water quality and habitat in the Little Tennessee Watershed. The LTWA formed as a volunteer organization in 1994, as a result of local citizens' concerns about declining water quality. Based in Franklin, NC, the LTWA is a community-based conservation organization with a long history of working with local landowners, other nonprofits and government agencies with a common interest in water quality and habitat issues.</p> <p>197 Thomas Heights Road, Franklin, NC 28734</p> <p>Phone: 828-369-6402 Email: information@ltwa.org</p> <p>www.ltwa.org</p> <p><i>Accomplishments/Projects:</i></p> <ul style="list-style-type: none"> ▪ Long term biological monitoring ▪ Stream bank restoration ▪ Education
<p>Land Trust for the Little Tennessee (LTLT) Franklin, North Carolina</p> <p>The Land Trust for the Little Tennessee is dedicated to conserving the waters, forests, farms, and heritage of the Upper Little Tennessee and Hiwassee River Valleys. We work in partnership with private landowners, public agencies, and others to conserve land, insuring that the natural beauty, ecological integrity, and rural character of our region are preserved for generations to come.</p> <p>88 East Main Street P. O. Box 1148 Franklin, NC 28744-1148</p> <p>Phone: 828-524-2711 Email: bmartin@lflt.org</p> <p>www.lflt.org</p> <p><i>Accomplishments/Projects:</i></p> <ul style="list-style-type: none"> ▪ Rural Land Conservation ▪ Land Stewardship ▪ Outreach and Education
<p>Jackson-Macon Conservation Alliance (JMCA) Highlands, North Carolina</p> <p>Jackson-Macon Conservation Alliance is a grassroots conservation organization whose mission is to address environmental issues affecting the Highlands-Cashiers area through education, advocacy, hand-on initiatives and collaboration with like-minded organizations.</p> <p>Peggy Crosby Center 348 South Fifth Street Highlands, NC 28741</p> <p>Phone: 828-526-9938 Email: jmca@dnet.net</p> <p><i>Accomplishments/Projects:</i></p> <ul style="list-style-type: none"> ▪ Outreach and Education

Upper Cullasaja Watershed Association (UCWA)

Highlands, North Carolina

UCWA promotes the responsible management of water resources on the Highlands Plateau in order to maintain and enhance our environment and quality of life.

PO Box 1508
Highlands, NC 28741

Phone (828)526-9938 ext230
Email: ucwa@earthlink.net

<http://www.ucwatershed.org/>

Accomplishments/Projects:

- Assessment of Mill Creek (303)d and Monger Creek;
- Watershed Strategy and Action Plan;
- Long term rainfall data collection
- Volunteer water quality monitoring
- Public education
- Erosion and sediment control consulting

Watershed Association of the Tuckasegee River (WATR)

Bryson City, North Carolina

The Watershed Association of the Tuckasegee River is a grassroots organization working to improve water quality and habitat of the Tuckasegee River.

835 Main Street
Bryson City, NC 28713

Phone: 828-488-8418
Email: info@watrnc.org

<http://www.watrnc.org/>

Accomplishments/Projects:

- Long term biological monitoring
- Volunteer water quality monitoring
- Watershed Planning
- Education

Little Tennessee Non Point Source Team (LTNPST)

The LTNPST is a dynamic partnership of government agencies, nonprofit organizations, and citizen's groups, working to enhance and conserve the natural resources in the Little Tennessee River Basin by coordinating resources and activities, employing scientific knowledge, and promoting public awareness.

<http://www.littlebasin.org/>

Accomplishments/Projects:

- Regular Roundtable discussions among resource professionals and nonprofit organizations
- Sediment and Erosion Impact Education
- 2006 Basinwide Planning Conference

13.2 Federal Initiatives

13.2.1 Clean Water Act – Section 319 Program

Section 319 of the Clean Water Act provides grant money for nonpoint source demonstration and restoration projects. Through annual base funding, there is approximately \$1 million available for demonstration and education projects across the state. An additional \$2 million is available annually through incremental funds for restoration projects. All projects must provide nonfederal matching funds of at least 40 percent of the project's total costs. Project proposals are reviewed and selected by the North Carolina Nonpoint Source Workgroup made up of state and federal agencies involved in regulation or research associated with nonpoint source pollution

(NPS). Information on the North Carolina Section 319 Grant Program application process is available online at http://h2o.enr.state.nc.us/nps/application_process.htm. Descriptions of projects and general Section 319 Program information are available at http://h2o.enr.state.nc.us/nps/Section_319_Grant_Program.htm.

Many 319 projects are demonstration projects and educational programs that allow for the dissemination of information to the public through established programs at NC State University (NCSU) and the NC Cooperative Extension Service. Other projects fund stream restoration activities that improve water quality. Between 1999 and 2003, there were three projects in the Little Tennessee River basin funded through the Section 319 Program totaling \$105,064.00.

13.3 State Initiatives

13.3.1 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 wetlands, streams 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.

The NCEEP is not a grant program, but can implement its restoration projects cooperatively with other state or federal programs such as the Section 319 Program. Combining NCEEP-funded restoration or preservation projects with 319 or other local watershed initiatives (e.g., 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)* (formerly called *Watershed Restoration Plans*), the 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 (e.g., *Basinwide Assessment Reports*). 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, 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*. In essence, targeted local watersheds represent those areas within a river basin where NCEEP resources can be focused for maximum benefit to local watershed functions.

The *RBRP* for the Little Tennessee River Basin can be found on the NCEEP website at <http://www.nceep.net/services/restplans/watershedplans.html>. A revised *RBRP* with updated selections for *Targeted Local Watersheds* will be posted to this website by summer 2006.

The NCEEP also develops *Local Watershed Plans (LWPs)*, usually within targeted local watersheds 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.

Although there is presently no NCEEP-funded Local Watershed Planning initiative in the Little Tennessee River basin, 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.

NCEEP Projects in the Little Tennessee River Basin

In the Little Tennessee River Basin, NCEEP has four on-going or completed stream or wetland restoration/preservation projects. These include: (1) Cat Creek, which will include 8,000 ft of stream restoration, thirteen acres of wetland restoration, and two acres of wetland preservation; (2) the Lost Bridge area, which preserves approximately 11,000 ft of high quality tributaries to the Little Tennessee River near the Macon and Swain County border; (3) the Needmore Tract, which includes approximately 96,000 ft of high quality stream and 30 acres of high quality wetland preservation; and (4) Tulula Bog, which preserves 121 acres of wetland.

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

13.3.2 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 Little Tennessee River basin, -- projects have been funded for a total of \$25,893,967 (Table 27). For more information on the CWMTF or these grants, call (252) 830-3222 or visit the website at www.cwmtf.net.

Table 27 Projects in the Little Tennessee River Basin Funded by the Clean Water Management Trust Fund

Project Number	Application Name	Proposed Project Description	Amount Funded
1997A-006	Macon County & SAHC- Stream and Wetlands Restoration/Little Tennessee River	A: Restore 55 ac wetlands, stabilize 54,000 sq ft of streambanks, & purchase 2 miles of riparian land along 6-mile Central Watershed Greenway in Franklin. B: Begin streambank stab and buffer program in Little Tenn River, Cullasaja & Cartoogechaye Rivers.	\$3,885,000
1997A-024	Swain Co Economic Dev- Acq/Env Cleanup/Bank Stab/Planning/Tuckasegee River	A: Acquire, clean up and preserve riparian buffer on 1.7 acres, and 1,060 linear feet of Tuckasegee River as part of River-Walk Project. B:Stabilize streambanks and develop greenway/downtown revitalization plan as part of Tuckasegee River-Walk Project.	\$195,900
1997A-034	Bryson City, Town of - Sewer System Rehabilitation & Stormwater Plan	Remove antiquated sewer line from stream bed, prepare stormwater management plan and local ordinances, and I&I study.	\$80,000
1997A-128	Tuckasegee Water and Sewer Authority- Wastewater Collection System	Construct 3.3 miles of 10" gravity trunk sewer line along Scotts Creek. Purpose is to eliminate failing septic tanks and illegal straight pipes. No "on-site" remedy and best solution is to connect to Sylva WWTP.	\$1,200,767
1997B-201	Conservation Fund/Southern App High Cons-CE/Tuckasegee River	Acquire a permanent conservation easement on 600 acres along the Tuckasegee River and Bracken Creek.	\$294,300
1998A-002	Southern Appalachain Highlands Conservancy - Little Tennessee River Acq	Acquire through fee simple purchase and permanent conservation easements 66 acres along the Tennessee River and Tessentee Creek.	\$222,000
1998A-604	Jackson County- Revolving Fund/Failing Septic Systems	Capitalize a revolving loan fund to eliminate failing septic tanks and straight piping into tributaries along Scotts Creek. Complements an earlier Tuckasegee project. Initial goal of fixing 125 of 500 homes with failing or illegal systems.	\$452,000
2001A-028	Southwestern NC RC&D, Inc. - Trout buyout/Santeetlah Lake	Acquire up to four trout farm operations and associated property and place purchased tracts under conservation easements. Remove all improvements related to the trout farm operation and restore buffers with natural vegetation.	\$1,250,000
2001A-803	Jackson County- Planning/ Greenway Feasibility	Conduct a study to determine the feasibility of a greenway system along Scott Creek. Also includes landowner outreach, stream restoration prioritization, and preparation of the greenway master plan.	\$25,000
2002A-001	Bryson City, Town of - Acq/ Lands Creek	Purchase permanent conservation easement on 462 riparian acres along Lands Creek. The Town will donate a conservation easement on an additional 398 acres to protect a total of 860 acres. The tract is adjacent to the Great Smoky Mountains National Park.	\$1,531,000

2002A-005	Conservation Fund - Acq/ Scott Creek	Purchase permanent conservation easements on 4,931 acres along tributaries to Scott Creek. CWMTF funds to pay for riparian easements only on approx 2,000 acres. Tract is located between the Balsam Mt Preserve and the Blue Ridge Parkway.	\$4,057,000
2002A-029	Southern Appalachian Highlands Conservancy - Acq/ Tuckasegee	Acquire permanent conservation easement on 230 acres along the Tuckasegee River and its headwaters. CWMTF funds to purchase 189 riparian acres.	\$368,000
2002B-016	NC Wildlife Resources Commission - Acq./Needmore Tract	Acquire through fee simple purchase 4,468 acres along the Little Tennessee River and tributaries. This tract would create buffers along 27 miles of the Little Tennessee River and along 37 miles its tributaries.	\$6,660,000
2003A-514	Tuckasegee Water and Sewer Authority- Wastewater/ Dix Gap Creek Collection	Replace 3,650 linear feet of a severely deteriorated sewer line along Dix Gap Creek, which drains through Western Carolina University to Cullawhee Creek. The Tuckasegee Water and Sewer Authority would maintain the system.	\$353,000
2004A-409	Macon Soil & Water Conservation District - Rest./ Little Tennessee Restoration Program	Design, permit & construct natural channel stream restoration project along 1,600 ft of Iotla Creek, install revetments on 10,000 ft of streams & plant 25 acres of buffers along 27,000 ft in the Little Tennessee watershed. Monitor results.	\$721,000
2004A-510	Partnership for Bryson City/Swain Co., Inc. - Wastewater/ Marina Waste Management, Fontana Reservoir	Provide start-up funds to purchase boats for the collection and transport of wastes from nearly 400 houseboats located on Fontana Reservoir. Upgraded Robinsville and Bryson City WWTPs to receive septage.	\$325,000
2004A-805	Sylva, Town of - Planning/ Stormwater, Tuckasegee River	Develop a stormwater master plan to retain and treat stormwater discharges entering Scotts Creek, a tributary of the Tuckasegee River.	\$40,000
2004B-020	Land Trust for the Little Tennessee - Acq/ Macon County Tracts	Protect 133 acres along the Little Tennessee River through fee simple purchase (70 ac) & permanent conservation easements (63 ac). Most of easements through USDA Farmland Preservation Program. River is home to endangered & protected aquatic species.	\$635,000
2004D-018	Southern Appalachian Highlands Conservancy - Donated Minigrant, Hotaling, Wolf Creek	Minigrant to pay for transactional costs for a donated permanent conservation easement on 137 acres along Wolf Creek.	\$25,000
2004M-001	Land Trust for the Little Tennessee - Minigrant/ Little Tennessee R	Minigrant to pay for pre-acquisition costs associated with the fee simple purchase of three tracts totaling 70 acres and conservation easements on two additional tracts totaling 63 acres along the main stem of the Little Tennessee River.	\$25,000
2005A-604	Swain County - Septic/ Bryson Branch, Tuckasegee River	Eliminate fecal coliform and nutrient delivery to Bryson Branch from septic tanks by hooking up 30 failing systems to the Bryson City WWTP. Design, permit and construct 3,800 LF of sewer lines, 30 sewer connections, and 15 manholes.	\$50,000

2005A-810	Upper Callasaja Watershed Association - Plan/Rest/ Watershed Protection Plan	Develop a watershed protection plan to identify and prioritize areas for restoration and stormwater BMPs in the Upper Cullasaja River and Mill Creek.	\$40,000
2005A-811	Watershed Association of the Tuckasegee River - Plan/Rest/ Savannah Creek Watershed Action Plan	Develop a watershed action plan for the Green Creek watershed. Conduct water quality sampling to help identify and prioritize restoration needs.	\$40,000
2005B-014	Land Trust for the Little Tennessee - Acq/ Carter Branch Tract	Protect through fee simple 17 ac of the Carter Branch tract along the Little Tennessee River and tribs. CWMTF funds to purchase the riparian 11 ac. Tract is part of an extensive and growing effort to protect this Nationally Significant Aquatic Habitat.	\$208,000
2005B-015	Land Trust for the Little Tennessee - Acq/ Cowee Mound Tract, Little Tennessee River	Protect through fee simple purchase 68 acres of the Cowee Mound Tract along the Little Tennessee River. CWMTF funds to purchase the riparian 22 acres along this Nationally Significant Aquatic Habitat.	\$471,000
2005B-017	Land Trust for the Little Tennessee - Acq/ Needmore Expansion, Phase II	Protect through fee simple purchase 97.6 acres along Queens Creek and the Little Tennessee River. Tract expansions the Needmore acquisition and protects this Nationally Significant Aquatic Habitat.	\$727,000
2005B-515	Tuckasegee Water and Sewer Authority - WW/ Collection System Rehabilitation, Cope Creek	Rehabilitate or replace 37,000 linear feet of collection and sewer service lines and install 163 manholes to address chronic raw sewage discharges to Cope and Scotts Creeks and the Tuckasegee River. Serves 162 residences.	\$2,000,000
2005M-005	Land Trust for the Little Tennessee - Minigrant, Sylva, Fisher Creek Tract	Minigrant to pay for pre-acquisition costs associated with the purchase of a permanent conservation easement on 1200 acres in the Plott Balsam Mountains along Fisher Creek.	\$13,000
Total Funded			\$25,893,967

NOTES:

- (1) The entire Little Tennessee River basin is within CWMTF's Mountain Region
- (2) Three regional and statewide projects were funded in areas that include the Little Tennessee basin. These projects include a riparian corridor planning project, a watershed assessment and restoration planning study, and a regional straight pipe and septic system discharge elimination program.

13.3.3 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 28 lists the grants that were awarded in the Little Tennessee 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 28 Clean Water Bonds Awarded in the Little Tennessee River Basin

County	Recipient	Grant Amount	Grant Type	Year Awarded
Jackson	Tuckasegee W/S Authority	\$400,000	Supplemental	August 2004
Macon	Town of Franklin	\$40,000	Capacity	August 2004
Macon	Macon County	\$40,000	Capacity	February 2004
Graham	Town of Robbinsville	\$398,315	Supplemental	August 2003
Swain	Swain County	\$400,000	Supplemental	August 2003
Macon	Town of Highlands	\$400,000	Supplemental	June 2003
Macon	City of Franklin	\$400,000	Supplemental	December 2002
Swain	Governor's Island Water District	\$1,249,126	Unsewered	August 2002
Graham	Graham County	\$400,000	Supplemental	March 2002
Graham	Town of Robbinsville	\$34,150	Capacity	March 2002
Graham	Town of Lake Santeetlah	\$26,970	Capacity	March 2002
Swain	Swain County	\$24,720	Capacity	August 2001
Swain	Whittier Sanitary District	\$3,000,000	Unsewered	February 2001
Jackson	Tuckasegee Water & Sewer Authority	\$300,000	Supplemental	February 2001
Macon	Franklin	\$200,000	Supplemental	August 2000
Swain	Bryson City	\$200,000	Supplemental	August 2000
Cherokee, Clay, Graham, Swain	Bryson City	\$31,000	Capacity	August 2000
Macon	Macon County	\$40,000	Capacity	August 2000
Graham	Town of Robbinsville	\$189,236	Supplemental	December 1999
Swain	Town of Bryson City	\$199,031	Supplemental	December 1999
Macon	Town of Franklin	\$20,000	Capacity	December 1999

13.3.4 U.S. Fish and Wildlife Service – Private Stewardship Grants Program

The Private Stewardship Program provides grants and other assistance on a competitive basis to individuals and groups engaged in local, private, and voluntary conservation efforts that benefit federally listed, proposed, or candidate species, or other at-risk species. Diverse panels of representatives from State and Federal Government, conservation organizations, agriculture and development interests, and the science community assess applications and make recommendations to the Secretary of the Interior, who awards the grants. The Private Stewardship Program was initiated during Fiscal Year 2002, with grants first awarded during Fiscal Year 2003.

For 2006, the Service awarded more than 6.9 million in Federal funding under the Private Stewardship Program. A ten percent (10%) match of cash or through in-kind contributions is required. The program is available to private landowners and their partners. DWQ encourages interested landowners to pursue these grants to protect threatened and endangered species in the Little Tennessee River Basin.

http://www.fws.gov/angered/grants/private_stewardship/index.html