

LOCAL CONSERVATION INITIATIVES

CHAPTER TOPICS

SWCD

EEP

319 Grants

WaDE

SOIL AND WATER CONSERVATION DISTRICT OPERATIONS

The soil and water conservation districts in North Carolina are comprised of a five-member Board of Supervisors for each county in the state staffed by resource professionals in the district, usually with federal, state, and local funds. This group establishes local resource priorities. This structure allows the local district to call upon federal, state, local, non-profit, non-government, and other natural resource groups for technical, financial, planning, and implementation support to restore, enhance, and/or maintain the natural resource base at the local level.

THE NORTH CAROLINA AGRICULTURAL COST SHARE PROGRAM

The NC Agricultural Cost Share Program (NCACSP) was established in 1984 to help reduce agricultural nonpoint runoff into the state's waters. The program, administered by the NC Division of Soil and Water Conservation (now within the NC Department of Agriculture and Consumer Services) and managed by the local districts, 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 NCACSP is implemented by the Division of Soil and Water (DSWC), which divide the approved BMPs into five main purposes or categories:

- Sediment/Nutrient Delivery Reduction from Fields - Sediment/nutrient management measures include planned systems that prevent sediment and nutrient runoff from fields into streams. Practices include: field borders, filter strips, grassed waterways, nutrient management strategies, riparian buffers, water control structures, streambank stabilization, and road repair/stabilization.
- Erosion Reduction/Nutrient Loss Reduction in Fields - Erosion/nutrient management measures include planned systems for reducing soil erosion and nutrient runoff from cropland into streams. Practices include: critical area planting, cropland conversion, water diversion, long-term no-till, pastureland conversion, sod-based rotation, stripcropping, terraces, and Christmas tree conservation cover.
- Stream Protection from Animals - Stream protection management measures are planned systems for protecting streams and streambanks. Such measures eliminate livestock access to streams by providing an alternate watering source away from the stream itself. Other benefits include reduced soil erosion, sedimentation, pathogen contamination and pollution from dissolved, particulate, and sediment-attached substances. Practices include: heavy use area protection, livestock exclusion (i.e., fencing), spring development, stream crossings, trough or watering tanks, wells, and livestock feeding areas.
- Proper Animal Waste Management - A waste management system is a planned system in which all necessary components are installed for managed liquid and solid waste to prevent or minimize degradation of soil and water resources. Practices include: animal waste lagoon closures, constructed wetlands, controlled livestock lounging area, dry manure stacks, heavy use area protection, insect and odor control, stormwater management, waste storage ponds/lagoons, compost, and waste application system.

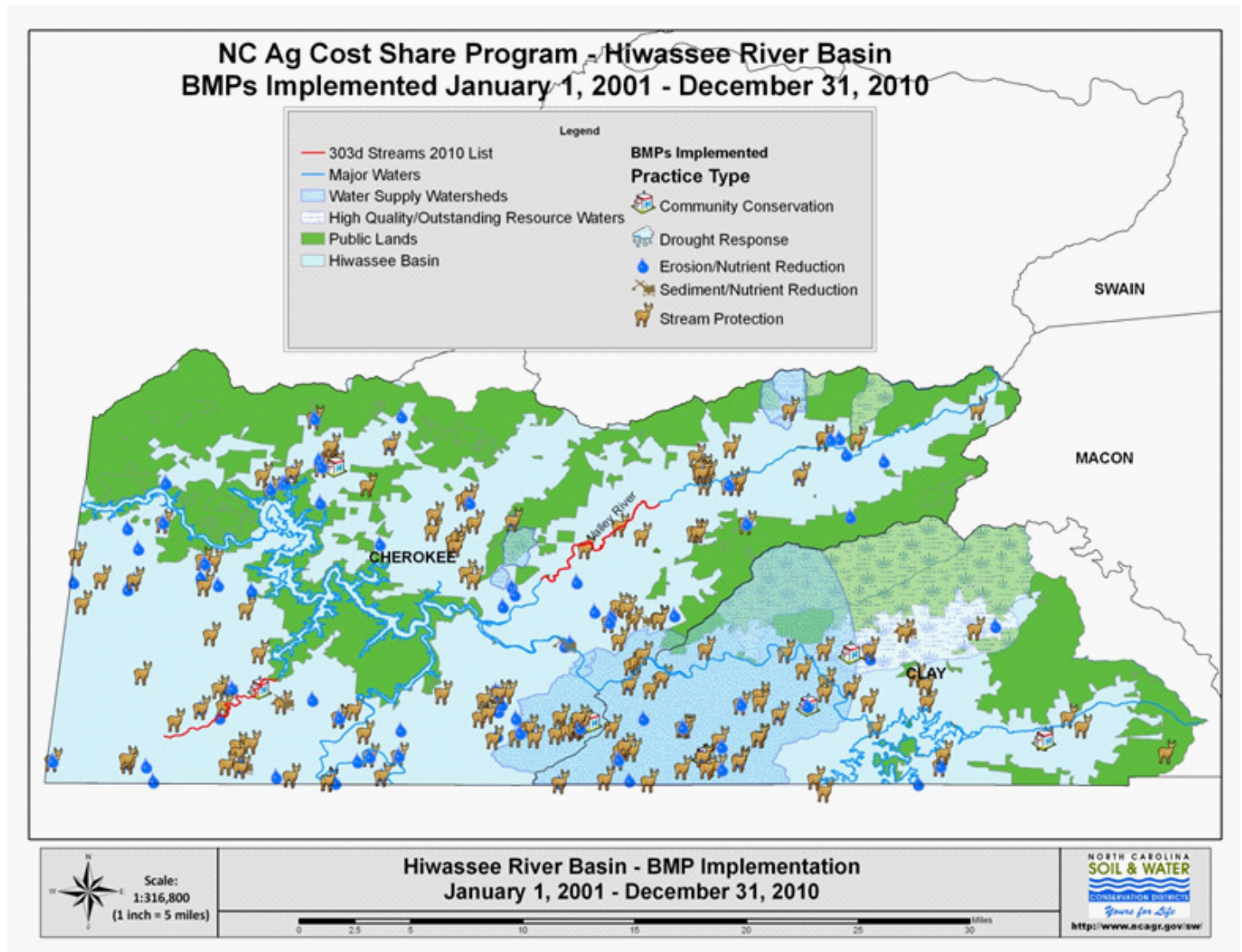
• Agricultural Chemical (agrichemical) Pollution Prevention - Agrichemical pollution prevention measures involve a planned system to prevent chemical runoff to streams for water quality improvement. Practices include: agrichemical handling facilities and fertigation/chemigation back flow prevention systems.

A full listing of all the BMPs and the categories they are grouped in is available at the following link (under Section V: Best Management Practice Guidelines): <http://www.ncagr.gov/sw/acspprogrammanual.html>

The practices mentioned above (please note, this is a partial list) have calculated water quality benefits associated with the implementation of the BMP. The benefits calculated include: affected acres, nitrogen reductions, phosphorus reductions, tons of soil saved, and the proper management of nitrogen and phosphorus resulting from animal waste. Within the Hiwassee Basin from 2001, 1512 individual BMPs were installed that affected over 33,000 acres. The majority of these practices are categorized as “Stream Protection” measures. Stream Protection practices accounted for nearly 73% of the affected area. Nitrogen and phosphorus reductions were achieved primarily by Erosion/Nutrient Reduction practices however. Over 85% of the soil savings was achieved through Streamside Protection practices.

Figure 1-1 is a map installed by the NC Agricultural Cost Share Program for the period January 1, 2001 through December 31, 2010:

FIGURE 1-1: AGRICULTURE BMPs



NC ECOSYSTEM ENHANCEMENT PROGRAM (EEP)

EEP uses watershed planning at two scales (basinwide and local) to identify the best locations to implement stream, wetland and riparian buffer restoration/enhancement and preservation projects. The EEP planning process considers where compensatory mitigation (under provisions of the Clean Water Act) is needed, and how mitigation efforts might contribute to the improvement of water quality, habitat and other vital watershed functions in the state. Watershed planning requires GIS data analysis, stakeholder involvement, water quality monitoring, habitat assessment and consideration of local land uses and ordinances. It is a multi-dimensional process which considers science, policy and partnership. For more information on EEP's mission, processes and products, please visit <http://portal.ncdenr.org/web/eep/home>.

RIVER BASIN RESTORATION PRIORITIES

EEP River Basin Restoration Priorities (RBRPs) are focused on the identification of Targeted Local Watersheds (TLWs) within the 8-digit Cataloging Units (subbasins) that comprise individual river basins. TLWs represent priority areas (14-digit Hydrologic Units or HUs) for the implementation of stream and wetland mitigation projects. GIS screening factors considered in the selection of TLWs include: documented water quality impairment and habitat degradation, the presence of critical habitat or significant natural heritage areas, the presence of water supply watersheds or other high-quality waters, the condition 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 watershed projects are given significant weight in the selection of TLWs. RBRP documents (and TLW selections) for each of the 17 river basins in North Carolina are updated periodically to account for changing watershed conditions, increasing development pressures and local stakeholder priorities.

The most recent update to the Hiwassee River Basin TLWs occurred in 2008. Eleven 14-digit HUs (of 22 total in the basin) have been selected as TLWs by EEP in the Hiwassee River basin:

- 💧 - Hiwassee River/Sweetwater Creek (06020002060010)
- 💧 - Brasstown Creek (06020002090010)
- 💧 - Unnamed Tributaries to Hiwassee River (06020002090020)
- 💧 - Upper Valley River (06020002100010)
- 💧 - Middle Valley River (06020002100020)
- 💧 - Lower Valley River (06020002100030)
- 💧 - Peachtree Creek (06020002100040)
- 💧 - Mission Creek (06020002100050)
- 💧 - Martins Creek (06020002170010)
- 💧 - Persimmon Creek (06020002180010)
- 💧 - South Shoal/North Shoal/Camp Creek (06020002180020)

The 2008 Hiwassee RBRP, including maps and a summary table of Targeted Local Watersheds, can be found at <http://portal.ncdenr.org/web/eep/rbrps/hiwassee>.

LOCAL WATERSHED PLANNING

EEP Local Watershed Planning (LWP) initiatives are conducted in specific priority areas (typically a cluster of two or three Targeted Local Watersheds) where EEP and the local community have identified a need to address critical watershed issues. The LWP process typically takes place over a two-year period, covers a planning area around 50 to 150 square miles, and includes three distinct phases: I - existing data review and preliminary watershed characterization (largely GIS-based); II – detailed watershed assessment (including water quality & biological monitoring and field assessment of potential mitigation sites); and III – development of a final Project Atlas and Watershed Management Plan. EEP collaborates with local stakeholders and resource professionals throughout the process to identify projects and management strategies to restore enhance and protect local watershed resources. There is one LWP in the basin, Peachtree-Martins Creek. This plan is summarized in the Brasstown Creek Watershed chapter.

SECTION 319 GRANT PROGRAM

Section 319 of the Clean Water Act provides grant money for nonpoint source demonstration and restoration projects. In 2009/2010, approximately \$450,000 was available annually through base funding for demonstration and education projects across the state. An additional \$2 million was available annually through incremental funding for restoration projects on impaired waters statewide. All projects must provide non-federal matching funds of at least 40 percent of the project's total costs. Project proposals are reviewed and selected by the North Carolina Nonpoint Source Workgroup, made up of state and federal agencies involved in regulation or research associated with nonpoint source pollution. Information on the [North Carolina Section 319 Grant Program](#) application process is available online as well as descriptions of projects and general Section 319 Program information.

The Valley River is Impaired for turbidity violations. The Hiwassee River Watershed Coalition received two 319 grants to reduce excess sedimentation to the River. Grant funds were used to complete the Valley River Watershed Restoration Plan in 2010, which links excess sedimentation in the watershed to erosion of stream banks, uncontrolled stormwater runoff, and a lack of adequate riparian buffers, among other sources. The plan calls for a 22% reduction (3,915 tons/yr) in Total Suspended Solids in order to decrease turbidity to levels that meet the state's water quality standards. The second 319 grant is to implement the Valley River Watershed Restoration Plan by working in partnership with the Cherokee Co. SWCD and others to (a) correct erosion and instability problems along another mile of stream resulting an additional TSS reduction of 650 tons/yr (17% of the needed reduction), (b) installing a variety of stormwater best management practices on the Andrews High School campus, and (c) educating people in the watershed about the causes and sources of the Valley River's impairment, controlling stormwater runoff and the value of riparian buffers.

WADE

In the Hiwassee River basin, wastewater from many households is not treated at wastewater treatment plants associated with NPDES discharge permits. Instead, it is treated onsite 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.

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. Special study requests in the Hiwassee River Basin led to an increase in number of streams sampled for bacteria and have led to several new stream impairments. As of 2012, there are five streams (23 stream miles) Impaired because of high fecal coliform bacteria levels. The economies of the counties in this basin are highly dependent upon river recreation, especially for tourists and seasonal residents. Reducing bacterial contamination is crucial for supporting a tourist economy. In order to protect human health and maintain water quality, straight pipes must be eliminated and failing septic systems should be repaired.

The NC Wastewater Discharge Elimination (WaDE) Program was actively helping to identify and remove straight pipes (and failing septic systems) in the western portion of North Carolina. This program used door-to-door surveys to locate straight pipes and failing septic systems, and offered deferred loans or grants to homeowners who had to eliminate the straight pipes by installing a septic system. This program was cut from the State budget and is no longer in operation.