

Chapter 9

Current Water Quality Initiatives

Ecosystem Enhancement Program (EEP)

Overview

The North Carolina Ecosystem Enhancement Program (EEP) 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 EEP seeks to restore and protect include water quality, floodwater conveyance and storage, fisheries and wildlife habitat.

The EEP 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 EEP-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.

Watershed Planning by the EEP

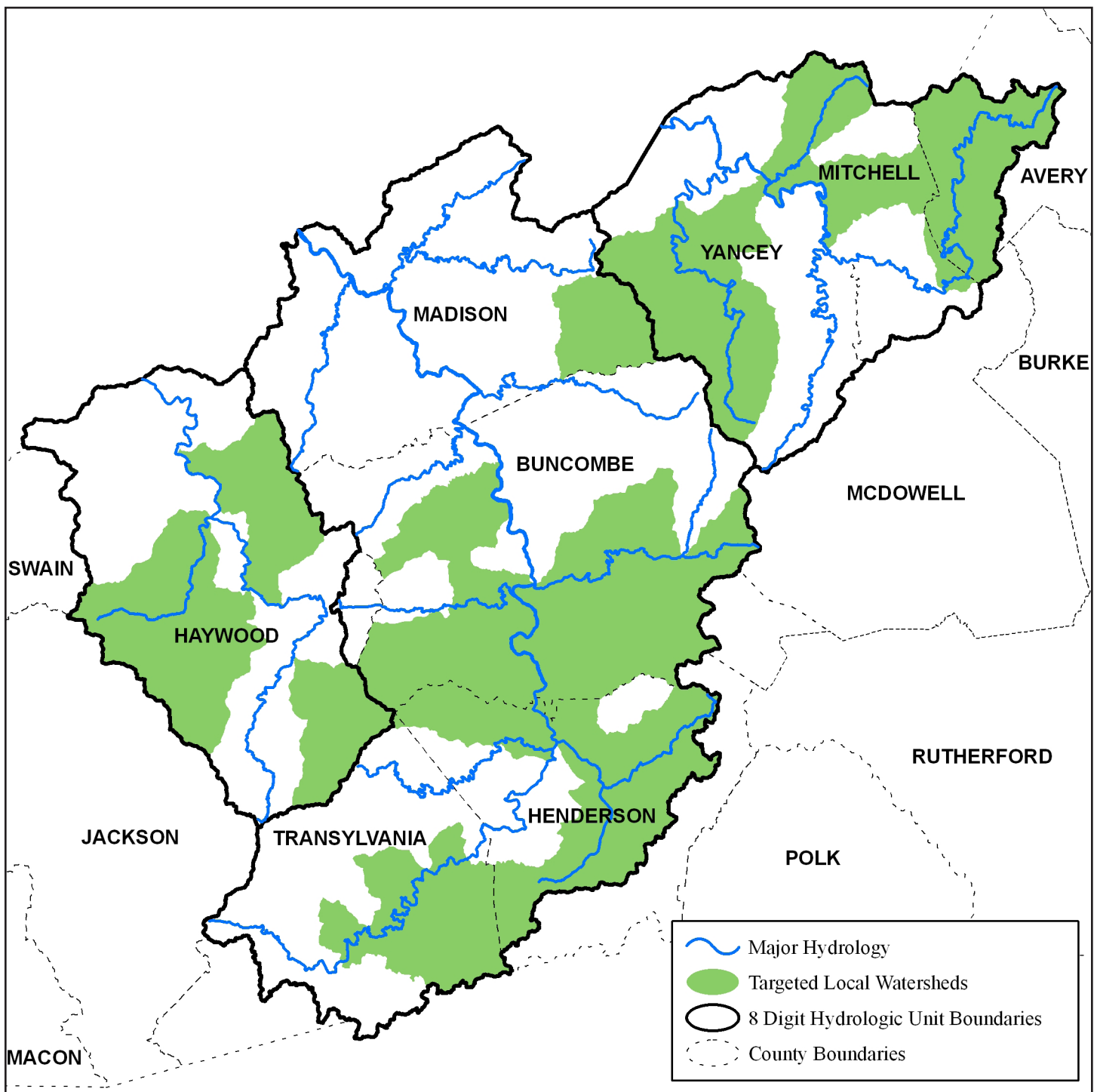
The selection of optimal sites for EEP mitigation projects is founded on a basinwide and local watershed planning approach that results, respectively, in the development of River Basin Restoration Priorities and Local Watershed Plans.

River Basin Restoration Planning

In developing River Basin Restoration Priorities (RBRP) (formerly called Watershed Restoration Plans), the EEP identifies local watersheds 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 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. Targeted local watersheds represent those areas within a river basin where EEP resources can be focused for maximum benefit to local watershed functions. TLWs are therefore given priority by EEP for the implementation of new stream and wetland restoration/enhancement or preservation projects. The location of the EEP targeted local watersheds in the basin are shown in Figure 9-1.

The *2009 French Broad River Basin Restoration Priorities* can be found on the *EEP website*. This is the third River Basin Restoration Priorities plan that has been completed by EEP for the French Broad River basin.

FIGURE 9-1: EEP TARGETED LOCAL WATERSHEDS IN THE FRENCH BROAD RIVER BASIN



Local Watershed Planning

In addition to river basin restoration planning, EEP also develops Local Watershed Plans (LWPs), usually within targeted local watersheds identified in the RBRPs. Through the local watershed planning process, EEP conducts watershed characterization and field assessment tasks to identify critical stressors in local watersheds. The EEP 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.

NCEEP planners make decisions regarding the possible need for new LWP initiatives within a given basin annually. These decisions are based primarily on the quantity and type of compensatory mitigation projects the Program is required to implement, as well as the opportunity for local partnerships within selected 14-digit hydrologic units within the basin.

EEP completed *Local Watershed Plans for Mud Creek, South Hominy Creek, and Bald Creek watersheds*. For more information on these local watershed plans, contact EEP Planner Andrea Leslie at (828) 337-3455 or via email at andrea.leslie@ncdenr.gov.

NCEEP Projects in the French Broad Basin

As of May 2010, a total of 26 EEP mitigation projects have been implemented within the French Broad Basin. Implemented projects include stream and wetland restoration/enhancement and preservation projects that are in one of three stages: design; construction; or monitoring (construction complete). The 26 EEP projects in this river basin include seven projects in the design phase, one project in the construction phase and 12 in monitoring. The six remaining projects are preservation projects that are in long term management. Of these 26 projects, five have been acquired through EEP's full delivery mitigation program. Table 9-1 lists all EEP restoration and protection projects in the French Broad River basin.

TABLE 9-1: EEP MITIGATION PROJECTS IN THE FRENCH BROAD RIVER BASIN

| PROJECT NUMBER | PROJECT NAME | COUNTY | 8-DIGIT HUC |
|----------------|--|--------------|-------------|
| 92 | Clear Creek | Henderson | 06010105 |
| 138 | Fletcher-Meritor Site | Henderson | 06010105 |
| 175 | High Vista (County Line) | Buncombe | 06010105 |
| 208 | Kings Creek | Transylvania | 06010105 |
| 732 | Sandy Mush (Phase II) | Buncombe | 06010105 |
| 733 | Lewis Creek | Henderson | 06010105 |
| 92132 | Big & Little Rock Creek Bruchon | Mitchell | 06010108 |
| 92169 | Little Table Rock 2 | McDowell | 06010108 |
| 92175 | Sandymush HQP - Progress Energy | Madison | 06010105 |
| 92176 | DuPont Forest | Transylvania | 06010105 |
| 92177 | Little Table Rock 1 | Mitchell | 06010108 |
| 92497 | Newfound Creek | Buncombe | 06010105 |
| 92532 | Morgan Creek (French Broad) | Haywood | 06010106 |
| 92533 | Dog Bite Creek | Mitchell | 06010108 |
| 92596 | UT to Bald Creek | Yancey | 06010108 |
| 92607 | Plemmons-Kirkpatrick Spring Creek WRC | Madison | 06010105 |
| 92632 | Upper South Hominy Creek | Buncombe | 06010105 |
| 92651 | Little Ivy Creek (Barnhill Site) | Madison | 06010105 |
| 92663 | Sink Hole Creek | Mitchell | 06010108 |
| 92664 | Three Mile Creek | Avery | 06010108 |
| 92665 | Elk Branch | Mitchell | 06010108 |
| 92700 | Paint Fork Creek (Brigmon Site) | Madison | 06010105 |
| 92701 | South Fork Big Pine Creek (Charles/McGinnis) | Madison | 06010105 |
| 92702 | Paint Fork Creek (Fosson) | Madison | 06010105 |
| 92703 | Middle Fork Creek (Phillips/Willis) | Madison | 06010105 |
| 94203 | East Fork Pigeon River Wetlands | Haywood | 06010106 |

For more information on EEP mitigation projects in the French Broad Basin, contact Michael McDonald (Western Operations Supervisor) at (828) 231-7912.

TABLE 9-2: EEP TARGETED LOCAL WATERSHEDS IN THE FRENCH BROAD BASIN

| 12 DIGIT HUC SUBWATERSHED | SUBWATERSHED NAME | TARGETED LOCAL WATERSHED NUMBER |
|----------------------------------|---|--|
| 060101050105 | Cherryfield Creek - French Broad River* | 06010105010050 |
| 060101050201 | Carson Creek - French Broad River | 06010105010050 |
| 060101050203 | Williamson Creek - French Broad River* | 06010105010050 |
| 060101050204 | Upper Little River | 06010105010080 |
| 060101050205 | Lower Little River | 06010105010080 |
| 060101050206 | Lyday Creek - French Broad River* | 06010105010050 |
| 060101050301 | Upper Mud Creek | 06010105030020 |
| 060101050302 | Clear Creek | 06010105030040 |
| 060101050303 | Lower Mud Creek | 06010105030030 |
| 060101050403 | Mills River | 06010105020020 |
| 060101050501 | South Hominy Creek | 06010105060020 |
| 060101050503 | Lower Hominy Creek | 06010105060030 |
| 060101050701 | Upper Cane Creek | 06010105040010 |
| 060101050703 | Lower Cane Creek | 06010105040010 |
| 060101050704 | Avery Creek - French Broad River | 06010105050010 |
| 060101050705 | Bent Creek - French Broad River | 06010105050010 |
| 060101050602 | Upper Swannanoa River | 06010105070020 |
| 060101050603 | Middle Swannanoa River | 06010105070030 |
| 060101050604 | Lower Swannanoa River | 06010105070040 |
| 060101050902 | Newfound Creek | 06010105090020 |
| 060101050907 | Lee Creek - French Broad River* | 06010105090020 |
| 060101050802 | Little Ivy Creek | 06010105110020 |
| 060101060103 | East Fork Pigeon River | 06010106010010 |
| 060101060105 | Beaverdam Creek - Pigeon River* | 06010106020010 |
| 060101060201 | Upper Richland Creek | 06010106030010 |
| 060101060202 | Lower Richland Creek | 06010106030020 |
| 060101060203 | Upper Jonathans Creek | 06010106020030 |
| 060101060204 | Lower Jonathans Creek | 06010106020030 |
| 060101060205 | Crabtree Creek - Pigeon River* | 06010106020010 |
| 060101060303 | Cataloochee Creek - Pigeon River* | 06010106020040 |
| 060101080101 | Headwaters North Toe River | 06010108010010 |
| 060101080102 | Plumtree Creek - North Toe River | 06010108010020 |
| 060101080103 | Threemile Creek - North Toe River* | 06010108010020 |
| 060101080205 | Pigpen Creek - North Toe River* | 06010108040010 06010108060010 |
| 060101080601 | Jacks Creek | 06010108050010 |
| 060101080603 | Big Rock Creek | 06010108060010 |
| 060101080604 | Hollow Poplar Creek - Nolichucky River* | 06010108060010 |
| 060101080301 | Headwaters Cane River | 06010108070010 |
| 060101080302 | Price Creek | 06010108080010 |
| 060101080303 | Upper Cane River | 06010108070010 |
| 060101080305 | Middle Cane River | 06010108080020 |

*Denotes only part of the 12-Digit Hydrologic Unit is within a TLW

Source Water Assessment Program (SWAP)

Introduction

The Federal Safe Drinking Water Act (SDWA) Amendments of 1996 emphasize pollution prevention as an important strategy for the protection of ground and surface water resources. This new focus promotes the prevention of drinking water contamination as a cost-effective means to provide reliable, long-term and safe drinking water sources for public water supply (PWS) systems. In order to determine the susceptibility of public water supply sources to contamination, the amendments also required that all states establish a Source Water Assessment Program (SWAP). Specifically, Section 1453 of the SDWA Amendments require that states develop and implement a SWAP to:

- Delineate source water assessment areas;
- Inventory potential contaminants in these areas; and
- Determine the susceptibility of each public water supply to contamination.

In North Carolina, the agency responsible for the SWAP is the Public Water Supply (PWS) Section of the DENR Division of Environmental Health (DEH). The PWS Section received approval from the EPA for their SWAP Plan in November 1999. The SWAP Plan, entitled North Carolina's Source Water Assessment Program Plan, fully describes the methods and procedures used to delineate and assess the susceptibility of more than 9,000 wells and approximately 207 surface water intakes. To review the SWAP Plan, visit the [PWS website](#).

Delineation of Source Water Assessment Areas

The SWAP Plan builds upon existing protection programs for ground and surface water resources. These include the state's Wellhead Protection Program and the Water Supply Watershed Protection Program.

Wellhead Protection (WHP) Program

North Carolinians withdraw more than 88 million gallons of groundwater per day from more than 9,000 water supply wells across the state. In 1986, Congress passed Amendments to the SDWA requiring states to develop wellhead protection programs that reduce the threat to the quality of groundwater used for drinking water by identifying and managing recharge areas to specific wells or wellfields.

Defining a wellhead protection area (WHPA) is one of the most critical components of wellhead protection. A WHPA is defined as "the surface and subsurface area surrounding a water well or wellfield, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well or wellfield." The SWAP uses the methods described in the state's approved WHP Program to delineate source water assessment areas for all public water supply wells. More information related to North Carolina's WHP Program can be found through the [SWAP website](#).

Water Supply Watershed Protection (WSWP) Program

DWQ is responsible for managing the standards and classifications of all water supply watersheds. In 1992, the WSWP Rules were adopted by the EMC and require all local governments that have land use jurisdiction within water supply watersheds adopt and implement water supply watershed protection ordinances, maps and management plans. SWAP uses the established water supply watershed boundaries and methods established by the WSWP program as a basis to delineate source water assessment areas for all public water surface water intakes. Additional information regarding the WSWP Program can be found on the [SWAP website](#).

Susceptibility Determination – North Carolina’s Overall Approach

The SWAP Plan contains a detailed description of the methods used to assess the susceptibility of each PWS intake in North Carolina. The following is a brief summary of the susceptibility determination approach.

Overall Susceptibility Rating

The overall susceptibility determination rates the potential for a drinking water source to become contaminated. The overall susceptibility rating for each PWS intake is based on two key components: a contaminant rating and an inherent vulnerability rating. For a PWS to be determined “susceptible”, a potential contaminant source must be present and the existing conditions of the PWS intake location must be such that a water supply could become contaminated. The determination of susceptibility for each PWS intake is based on combining the results of the inherent vulnerability rating and the contaminant rating for each intake. Once combined, a PWS is given a susceptibility rating of higher, moderate or lower (H, M or L).

Inherent Vulnerability Rating

Inherent vulnerability refers to the physical characteristics and existing conditions of the watershed or aquifer. The inherent vulnerability rating of groundwater intakes is determined based on an evaluation of aquifer characteristics, unsaturated zone characteristics and well integrity and construction characteristics. The inherent vulnerability rating of surface water intakes is determined based on an evaluation of the watershed classification (WSWP Rules), intake location, raw water quality data (i.e., turbidity and total coliform) and watershed characteristics (i.e., average annual precipitation, land slope, land use, land cover, groundwater contribution).

Contaminant Rating

The contaminant rating is based on an evaluation of the density of potential contaminant sources (PCSs), their relative risk potential to cause contamination, and their proximity to the water supply intake within the delineated assessment area.

Inventory of Potential Contaminant Sources (PCSs)

In order to inventory PCSs, the SWAP conducted a review of relevant, available sources of existing data at federal, state and local levels. The SWAP selected sixteen statewide databases that were attainable and contained usable geographic information related to PCSs.

Source Water Protection

The PWS Section believes that the information from the source water assessments will become the basis for future initiatives and priorities for public drinking water source water protection (SWP) activities. The PWS Section encourages all PWS system owners to implement efforts to manage identified sources of contamination and to reduce or eliminate the potential threat to drinking water supplies through locally implemented programs

To encourage and support local SWP, the state offers PWS system owners assistance with local SWP as well as materials such as:

- Fact sheets outlining sources of funding and other resources for local SWP efforts.
- Success stories describing local SWP efforts in North Carolina.
- Guidance about how to incorporate SWAP and SWP information in Consumer Confidence Reports (CCRs).

Information related to SWP can be found on the [SWAP website](#).

Public Water Supply Susceptibility Determinations in the Basin

In April 2004, the PWS Section completed source water assessments for all drinking water sources and generated reports for the PWS systems using these sources. The assessments are updated regularly; the most recent

updates were published in May 2010. The results of the assessments can be viewed in two different ways, either through the interactive ArcIMS mapping tool or compiled in a written report for each PWS system. To access the ArcIMS mapping tool, simply click on the “NC SWAP Info” icon on the *SWAP website*. To view a report, select the PWS System of interest by clicking on the “Source Water Assessment Results-2010” link found on the SWAP webpage.

In the French Broad River Basin, 611 public water supply sources were identified. Nineteen are surface water sources and 592 are groundwater sources. Of the 592 groundwater sources, 3 of them have a Higher, 575 have a Moderate and 14 have a Lower susceptibility rating. Table 9-3 identifies the surface water sources and their overall susceptibility ratings. It is important to note that a susceptibility rating of Higher does not imply poor water quality. Susceptibility is an indication of a water supply’s potential to become contaminated.

TABLE 9-3 SWAP RESULTS FOR SURFACE WATER SOURCES IN THE FRENCH BROAD RIVER BASIN

| PWS ID NUMBER | INHERENT VULNERABILITY RATING | CONTAMINANT RATING | OVERALL SUSCEPTIBILITY RATING | NAME OF SURFACE WATER SOURCE | PWS NAME |
|----------------------|--------------------------------------|---------------------------|--------------------------------------|-------------------------------------|-----------------|
| 01-00-010 | H | L | M | Cane River | Burnsville |
| 01-00-010 | H | L | M | Bowlens Creek | Burnsville |
| 01-11-010 | L | H | M | Beetree Creek | Asheville |
| 01-11-010 | L | L | L | North Fork Swannaoa River | Asheville |
| 01-11-010 | H | L | M | Mills River | Asheville |
| 01-11-015 | L | L | L | Sugarcamp Fork | Woodfin |
| 01-11-025 | H | M | H | Ivy Creek | Weaverville |
| 01-44-010 | M | L | M | Allen Creek | Waynesville |
| 01-44-015 | H | L | M | Pigeon River | Canton |
| 01-44-040 | H | L | M | Jonathans Creek | Maggie Valley |
| 01-44-040 | H | L | M | Campbell Creek | Maggie Valley |
| 01-45-010 | H | L | M | Mills River | Hendersonville |
| 01-45-010 | M | L | M | North Fork Mills River | Hendersonville |
| 01-45-010 | M | L | M | Bradley Creek | Hendersonville |
| 01-58-010 | L | L | L | North Fork Big Laurel Creek | Mars Hill |
| 01-58-010 | L | L | L | UT to North Fork Big Laurel Creek | Mars Hill |
| 01-61-010 | H | L | M | North Toe River | Spruce Pine |
| 01-61-010 | M | L | M | Beaver Creek | Spruce Pine |
| 01-88-010 | H | L | M | Catheys Creek | Brevard |

Wastewater Discharge Elimination Program (WaDE)

Septic Systems and Straight Piping

In the French Broad River basin, wastewater from many households is not treated at wastewater treatment plants associated with NPDES discharge permits, but is treated on the property of homeowners through the use of permitted septic systems. Wastewater from some of these homes illegally discharges directly to streams through what is known as a “straight pipe”. In other cases, wastewater from failing septic systems makes its way to streams or contaminates groundwater. Straight piping and failing septic systems are illegal discharges of wastewater into waters of the state.

With on-site septic systems, the septic tank treats some wastes, and the drain field associated with the septic

tank provides further treatment and filtration of the pollutants and pathogens found in wastewater. A septic system that is operating properly does not discharge untreated wastewater to streams and lakes or to the ground's surface where it can run into nearby surface waters. Septic systems are a safe and effective long-term method for treating wastewater if they are sited, sized and maintained properly. If the tank or drain field are improperly located or constructed, or the systems are over used or not maintained, nearby wells and surface waters may become contaminated, causing potential risks to human health. Septic tanks must be properly installed, restricted to designed flow and maintained to ensure they function properly over the life of the system. Information about the proper installation, use and maintenance of septic tanks can be obtained by calling the environmental health sections of the local county health departments.

The discharge of untreated or partially treated sewage can be extremely harmful to humans and the aquatic environment. Pollutants from illegally discharged household wastewater contain chemical nutrients, disease pathogens and endocrine disrupting chemicals. Although DWQ ambient monitoring of the waters in the French Broad River basin show a relatively small percentage of fecal coliform bacteria samples exceeding state standards for primary recreation, smaller streams may contain a higher concentration of bacteria and other pollutants. The economies of the counties in this basin are highly dependent upon river recreation, especially for tourists and seasonal residents. Concerns were expressed at public workshops for the French Broad River basin about the possibility of failing septic systems and straight pipes, as well as the number of septic systems that are currently being permitted each year.

Wastewater Discharge Elimination Program Results

In order to protect human health and maintain water quality, straight pipes must be eliminated and failing septic systems must be repaired. The Wastewater Discharge Elimination (WaDE) Program, from the Division of Environmental Health, in collaboration with Division of Water Quality is actively helping to identify and remove straight pipes (and failing septic systems) in the western portion of North Carolina. This program uses door-to-door surveys to locate straight pipes and failing septic systems, and offers deferred loans or grants to low-income homeowners who have to eliminate the straight pipes by installing a septic system or repair malfunctioning septic systems. From the period of 1998 to 2001 Buncombe County, Madison County, and the Toe River Health Departments obtained grant money to conduct wastewater surveys. Beginning in 2002 the WaDE Program assumed survey and financial assistance responsibilities throughout western NC. From 1998 to 2010 the county health departments and the WaDE Program have visited 6,075 homes, completed 4,526 individual surveys, discovered 1,196 violations, corrected 814 violations with 96 homeowners receiving financial assistance totaling \$294,999 at an average cost of \$3,073 per corrected system in the French Broad River Basin. Table 9-4 shows the results of WaDE surveys in the French Broad River basin.

TABLE 9-4: RESULTS OF WADE SURVEYS IN THE FRENCH BROAD RIVER BASIN

| LEAD AGENCY | BUNCOMBE COUNTY | MADISON COUNTY | TOE RIVER HEALTH DISTRICT | HAYWOOD COUNTY | TRANSYLVANIA COUNTY | HENDERSON COUNTY |
|--------------------|-----------------|----------------|---------------------------|----------------|---------------------|------------------|
| Project Dates | 01/98-10/10 | 01/98-10/10 | 01/03-10/10 | 01/03-10/10 | 05/05-10/10 | 01/03-10/10 |
| Homes Visited | 2,372 | 882 | 446 | 505 | 554 | 1,296 |
| Inspections | 2,211 | 698 | 380 | 300 | 261 | 676 |
| Violations Found | 656 | 208 | 71 | 83 | 62 | 116 |
| Corrections Funded | 33 @ \$106,509 | 12 @ \$29,714 | 18 @ \$52,486 | 19 @ \$66,935 | 4 @ \$9,737 | 10 @ \$29,618 |
| Total Corrections | 76 | 90 | 44 | 67 | 36 | 105 |

Efforts to create a permanent statewide septic maintenance and repair program similar to the straight pipe and failing septic system initiative currently active in western NC should be pursued. Additionally, precautions should be taken by local septic system permitting authorities to ensure that new systems are sited and constructed properly and that an adequate repair area is also available. Educational information should also be provided to new septic system owners regarding the maintenance of these systems over time. For more information visit the [WaDE Program website](#).

DWQ Asheville Regional Office Watershed Initiative

Starting in 2007, the DWQ's ARO undertook an initiative to address high priority/high profile water quality issues in the region. Progress has been made in some key watersheds through assessments conducted by ARO and ESS staff and other partners, partnership building, restoration project planning and implementation, focused and coordinated compliance efforts, stakeholder cooperation, and education and outreach. Project selection is given priority based on critical habitat significance, recreational value, and water supply value.

Current projects in the French Broad Basin:

- The Mills River Watershed (Water Supply, Critical Habitat, and Recreation)
- Richland Creek Watershed (Recreation)
- North Toe River Watershed (Water Supply, Critical Habitat, and Recreation)

French Broad River Watershed Education and Training Center

North Carolina State University's Extension program at the French Broad River Watershed Education and Training Center offers a variety of educational training topics related to improving water quality to a diverse group of stakeholders. The French Broad River Watershed Education and Training Center offers trainings, workshops, and conferences to extend scientifically based information about integrating LID and stormwater BMPs throughout Western North Carolina. Working in collaboration with The North Carolina Arboretum, more than two dozen practices are actively and passively interpreted to developers, contractors, landowners, design professionals, municipal staff and public officials.

Current and Continuing Projects:

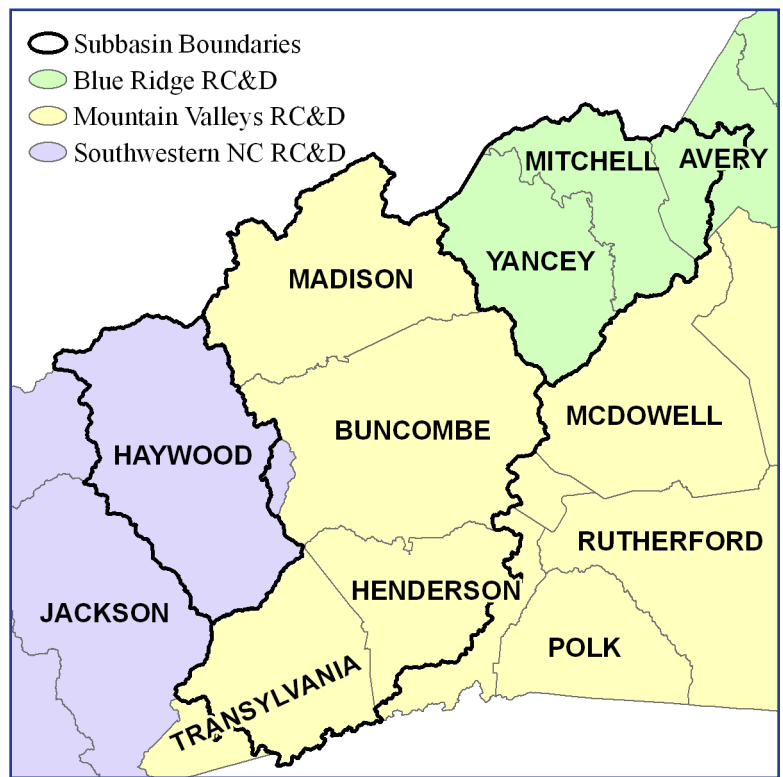
- Educational activities offering training on LID, stormwater management, sediment and erosion control, water harvesting, green infrastructure, and stream restoration
- Designing and installing demonstration projects throughout Western North Carolina for research and education purposes
- Monitoring and evaluating the effectiveness of stormwater BMPs in the mountains
- Work in partnership with NCSU Cooperative Extension to provide technical services and educational support
- Disseminate research-based findings to foster behavior change in order to protect and improve water quality resources within the Upper French Broad watershed in North Carolina

For more information, visit the [French Broad River Watershed Education and Training Center website](#).

USDA Resource Conservation and Development (RC&D) Program

The United States Department of Agriculture’s (USDA) RC&D program helps communities plan and carry out projects that increase natural resources conservation, support economic development, and enhance the local environment and standard of living. The RC&D program is administered by USDA’s Natural Resources Conservation Service (NRCS). The purpose of the RC&D program is to accelerate the conservation, development and utilization of natural resources, improve the general level of economic activity, and to enhance the environment and standard of living in designated RC&D areas. There are three resource conservation and development council districts in the French Broad River basin. They are the Blue Ridge RC&D, Mountain Valleys RC&D, and Southwestern North Carolina RC&D.

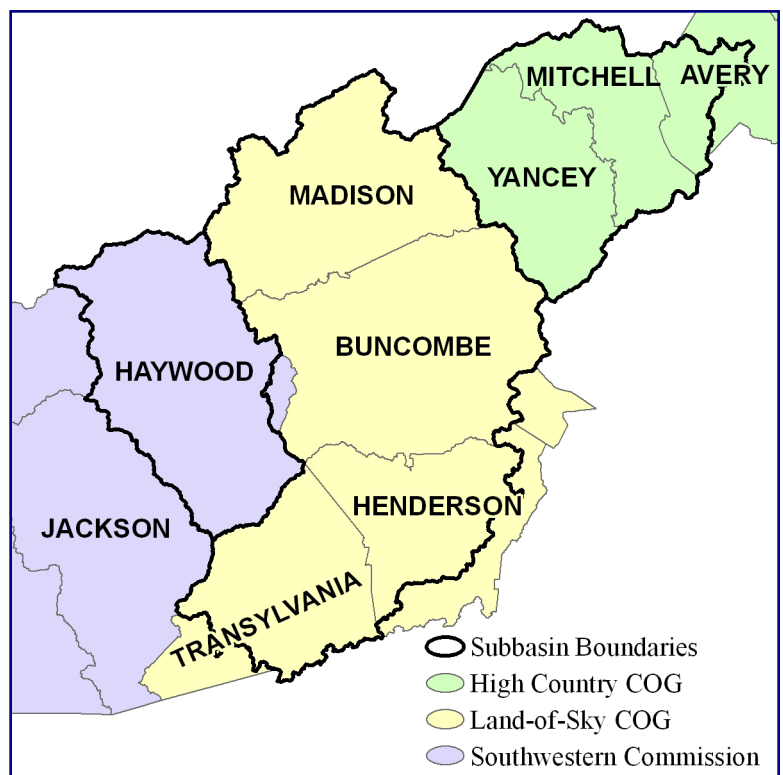
FIGURE 9-2: RC&D COUNCILS MAP



Regional Councils of Governments

Regional Councils are multi-county planning and development agencies serving different areas of the state. Membership in these councils is voluntary. In North Carolina, 17 councils serve regions that share similar economic, physical and social characteristics. Regional councils have been operating in the state since 1972 although many were organized long before the official designation. Their function is to aid, assist and improve the capabilities of local governments in administration, planning, fiscal management and development. Regional Councils of Governments in the French Broad River basin include the Land-of-Sky Regional Council, Southwestern Commission, and the North Carolina High Country Council of Governments. These group assist municipal and county governments with obtaining funding for and implementing projects such as watershed planning, stormwater education program development, and stream restoration.

FIGURE 9-3: REGIONAL COUNCILS OF GOVERNMENTS MAP



French Broad River Volunteer Buffer Partnership

The Land-of-Sky Regional Council, using grants from the Clean Water Management Trust Fund and Tennessee Valley Authority, initiated the Voluntary Buffer Partnership to develop a comprehensive plan for protecting and restoring riparian buffers along the mainstem of the French Broad River in four counties. The partnership has developed a “toolbox” of possible buffer protection/restoration options and is continually working with land-owners to stabilize streambanks and preserve buffers using conservation easements.

Western North Carolina Alliance

The Western North Carolina Alliance was found in 1982 as a grassroots environmental organization dedicated to protecting the natural resources of western North Carolina. The Alliance’s primary goal is to protect and to preserve our natural land, water and air resources through education and public participation in policy decisions at all levels of business and government. The Alliance supports the development and enforcement of standards and regulations sufficient to protect surface waters and ground water from sediment, organic pollution, and toxins; and to preserve and restore waterways as healthy ecosystems, as well as recreational and esthetic resources. One way that the Western North Carolina Alliances reaches citizen is through the French Broad Riverkeeper. For more information visit the [*Western North Carolina Alliance’s website*](#).

The French Broad Riverkeeper ®

The French Broad Riverkeeper program was founded in 2001, and serves as a protector and defender of the French Broad River watershed in western North Carolina. The Riverkeeper works for healthy and safe waterways in the watershed by partnering with citizens and communities to identify pollution sources, enforce environmental laws, advocate for stronger environmental laws, engage in restoration, and educate and empower the public. The French Broad Riverkeeper is a program of the Western North Carolina Alliance. For more information visit the [*French Broad Riverkeeper’s website*](#).

Environmental and Conservation Organization

The Environmental and Conservation Organization (ECO) is a nonprofit organization devoted to conserving and preserving the natural heritage of the mountain region. Seeking to think globally and act locally, ECO works to preserve and protect streams and wetlands, wildlife and natural habitats. ECO addresses environmental community concerns through educational program development, recreational programs, environmental service projects for the community, and encourages civic responsibility in economic and democratic processes. For more information visit the [*ECO website*](#).

Haywood Waterways Association

A nonprofit association dedicated to maintaining and improving the water quality of the Pigeon River, the Haywood Waterways Association (HWA) focuses on reducing nonpoint pollution in the Pigeon River watershed. HWA works through a variety of voluntary initiatives including educational programs, greenways, information and work sessions, erosion control workshops, and obtaining grants and other resources to address nonpoint pollution. HWA is funded by contributions from members, grants and donations. HWA is guided by a Technical Advisory Committee (TAC) with representatives from federal, state and local agencies as well as many volunteers from a variety of backgrounds and expertise. For more information visit the [*HWA website*](#).

Volunteer Water Information Network Program

VWIN is a water quality monitoring program where trained volunteers collect water from 224 sites throughout Buncombe, Henderson, Madison and Transylvania counties; 139 of these sites are in the French Broad River basin. Samples are analyzed in a state certified lab at UNC-Asheville for parameters such as turbidity, suspended solids, pH, alkalinity, conductivity and heavy metals such as zinc, copper and lead.

RiverLink

RiverLink is a regional, nonprofit organization, that focuses on the economic and environmental revitalization of the French Broad River and its tributaries. RiverLink's activities are governed by a Board of Directors recruited from Buncombe, Henderson, Transylvania and Madison counties, and it is continually seeking grant opportunities to fund various water quality initiatives along the French Broad River and its tributaries. Recent projects include the installation of Best Management Practices to reduce stormwater runoff and bank stabilization to reduce sedimentation in the Swannanoa River watershed. For more information visit the [*RiverLink website*](#).

Quality Forward

Quality Forward is a volunteer-based organization working to enhance the environment and quality of life for the citizens of Asheville and Buncombe County through awareness building, community activities and partnership.

Mills River Partnership

The Mills River Partnership is comprised of various stakeholders who have partnered to improve water quality in the lower Mills River and Wash Creek while maintaining the outstanding quality of the other streams in the watershed. The Partnership is a nonregulatory organization devoted to working with landowners in the watershed. Each project is designed with the individual needs of the landowner in mind. All projects are voluntary and are paid for through grants awarded to the Mills River Project.

Mud Creek Watershed Restoration Council

The Mud Creek Watershed Restoration Council was established in 2000 to provide a forum for local stakeholder participation in the development of the Watershed Protection Plan for Mud Creek. The council's mission is to improve and protect water quality throughout the Mud Creek watershed. To do this, the council has developed a restoration plan and implementation strategy to improve water quality, increased public awareness and appreciation of the watershed, promoted farmland conservation and the restoration of wetlands, and set water quality priorities.

Pigeon River Fund

The Pigeon River Fund, operating under a FERC license agreement, exists to improve the streams and rivers of Haywood, Buncombe and Madison counties. The Fund awards grants to nonprofits and public agencies supporting projects that improve surface water quality, enhance fish and wildlife management areas, expand public access, and increase citizens awareness of their roles in protecting water resources. Since 1996, the fund has awarded \$3,184,488 (through May 2009), which in many cases been used to leverage additional State and Federal grants for restoration projects across the three counties. For more information visit the [*Pigeon River Fund website*](#).