

# **CHAPTER 5**

## **EXISTING WATER QUALITY PROGRAMS AND PROGRAM INITIATIVES IN THE BASIN**

### **5.1 INTRODUCTION**

This chapter summarizes the point and nonpoint source control programs available for addressing water quality problems in the Broad River Basin and a number of important initiatives being implemented by federal, state, local and private interests. **Section 5.2** summarizes the state and federal legislative authorities developed to protect water quality. **Section 5.3** presents the water quality standards and classifications program. **Sections 5.4 and 5.5**, respectively, present existing point and nonpoint source pollution control programs. A more complete description of these programs can be found in Appendix VI. Application of these programs to specific water quality problems and water bodies is presented in Chapter 6. **Section 5.6** presents water quality program initiatives that have been implemented within the basin. **Section 5.7** discusses integration of point and nonpoint source control management strategies and introduces the concept of *total maximum daily loads* (TMDLs). **Section 5.8** provides information on potential sources of funding for both point and nonpoint water quality protection programs.

### **5.2 STATE AND FEDERAL LEGISLATIVE AUTHORITIES FOR NORTH CAROLINA'S WATER QUALITY PROGRAM**

Authorities for some of the programs and responsibilities carried out by the Water Quality Section are derived from a number of federal and state legislative mandates outlined below. The major federal authorities (Section 5.2.1) for the state's water quality program are found in sections of the Clean Water Act (CWA). State authorities listed in Section 5.2.2 are from state statutes.

#### **5.2.1 Federal Authorities for NC's Water Quality Program**

- **The Clean Water Act Section 301** - Prohibits the discharge of pollutants into surface waters unless permitted by EPA.
- **The Clean Water Act Section 303(c)** - States are responsible for reviewing, establishing and revising water quality standards for all surface waters.
- **The Clean Water Act Section 303(d)** - Each state shall identify those waters within its boundaries for which the effluent limits required by section 301(b)(1) A and B are not stringent enough to protect any water quality standards applicable to such waters.
- **The Clean Water Act Section 305(b)** - Each state is required to submit a biennial report to the EPA describing the status of surface waters in that state.
- **The Clean Water Act Section 319** - Each state is required to develop and implement a nonpoint source pollution management program.
- **The Clean Water Act Section 402** - Establishes the National Pollutant Discharge Elimination System (NPDES) permitting program. Allows for delegation of permitting authority to qualifying states (includes North Carolina).
- **The Clean Water Act Section 404/401** - Section 404 regulates the discharge of fill materials into navigable waters and adjoining wetlands unless permitted by the US Army Corps of Engineers. Section 401 requires the Corps to receive a state Water Quality Certification prior to issuance of a 404 permit.

### 5.2.2 State Authorities for NC's Water Quality Program

- **G.S. 143-214.1** - Directs and empowers the NC Environmental Management Commission (EMC) to develop a water quality standards and classifications program.
- **G.S. 143-214.2** - Prohibits the discharge of certain wastes to surface waters of the state without a permit.
- **G.S. 143-214.5** - Provides for establishment of the state Water Supply Watershed Protection Program.
- **G.S. 143-214.7** - Directs the EMC to establish a Stormwater Runoff Program.
- **G.S. 143-215** - Authorizes and directs the EMC to establish effluent standards and limitations.
- **G.S. 143-215.1** - Outlines methods for control of sources of water pollution (NPDES and nondischarge permits, statutory notice requirements, public hearing requirements, appeals, etc.).
- **G.S. 143-215.2** - Empowers the EMC to issue *special orders* to any person whom it finds responsible for causing or contributing to any pollution of the waters of the state within the area for which standards have been established.
- **G.S. 143-215.3** - Outlines additional powers of the EMC including provisions for adopting rules, charging permit fees, delegating authority, investigating fish kills and investigating violations of rules, standards or limitations adopted by the EMC.
- **G.S. 143-215.6A, 143-215.6B and 143-215.6C** - Includes enforcement provisions for violations of various rules, classifications, standards, limitations, provisions or management practices established pursuant to G.S. 143-214.1, 143-214.2, 143-214.5, 143-215, 143-215.1, 143-215.2. Section 6A describes enforcement procedures for civil penalties. Section 6B outlines enforcement procedures for criminal penalties. Section 6C outlines provisions for injunctive relief.
- **G.S. 143-215.74, 75A, 74B, 74C, 74D and 74E** - Refers to animal waste management and agriculture cost share.
- **G.S. 143-215.75** - Outlines the state's Oil Pollution and Hazardous Substances Control Program.
- **G.S. 143-215, 10A - 215.10G** - Requires permits and controls for animal waste systems.
- **G.S. 143-214.8 - 214.13** - Establishes a Wetland Restoration Program.
- **G.S. 143-15.3B, 113-145.1-145.7** - Establishes a Clean Water Management Trust Fund.

### 5.3 Surface Water Classifications and Water Quality Standards

#### Program Overview

North Carolina has established a water quality classification and standards program pursuant to G.S. 143-214.1. Classifications and standards are developed pursuant to 15A NCAC 2B. 0100 - Procedures for Assignment of Water Quality Standards. Waters were classified for their "best usage" in North Carolina beginning in the early 1950's, with classification and water quality standards for all the state's river basins adopted by 1963. The effort to accomplish this included identification of waterbodies (which included all named waterbodies on USGS 7.5 minute topographic maps), studies of river basins to document sources of pollution and appropriate best uses and formal adoption of standards/classifications following public hearings.

The Water Quality Standards program in North Carolina has evolved over time and has been modified to be consistent with the Federal Clean Water Act and its amendments. Water quality classifications and standards have also been modified to promote protection of surface water supply watersheds, high quality waters and the protection of unique and special pristine waters

with outstanding resource values. Classifications and standards are applied to provide protection of uses from both point and nonpoint source pollution.

### **Statewide Classifications**

A full description of the state's primary and supplemental classifications including, for each classification, the best usage, key numeric standards, stormwater controls and other requirements as appropriate, are available in the document titled: *Classifications and Water Quality Standards Applicable to Surface Waters of North Carolina* (derived from 15A NCAC 2B .0200). A summary of these classifications follows.

#### **Primary Classifications**

Under this system, all surface waters in the state are assigned a *primary* classification that is appropriate to the best uses of that water body (e.g., aquatic life support and swimming). Primary freshwater classifications include the following: *C*, *B* and *WS* (Water Supply) *I* through *WS-V*. The *WS* freshwater classifications may also include a critical area (CA) designation. The critical area is the area in close proximity to a water supply intake and/or the shoreline of the reservoir. Primary saltwater classifications include *SC*, *SB* and *SA*. *SC* and *SB* are saltwater counterparts to the freshwater *C* and *B* classifications. *SA* is a classification assigned to waters used for shellfish harvesting. *SA*, *WS-I* and *WS-II* are also, by definition, considered to be High Quality Waters, as discussed below.

#### **Supplemental Classifications**

In addition to primary classifications, surface waters may be assigned a supplemental classification. The supplemental classifications include *HQW* (High Quality Waters), *ORW* (Outstanding Resource Waters), *NSW* (Nutrient Sensitive Waters), *Tr* (Trout Waters) *FWS* (Future Water Supply) and *Sw* (Swamp Waters). Most of these have been developed in order to afford special protection to sensitive or highly valued resource waters. Therefore, while all surface waters are assigned a primary classification, they may also have one or more supplemental classifications. For example, a typical freshwater stream in the mountains might have a *C Tr* classification where *C* is the primary classification followed by the *Tr* supplemental classification.

### **Statewide Water Quality Standards**

Each primary and supplemental classification is assigned a set of water quality *standards* that establish the level of water quality that must be maintained in the water body to support the uses associated with each classification. Some of the standards, particularly for *HQW* and *ORW* waters, outline protective management strategies aimed at controlling point and nonpoint source pollution. These strategies are discussed briefly below. The standards for *C* and *SC* waters establish the basic protection level for all state surface waters. With the exception of *Sw*, all of the other primary and supplemental classifications have more stringent standards than for *C* and *SC* and therefore require higher levels of protection.

#### **High Quality Waters**

Some of North Carolina's surface waters are relatively unaffected by pollution sources and have water quality higher than the standards that are applied to the majority of the waters of the state. In addition, some waters provide habitat for sensitive biota such as trout, juvenile fish or rare and endangered aquatic species.

In an effort to protect waters that possess such characteristics, surface waters in the following categories qualify for classification as High Quality Waters or HQW:

- 1) waters rated as Excellent based on chemical and biological sampling (Division of Water Quality (DWQ) assigns water quality ratings to North Carolina's surface waters based on biological and chemical data);
- 2) streams designated by the Wildlife Resources Commission as native and special native trout waters or primary nursery areas;
- 3) waters designated as primary nursery areas by the Division of Marine Fisheries; and
- 4) critical habitat areas designated by the Wildlife Resources Commission or the Department of Agriculture. Waters classified by the Division of Water Quality as WS-I, WS-II and SA are HQW by definition, but these waters are not specifically assigned the HQW classification because the standards for WS-I, WS-II and SA waters are at least as stringent as those for waters classified as HQW.

Special HQW protection management strategies are presented in 15A NCAC 2B.0201(d), and implemented through 15A NCAC 2B .0224. Copies of these rules can be found in Appendix I. These measures are intended to prevent degradation of water quality below present levels from both point and nonpoint sources. HQW requirements for new wastewater discharge facilities and facilities which expand beyond their currently permitted loadings address oxygen-consuming wastes, total suspended solids, disinfection, emergency requirements, volume, nutrients (in nutrient sensitive waters) and toxic substances.

For nonpoint source pollution, development activities which require an Erosion and Sedimentation Control Plan in accordance with rules established by the NC Sedimentation Control Commission or local erosion and sedimentation control program approved in accordance with 15A NCAC 4B . 0218, and which drain to and are within one mile of HQWs will be required to control runoff from the development using either a low density or high density option described in 15A NCAC 2H. 1006. In addition, the Division of Land Quality requires more stringent sedimentation controls for land disturbing projects within one mile and draining to HQWs.

#### Outstanding Resource Waters

A small percentage of North Carolina's surface waters have excellent water quality (rated based on biological and chemical sampling) and an associated outstanding resource. The Outstanding Resource Waters rule defines outstanding resource values as:

- 1) outstanding fishery resource;
- 2) a high level of water-based recreation;
- 3) a special designation such as National Wild and Scenic River or a National Wildlife Refuge;
- 4) ~~being within a state or national park or forest, or~~
- 5) having special ecological or scientific significance.

The requirements for ORW waters are more stringent than those for HQWs. Special protection measures that apply to North Carolina ORWs are set forth in 15A NCAC 2B .0225. At a minimum, no new discharges or expansions are permitted, and stormwater controls for most new development are required. In some circumstances, the unique characteristics of the waters and resources that are to be protected require that a specialized (or customized) ORW management strategy be developed.

## **5.4 NORTH CAROLINA'S POINT SOURCE CONTROL PROGRAM**

North Carolina does not allow point source discharges without a permit. Discharge permits are issued under the authority of North Carolina General Statute (NCGS) 143.215.1 and the National Pollutant Discharge Elimination System (NPDES) program. The NPDES program was delegated

to North Carolina from the US Environmental Protection Agency. These permits serve as both state and federal permits. North Carolina has a comprehensive NPDES program which includes the permitting of both wastewater and stormwater discharges. Refer to Appendix VI for a full program description.

NPDES permits are issued in two categories; individual or general. Individual permits are issued to a specific facility, contain site specific requirements, and incorporate recommendations from the basinwide water quality management plan. Individual NPDES permits are typically issued for a five year cycle with all permits in a river basin expiring at the same time. This permitting strategy allows for comprehensive review of individual dischargers within the basin and implementation of recommendations contained in the basinwide water quality management plan. New discharge permits issued during an interim period are given a shorter permit cycle so that expiration coincides with the basin cycle. Individual permits in the Broad River basin are scheduled for expiration and renewal in February and March of 1998.

General permits are developed for specific types of industries. Each general permit contains requirements that are appropriate for a typical facility within a specific industrial classification. Facilities that are considered atypical or have a history of water quality problems are required to obtain an individual permit. Because general permits are specific to a type of industrial activity and are issued statewide they do not contain basin specific measures. A general permit is typically issued for a five year cycle, which expires statewide on the same date. All general permits have a permit number that begins with "NCG".

#### 5.4.1 NPDES Permits for Wastewater Discharges

Under the NPDES wastewater permitting program, each NPDES discharger is assigned either *major* or *minor* status. For municipalities, all dischargers with a flow of greater than 1 million gallons per day (MGD) are classified as major.

All new wastewater discharge permit applications must include an engineering proposal which includes a description of the origin, type, and flow of wastewater, a summary of waste treatment and disposal options, and a narrative description of the proposed treatment works and why the proposed system and point of discharge were selected. The summary must contain sufficient detail to assure that the most environmentally sound alternative was selected from the reasonably cost effective options. An assessment report describing the impact on waters in the area must be submitted for all applications of new discharges in excess of 500,000 gallons per day or 10 million gallons per day of cooling water or any other proposed discharge of 1 million gallons per day or more.

Under the NPDES program, wastewater treatment systems must be operated by a certified operator. Training and certification of operators is conducted by the DWQ. It is the goal of the program to provide competent and conscientious professionals that will protect both the environment and public health.

The amount or loading of specific pollutants that are allowed to be discharged into surface waters are defined in the NPDES permit and are called *effluent limits*. Point source discharges generally have the most impact on a stream during low flow conditions when the percentage of treated effluent within the stream is greatest. Effluent limits are generally set to protect the stream during these low flow conditions. The standard low flow used for determining point source impacts is called the *7Q10*. This is the lowest flow which occurs over seven consecutive days and which has an average recurrence of once in ten years. Computer modeling may be used to determine the fate and transport of pollutants, reduction goals for contaminants, and to derive effluent limits for NPDES permits. A wasteload allocation is performed to ensure the effluent limits are set at levels that can be safely assimilated by the receiving stream.

Most dischargers are required to periodically sample their treated effluent. This process is called self-monitoring. Larger and more complex dischargers are also required to sample both upstream and downstream of the discharge point. NPDES facilities are required to monitor for all pollutants for which they have permit limits as well as other pollutants which may be present in their wastewater. Sampling results are submitted to DWQ each month for compliance evaluations. If limits are not being met, various legal actions may be taken against the discharger to ensure future compliance.

All domestic wastewater dischargers are required to monitor flow, dissolved oxygen, temperature, fecal coliform, BOD, ammonia, and chlorine (if they use it as a disinfectant). In addition, wastewater treatment facilities with industrial sources may have to monitor for chemical specific toxicants and/or whole effluent toxicity, and all dischargers with design flows greater than 50,000 gallons per day (GPD) monitor for total phosphorus and total nitrogen. Minimum NPDES wastewater monitoring requirements are provided in 15A NCAC 2B .0500.

Other methods of collecting point source information include effluent sampling by DWQ during inspections and special studies. The regional offices may collect data at a given facility if they believe there may be an operational problem or as a routine compliance check. DWQ may collect effluent data during intensive surveys of segments of streams. Extensive discharger data have been collected during on-site toxicity tests.

A pretreatment program is aimed at protecting municipal wastewater treatment plants and the environment from the adverse impacts that may occur when hazardous or toxic wastes are discharged into a public system. This program requires that businesses and other entities that use or produce toxic wastes pretreat their wastes prior to discharging into a public wastewater system.

#### **5.4.2 NPDES Permits for Stormwater Discharges**

As currently defined by the NPDES program, stormwater point source discharges originate from two distinct sources; municipalities and selected industrial facilities. Subject municipalities are defined as those incorporated areas that encompass a population of 100,000 or more. Subject industrial activities are those where stormwater discharges directly related to manufacturing, processing or raw materials storage areas occur. A complete definition of "stormwater discharge associated with industrial activity" including a comprehensive listing of subject industries can be found in 40 CFR 122.26. The types of industrial activities that are subject to stormwater permitting are typically defined by Standard Industrial Classification (SIC) codes. SIC codes have been developed by the federal Office of Management and Budget to define industries in accordance with the composition and structure of the economy.

There are currently 19 general stormwater permits available for specific types of industrial activities across the state. As previously explained, the general permits define stormwater controls and monitoring for a typical facility within a specific industrial classification. General stormwater permits incorporate requirements determined to be appropriate based upon an analysis of available analytical monitoring data, input from industry and associations, site visits, and review of federal and other documents providing guidance on specific types of industries, pollutants, and stormwater discharges.

The North Carolina Department of Transportation (DOT) is subject to the NPDES stormwater permitting program. The permit, when issued, will cover stormwater runoff from DOT's non-administrative activities throughout the state including the state roadway network, construction, vehicle maintenance, and materials storage facilities. The draft permit is currently scheduled to be sent to public notice in 1998.

Stormwater permits may specify monitoring and reporting requirements for both quantitative and qualitative assessment of the stormwater discharge as well as operational inspections of the entire facility. The specific pollutant parameters for which sampling must be performed are based upon the types of materials used and produced in the manufacturing processes and the potential for contamination of the stormwater runoff at a typical facility.

All NPDES stormwater permits require the development and implementation of a Stormwater Pollution Prevention Plan (SPPP). The SPPP requires the permitted facility to develop a comprehensive stormwater management plan. This plan is the basis for evaluating the pollution potential of the site and implementing best management practices (BMPs) to reduce pollutants in runoff from the site.

All stormwater permits specify qualitative monitoring of each stormwater outfall for the purposes of evaluating the effectiveness of the Stormwater Pollution Prevention Plan and assessing new sources of stormwater pollution. Qualitative monitoring parameters include color, odor, clarity, floating and suspended solids, foam, oil sheen, and other obvious indicators of stormwater pollution.

Stormwater permits may provide for the use of cut-off concentrations in order to minimize the required analytical monitoring for facilities which are not significant contributors to stormwater pollution. These cut-off concentrations are not intended to be effluent limits (as used in wastewater permitting), but provide guidelines for determining which facilities are major contributors to stormwater pollution and need further monitoring. The arithmetic mean of all monitoring data collected during the term of the permit must be calculated for each parameter and compared to the permitted cut-off concentration. If the mean is below the cut-off concentration, then the facility may discontinue analytical monitoring for that parameter until the final year of the permit unless changes occur at the facility. This approach prevents facilities from using the cut-off concentrations as target concentrations for evaluating the effectiveness of the Stormwater Pollution Prevention Plan while also ensuring that problem facilities continue to collect analytical data on their discharges.

## 5.5 NONPOINT SOURCE CONTROL PROGRAMS

Nonpoint source pollution occurs when rainfall or snowmelt runs off the ground or impervious surfaces like buildings and roads and drains into waterways. Some of the most common nonpoint source pollutants and their causes are presented in Chapter 3.

The two approaches that are used to address nonpoint source pollution are prevention and engineered controls. Some of the methods of pollution prevention include optimum site planning, use of natural drainage systems rather than curb and gutter, nutrient management plans, public/farmer education, storm drain stenciling, and hazardous waste collection sites. It is generally more cost-effective to prevent and minimize pollution than to build engineered controls. For example, developers who are subject to stormwater requirements often choose to build low density developments rather than bearing the expense of building engineered BMPs. Engineered BMPs also have on-going expenses associated with long-term operation and maintenance.

Engineered BMPs generally work by capturing, retaining, and treating runoff before it leaves an area. Some commonly used types of BMPs include stormwater wetlands, wet detention ponds, water control structures, bioretention areas, and infiltration basins. Often higher levels of pollutant removal can be achieved by using a combination of different control systems. The main advantage of engineered controls is that they can treat runoff from high density developments.

The current trend is toward a more comprehensive "systems approach" to managing nonpoint source pollution. This involves using an integrated system of preventive and control practices to accomplish nonpoint pollution reduction goals. This approach emphasizes site planning, protecting important natural areas such as wetlands and riparian areas, and finding the most cost-effective engineered controls for high density areas. Programs which are currently using the systems approach include the animal waste regulations and the regulations for coastal stormwater management and water supply watersheds. In general, the goals of the nonpoint source management program include the following:

- Continue to build and improve existing programs,
- Develop new programs to control nonpoint pollution sources that are not addressed by existing programs,
- Continue to target geographic areas and waterbodies for protection,
- Integrate the NPS Program with other state programs and management studies (e.g., Albemarle-Pamlico Estuarine Study), and
- Monitor the effectiveness of BMPs and management strategies, both for surface and groundwater quality.

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Table 5.1 lists a number of federal and state programs that address nonpoint source pollution. These programs are listed by category based on the type of activity. A complete program description can be found in Appendix VI for nonpoint source control programs. Refer to Table 5.2 for a brief description of each program and the contact persons within the basin for each program.



Table 5.1 List of Nonpoint Source Programs

PROGRAM	LOCAL	STATE	FEDERAL
<b>AGRICULTURE:</b>			
Agriculture Cost Share Program	SWCD	SWCC, DSWC	
N.C. Pesticide Law of 1971		NCDA	
Pesticide Disposal Program		NCDA	
Animal Waste Management	SWCD	DWQ, DSWC, CES	NRCS
Laboratory Testing Services		NCDA	
Watershed Protection (PL-566)			NRCS
1985, 1990 and 1995 Farm Bills			USDA
- Conservation Reserve Program			
- Conservation Compliance			
- Sodbuster			
- Swampbuster			
- Conservation Easement			
- Wetland Reserve			
- Water Quality Incentive Program			
<b>URBAN</b>			
Coastal Stormwater Program		DWQ	
ORW, HQW, NSW Management Strategies		DWQ	
Water Supply Watershed Protection Program	city, county	DWQ	
Stormwater Control Program	city, county	DWQ	EPA
<b>CONSTRUCTION</b>			
Sedimentation and Erosion Control	ordinance	DLR, DOT	
Coastal Area Management Act	ordinance	DCM	
Coastal Stormwater Program		DWQ	
<b>ON-SITE WASTEWATER DISPOSAL</b>			
Sanitary Sewage Systems Program	county	DEH	
<b>SOLID WASTE DISPOSAL</b>			
Resource Conservation and Recovery Act			EPA
Solid Waste Management Act of 1989	city, county	DSWM	
<b>FORESTRY</b>			
Forest Practice Guidelines		DFR	
National Forest Management Act			USFS
Forest Stewardship Program		DFR	
<b>MINING</b>			
Mining Act of 1971			DLR
<b>HYDROLOGIC MODIFICATION</b>			
Clean Water Act (Section 404)		DCM, DWQ	COE
Rivers and Harbors Act of 1899			COE
Dam Safety Permit		DLR	
<b>WETLANDS:</b>			
Wetlands Restoration Program		DWQ	
Clean Water Act (Sections 401 and 404)		DWQ	COE
Wetland Reserve Program			USDA

COE: US Army Corps of Engineers  
 DWQ: Division of Water Quality  
 DFR: Division of Forest Resource  
 DSW: Division of Soil and Water  
 USDA: US Department of Agriculture

DCM: Division of Coastal Management  
 DLR: Division of Land Resources  
 DOT: Department of Transportation  
 DSWM: Division of Solid Waste Mgt.  
 USFS: US Forest Service

NCDA: NC Department of Agriculture  
 NRCS: Natural Resources Conservation Service  
 SWCC: Soil and Water Cons. Commission  
 SWCD: Soil and Water Conservation District

Table 5.2 Broad River Basin Nonpoint Source Contacts

Agriculture			
<b>USDA Natural Resources Conservation Service:</b>			
Formerly the Soil Conservation Service; provides technical specialist for certifying waste management plans; certified trainers for swine applicators training sessions works with landowners on private lands to conserve natural resources helping farmers and ranchers develop conservation systems uniquely suited to their land and individual ways of doing business; provides assistance to rural and urban communities to reduce erosion, conserve and protect water, and solve other resource problems; conducts site evaluations and soil surveys; administers the Wetlands Reserve Program; offers planning assistance for local landowners for installing best management practices; offers technical assistance for the determination of wetlands on agricultural lands.			
Buncombe County	Loring McIntyre	704-251-4906	31 College Pl Bldg B Asheville NC 28801
Cleveland County	P. Benjamin Robinson	704-482-1906	124-1 South Post Rd Shelby NC 28152
*Gaston County	Garland E. Still	704-922-4181	1303 Cherryville Hwy Dallas NC 28034
Henderson County	Robert V. Carter	704-697-4949	Federal Bdg Rm 100 Hendersonville NC 28792
Lincoln County	Elton Barber	704-736-8501	Citizens Center Lincolnton NC 28092
McDowell County	Albert Moore	704-652-7121	15 N. Garden St. Marion NC 28752
Polk County	Marilyn M. Stowell	704-894-8550	P. O. Box 236 Columbus NC 28722
Rutherford County	Albert Moore	704-287-4817	Federal Bldg Rm 121 Rutherfordton NC 28139
<b>Soil &amp; Water Conservation Districts:</b>			
The local Soil and Water Conservation District Boards function under the administration of the North Carolina Soil and Water Conservation Commission (SWCC). The districts are responsible for administer the Agricultural Cost Share Program, identifying treatment areas, allocating resources, signing contractual agreements with landowners, providing technical assistance for the planning and implementation of BMPs and generally encouraging the use of appropriate BMPs to protect water quality.			
Buncombe County	Robert M. Swicegood	704-252-1668	10 Round Oak Rd Asheville NC 28801
Cleveland County	Samuel A. Jenkins	704-434-6634	3213 Cliffside Rd Mooresboro NC 28114
*Gaston County	William N. Craig	704-867-6712	315 Union-New Hope Rd Gastonia NC 28056
Henderson County	Joe Lee Heffner	704-891-7531	80 School House Rd Horse Shoe NC 28742
Lincoln County	Blair Goodson	704-428-8300	3123 Buffalo Shoals Rd Maiden NC 28650
McDowell County	C. A. Buckner	704-652-2695	220 Tyler Heights Marion NC 28752
Polk County	Hubert McEntyre	704-863-2528	Rte 2 Box 22 Tryon NC 28782
Rutherford County	W. Henry Edwards	704-245-9752	Rte 1, Box 718 Rutherfordton NC 28139
<b>Division of Soil and Water Conservation:</b>			
Provides administrative and technical assistance to the Soil & Water Conservation Districts in areas pertaining to soil science and engineering; distributes Wetlands Inventory maps for a small fee. Administers the Agriculture Cost Share Program (ACSP).			
Central Office	Donna Moffitt (ACSP)	919-715-6108	512 N. Salisbury St. Raleigh NC 27626
Area 1	Dave Ferguson	704-251-6452	59 Woodfin Pl Asheville NC 28801
<b>NCDA Regional Agronomists:</b>			
Provides technical specialists for certifying waste management plans. Provides certified trainers for animal waste applicators training sessions. Tracks, monitors, and accounts for use of nutrients on agricultural lands. Identifies and evaluates the use of nutrient management plans.			
Central Office	Tom Ellis	919-733-7125	Box 27647 Raleigh, NC 27611
Regional Office	Lynn Howard	704-728-4675	604 Pine Mountain Rd Hudson NC 28638

## Education

### NC Cooperative Extension Service:

Provides practical, research-based information and programs to help individuals, families, farms, businesses and communities.

Buncombe County	Kenneth R. Reeves	704-255-5522	P. O. Box 7667 Asheville NC 28802
Cleveland County	Greg B. Traywick	704-482-4365	130-1 S Post Rd Shelby NC 28904
*Gaston County	Martha Burris	704-922-0301	P. O. Box 476 Dallas NC 28034
Henderson County	Joy S. Staton	704-697-4891	740 Glover St Hendersonville NC 28792
Lincoln County	Kevin D. Starr	704-736-8452	115 W. Main St Lincolnton NC 28092
McDowell County	Daniel B. Smith	704-652-7121	10 E. Court St Marion NC 28752
Polk County	John H. Vining	704-894-8218	P. O. Box 187 Columbus NC 28722
Rutherford County	Darrel L. Conley	704-287-6010	P.O. Box 272 Rutherfordton NC 28139

## Forestry

### Division of Forest Resources:

Develop, protect, and manage the multiple resources of North Carolina's forests through professional stewardship, enhancing the quality of our citizens while ensuring the continuity of these vital resources.

Central Office	Moreland Gueth	919-733-2162, x255	P.O. Box 29581 Raleigh, NC 27626-0581
Central Office	Mickey Henson	919-733-2162, x206	same as above
Asheville Office	Keith Jenkins	828-667-5211	220 Sardis Road, Asheville, NC 28806
Mt. Holly	Howard Williams	704-827-7576	1933 Mountain Island Hwy., Mt. Holly, NC 28120

## General Water Quality

### DWQ Water Quality Section:

Control of water pollution from point sources such as municipal and industrial wastewater discharges, and from nonpoint sources that originate from agricultural drainage, urban runoff, land clearing, construction, mining, forestry, septic tanks and land application of waste; issues permits for both discharging and on-site wastewater treatment systems, conducts compliance inspections, operates an ambient water quality monitoring program, and performs a wide variety of special studies on activities affecting water quality; administers the 319 projects statewide.

Central Office	Beth McGee	919-733-5083	P.O. Box 29535 Raleigh NC 27626
Asheville Region	Forrest Westall	704-251-6208	59 Woodfin Pl Asheville NC 28801
Mooreville Region	Rex Gleason	704-663-1699	919 N Main St Mooresville NC 28115

### Wildlife Resources Commission:

To manage, restore, develop, cultivate, conserve, protect, and regulate the wildlife resources of the State, and to administer the laws relating to game, game and freshwater fishes, and other wildlife resources enacted by the General Assembly to the end that there may be provided a sound, constructive, comprehensive, continuing, and economical game, game fish, and wildlife program.

Central Office	Frank McBride	919-528-9886	P.O. Box 118 Northside, NC 27564
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Table 5.2 Broad River Basin Nonpoint Source Contacts, continued

General Water Quality			
<b>U.S. Army Corps of Engineers:</b>			
Responsible for: investigating, developing and maintaining the nation's water and related environmental resources; constructing and operating projects for navigation, flood control, major drainage, shore and beach restoration and protection; hydropower development; water supply; water quality control, fish and wildlife conservation and enhancement, and outdoor recreation; responding to emergency relief activities directed by other federal agencies; and administering laws for the protection and preservation of navigable waters, emergency flood control and shore protection. Responsible for wetlands and 404 Federal Permits.			
Wilmington District	W.C. Long II	910-251-4745	P.O. Box 1890, Wilmington, NC 28402-1890
<b>DWQ Groundwater Section:</b>			
Groundwater classifications and standards, enforcement of groundwater quality protection standards and cleanup requirements, review of permits for wastes discharged to groundwater, issuance of well construction permits, underground injection control, administration of the underground storage tank (UST) program (including the UST Trust Funds), well head protection program development, and ambient groundwater monitoring.			
Central Office	Carl Bailey	919-733-3221	P.O. Box 29578 Raleigh, NC 27626-0578
Asheville Region	Don Link	704-251-6208	59 Woodfin Pl Asheville NC 28801
Mooresville Region	Barbara Christian	704-663-1699	919 N Main St Mooresville NC 28115
Construction/Mining			
<b>DENR Division of Land Resources:</b>			
Conducts land surveys and studies, produces maps, and protects the state's land and mineral resources. Administers the NC Sedimentation and Erosion Control Program.			
Central Office	Mel Nevills	919-733-4574	512 N. Salisbury St. Raleigh NC 27626
Asheville Region	Richard Phillips	704-251-6208	59 Woodfin Pl Asheville NC 28801
Mooresville Region	Zahid Khan	704-663-1699	919 N Main St Mooresville NC 28115
Solid Waste			
<b>DEH Solid Waste Management:</b>			
Management of solid waste in a way that protects public health and the environment. The District includes three sections and one program -- Hazardous Waste, Solid Waste, Superfund, and the Resident Inspectors program.			
Central Office	Dexter Matthews	919-733-0692	401 Oberlin Rd Ste 150 Raleigh NC 27605
Asheville Region	Albert Hetzell	704-251-6208	59 Woodfin Pl Asheville NC 28801
Mooresville Region	Richard Doby	704-663-1699	919 N Main St Mooresville NC 28115

Table 5.2 Broad River Basin Nonpoint Source Contacts, continued

On-Site Wastewater Treatment			
<b>Division of Environmental Health and County Health Departments:</b>			
Safeguards life, promotes human health, and protects the environment through the practice of modern environmental health science, the use of technology, rules, public education, and above all, dedication to the public trust.			
Services include:			
<ul style="list-style-type: none"> <li>• Training of and delegation of authority to local environmental health specialists concerning on-site wastewater</li> <li>• Engineering review of plans and specifications for wastewater systems 3,000 gallons or larger and industrial process wastewater systems designed to discharge below the ground surface</li> <li>• Technical assistance to local health departments, other state agencies, and industry on soil suitability and other site considerations for on-site wastewater systems.</li> </ul>			
DEH Central Office	Steve Steinbeck	919-715-3273	2728 Capital Blvd. Raleigh, NC 27604
Buncombe County	Ken Castelloe	704-255-5691	35 Woodfin St Asheville NC 28801
Cleveland County	Marty Allen	704-484-5130	315 Grover St Shelby NC 28150
*Gaston County	Scott Wilson	704-853-5200	991 W Hudson Blvd Gastonia NC 28052
Henderson County	Robert Smith	704-692-4228	1347 Spartanburg Hwy Hendersonville NC 28792
Lincoln County	David Buckner	704-736-8426	302 N Academy St Lincolnton NC 28092
McDowell County	Frederick Matthews	704-287-6100	221 Callahan Koon Rd Spindale NC 28160
Polk County	Frederick Matthews	704-287-6100	221 Callahan Koon Rd Spindale NC 28160
Rutherford County	Frederick Matthews	704-287-6100	221 Callahan Koon Rd Spindale NC 28160

**Note:** \*Less than 5% of Gaston County is in the Broad River Basin.

- DENR Asheville Region consists of the following counties: Cherokee, Graham, Swain, Haywood, Madison, Yancey, Mitchell, Avery, Caldwell, Burke, McDowell, Buncombe, Jackson, Macon, Clay, Transylvania, Henderson, Polk, and Rutherford.
- DENR Mooresville Region consists of the following counties: Cleveland, Alexander, Catawba, Lincoln, Gaston, Iredell, Mecklenburg, Union, Stanly, Cabarrus, and Rowan.

#### **North Carolina NPS Management Program**

This Nonpoint Source Management Program fulfills the requirements of the Water Quality Act of 1987 by identifying statewide NPS programs, listing BMPs used to reduce pollution loadings, and outlining an action plan to implement the Program. These Program components have been considered for the following categories of NPS pollution: agriculture, urban, construction, on-site wastewater disposal, solid waste disposal, forestry, mining, and hydrologic modification. Programs and plans are also developed for wetlands, groundwater, and other NPS related efforts, such as educational initiatives. Tasks to be undertaken in the next four years are developed by NPS agencies statewide. More specific NPS action plans and targeted watersheds are developed and listed in each of the Basinwide Water Quality Management Plans.

Clean Water Act Section 319(h) grant monies are made available to the states on an annual basis by EPA for implementation of BMPs. NPS agencies, local governments, and universities submit proposals to DWQ each year for use of these funds in various projects. Projects that have been funded in the past include BMP demonstrations, watershed water quality monitoring and improvement projects, data management, educational activities, modeling, stream restoration efforts, riparian buffer establishment, and streambank restoration.

### **Use Restoration Waters Program**

The North Carolina Division of Water Quality is currently developing the Use Restoration Waters (URW) program to restore surface waters to their designated uses. If adopted, this program would allow the state to work with local governments, businesses, and residents to develop management strategies appropriate for the area. In order to be effective, the URW program would include a mix of mandatory and voluntary programs. The URW program would attempt to develop cooperative relationships among agencies so that overlapping efforts can be consolidated and targeted to restore designated water body uses.

## **5.6 PROGRAM INITIATIVES IN THE BROAD RIVER BASIN**

Through the development of this plan, efforts were made to identify efforts that have been undertaken within the basin to protect water quality. The following discussion focuses on program initiatives that have been implemented or are underway within the Broad River basin. These initiatives demonstrate a tremendous effort to protect surface waters in the basin. There may be other initiatives underway in the basin of which we are not yet aware. Table 5.3 presents a summary of the agency or organizations that have program initiatives in the basin.

Table 5.3 Program Initiatives in the Broad River Basin

Level of Agency	Name of Agency	Type of Initiative
Federal	US Department of Agriculture - National Resource Conservation Service	Various Projects
State	NC Soil and Water Conservation District	Various Projects
State	NC Division of Environmental Health	Various Projects
State	NC Department of Agriculture	Various Projects
State	Cooperative Extension Service	Various Projects
State	NC Division of Land Resources	Sedimentation Pollution Control Act
Local Govt. and Citizen Groups	Mountain Valleys Resource, Conservation and Development Council	Various Projects
Local Govt. and Citizen Groups	Rutherford County	Various Projects

### **5.6.1 Federal Initiatives**

#### **US Department of Agriculture, Natural Resource Conservation Service (NRCS):**

- Assist farmers in obtaining Agriculture Cost Share funds for no-till farming practices.
- Organizes Environmental Field Days at local schools.
- Administers Second Broad Flood Control Program.
- Conducts Environmental Quality Incentives Program (EQIP) sign up.

### 5.6.2 State Agency Initiatives

#### **Cooperative Extension Service:**

- Conducts ongoing IPM, integrated pest management, programs for farmers to reduce pesticide and fertilizer use, promotes good stewardship of agricultural chemicals.
- Conducts no-till program which started in 1979 with small grains and cotton. (75-80% of the crops in Cleveland County are currently in no-till).
- Informs producers of environmentally beneficial farming practices, especially no-till.
- Conducts on-the-farm demonstrations of chemical usage.
- Investigating the application of municipal sludge on farm fields in Rutherford County.
- Researching alternative forestry road design in Rutherford County.
- Promoting community beautification and stream clean up.
- Rutherford CES conducts Solid Waste Environmental Energy Panel (SWEEP), a program which educates adults and youth (4th and 5th) graders about recycling.

#### **NC Department of Agriculture:**

- Provides soil testing service to farmers. This ensures that productivity is maximized while reducing indiscriminate nutrient applications.
- Conducts a fertilizer and lime quality control program to make site and crop specific application recommendations.
- Provides nematode eradication advice to farmers. The strategies include crop rotation, resistant crop varieties and the use of nematicides. Nematodes have been found in area apple orchards.
- Promotes no-till cotton.
- Provides plant tissue analysis service (cotton, mostly) to farmers. This service provides the opportunity for farmers to monitor the nutritional status of growing crops. This provides farmers with the necessary information to select and apply only those nutrients that are needed.

Eight regional agronomists statewide provide on-site assistance to help growers implement management recommendations in a cost-effective and environmentally sound manner.

#### **NC Division of Environmental Health:**

- Conducts annual onsite sewage conference to update engineers and state agents (environmental health specialists in health departments) on latest technology to abate pollution from septic tank systems.
- Reviews two health department septic tank programs per year for quality assurance.
- Provides an annual 3 day Advanced Soils or Advanced Septic Tank Systems Course to health department agents.

#### **NC Division of Land Quality:**

The NC Division of Land Resources (DLR) is responsible for administering the Sedimentation Pollution Control Act of 1973 (SPCA). Since the inception of the SPCA, the Sedimentation control Commission has funded extensive workshops and educational programs aimed at children throughout the state. During fiscal year 1996, the DLR conducted workshops and symposiums, funded research and intern programs, reprinted manuals and developed video modules and

produced newsletters on a budget of over \$270,000 for the entire state. The DLR has the following materials available.

- Erosion and Sediment Control Field Manual
- Erosion and Sediment Control Practices: Video Modules
- Erosion and Sediment Control "Inspector's Guide"
- Erosion and Sediment Control Planning and Design Manual
- "Erosion Patrol" Package for Grade 3

The DLR is also implementing various measures for protecting water quality statewide. These measures include:

- Coordinating the targeting and tracking of BMPs implementation in the basin.
- Conducting two workshops for public, regulated community and local governments on sediment reductions achievable through the requirements of the Sedimentation and Erosion Control Act.
- Enforcing existing sediment related rules and evaluate need for additional mandatory measures.

#### **NC Division of Soil and Water Conservation (DSWC):**

- The NC Division of Soil and Water Conservation administers the *NC Agriculture Cost Share Program for Nonpoint Source Pollution Control (NCACSP)*. This program provides incentives to farmers to install best management practices (BMPs) by offering to pay up to 75% of the average cost of approved BMPs. The NC Agriculture Cost Share Program funding totals for the Broad River basin from 1985 through 1995 is \$391,254. Farmers in the basin have spent up to \$130,418 in matching funds for cost share money. The cost share figures include a wide array of BMPs including conservation tillage, sod based rotation, diversions, critical area planting, crop conversion to grass, trees, spring development, stock trails, land application of waste, livestock exclusion, waste management.

#### **Soil and Water Conservation Districts (SWCD):**

- Administers ACSP (particularly animal waste BMPs, cropland conversion, livestock watering with fencing).
- Conducts education programs like a poster contest for school-age children and conservation field days for 5th graders.
- Implements Sandy Run Creek management plan (Rutherford and Cleveland Cos) for the past 20 years;
- Implements Second Broad flood control program for the past 15 to 20 years; Recognition of local farmers for practicing conservation.

#### **NC Forest Service:**

The North Carolina Division of Forest Resources (DFR) is implementing various measures for protecting water quality statewide. These measures began with the creation of voluntary *Forest Practices Guidelines Related to Water Quality* (FPGs). These measures were voluntarily applied best management practices, which had no enforcement power by any agency. In 1989, the Sedimentation Pollution Control Act (SPCA) was amended to require compliance with nine performance standards in order to remain exempt from the SPCA's permitting requirements. These nine standards are the FPGs whose compliance is accomplished through the use of BMPs. The *Forestry Best Management Practices Manual* was published in September, 1989 to guide forestry operations in protecting water quality. The manual and the FPGs are available from any



DFR office at no charge. Additional measures by the DFR include logger training in water quality/FPG issues through the ProLogger Program, which is a joint effort by the DFR, NC Forestry Association and the Cooperative Extension Service to provide training to loggers on Forest Management and the Environment, Safety and Business. Statewide as of 2-24-98, there have been 2002 graduates from the program. During the course of providing forest management advice to landowners, work to inform and educate them on proper harvesting techniques and water quality protection methods needed for their specific tract.

- Conducts Pro Logger Program: voluntary effort started three years ago; seeks to educate loggers about forestry BMPs, proper forestry techniques (especially road construction), safety, and administration. Special recognition is given to loggers that complete the program.
- Educate land owners about proper harvesting and forestry development on an as needed basis.
- Participates on basin Nonpoint Source Teams

### **5.6.3 Local Government and Citizen Initiatives**

#### **Mountain Valleys Resource Conservation and Development Council (RC&D)**

- Coordinates program activities in eight mountain counties.

#### **Lake Advisory Committee**

- Developing a lake management plan that addresses the sedimentation from development around Lake Lure.

#### **Volunteer Water Initiative Network (VWIN)**

- Conducts water quality monitoring in Polk County, Henderson County, Buncombe County, and around Lake Lure. Within these programs, there are a total of 25 sampling sites in the Broad River basin.

#### **NC Farm Bureau**

- Promotes no-till farming. Rutherford County owns two no-till drills, mostly for forage, wheat, oak, and soybean crops. The program started 20 years ago with the purchase of the first drill; the second drill was purchased 2 years ago. In the past 2 years, 1000 acres has been worked in no-till with the 2nd drill.

## **5.7 Integrating Point And Nonpoint Source Pollution Control Strategies**

Integrating point and nonpoint source pollution controls and determining the amount and location of the remaining assimilative capacity in a basin are key long-term objectives of basinwide management. The information is used for a number of purposes including: determining if and where new or expanded municipal or industrial wastewater treatment facilities can be allowed; setting the recommended treatment level at these facilities; and identifying where point and nonpoint source pollution controls must be implemented to restore assimilative capacity and maintain water quality standards.

#### **Total Maximum Daily Loads**

The U.S. Environmental Protection Agency (USEPA) has developed the means to help accomplish these objectives. The approach, called *total maximum daily loads (TMDL)*, uses the concept of

determining the total waste (pollutant) loading from point and nonpoint sources that a waterbody (such as a stream, lake or estuary) can assimilate while still maintaining its designated uses. USEPA requires the TMDL approach pursuant to Section 303(d) of the Clean Water Act.

Under the TMDL approach, waterbodies that do not meet water quality standards are identified. States establish priorities for action, and then determine reductions in pollutant loads or other actions needed to meet water quality goals. The approach is flexible and promotes a watershed approach driven by local needs and States' priorities. The overall goal in establishing a TMDL is to establish the management actions on point and nonpoint sources of pollution necessary for a waterbody to meet water quality standards.

As DWQ improves its abilities to quantify and predict the impacts of point and nonpoint source pollution, the basinwide approach will make more innovative management strategies possible.

### **Other Possible Strategies**

- *Agency banking* refers to the concept of holding assimilative capacity in reserve by DWQ for future growth and development in the basin.
- *Pollution trading* involves trading of waste loading and stream assimilative capacity among permitted dischargers, or between point and nonpoint sources, adding flexibility to the permitting system and using the free market system as an aid to identifying the most cost effective solution to water quality protection. Nutrient trading is currently being done in the Tar-Pamlico River basin and is being considered for the Neuse River basin.
- *Industrial recruitment mapping* involves providing specific recommendations on the types of industry and land development best suited to the basin's long-term water quality goals and an individual basin's ability to assimilate a particular type or quantity of discharge or nonpoint source pollutants.
- *Consolidation of wastewater discharges*, also referred to as regionalization, entails combining several dischargers into one facility. Local authorities, regulated industries, landowners, and other interested parties are encouraged to provide ideas to develop these strategies. By accommodating, to the degree possible, local needs and preferences, the probability of the plan's long-term success will be increased.

## **5.8 POTENTIAL SOURCES OF FUNDING FOR WATER QUALITY PROJECTS**

There are numerous sources of funding for all types of water quality projects. The sources of funding include federal and state agencies, nonprofits, and private funding. Funds may be loans, cost-shares, or grants that require a match. Section 319(h) grants are discussed in some detail in Section 5.8.1. Other funding sources are listed in Section 5.8.2.

If a local government, environmental group, university researcher, or other individual or agency wants to find funding to address a local water quality problem, it is well worth the time to prepare a thorough but concise proposal and submit it to applicable funding agencies. The list of goals for Section 319(h) proposals can be used as a guideline for other funding agencies. Even if a project is not funded, persistence may be beneficial when funding agencies observe several consecutive proposals from the same group.

### **5.8.1 Section 319 Grants**

Clean Water Act Section 319(h) grant monies are made available to the states on an annual basis by EPA. Agencies in the state that deal with NPS problems submit proposals to DWQ each year for use of these funds in various projects. Projects that have been funded in the past include BMP

demonstrations, watershed water quality improvement projects, data management, educational activities, modeling, stream restoration efforts, riparian buffer establishment, and others. DWQ established a Workgroup process in 1995 for prioritizing and selecting projects from the pool of cost-share proposals and includes this list in its annual application to EPA. The Workgroup consists of representatives from the state and federal agencies that deal with NPS issues, including agricultural, silvicultural, on-site wastewater, mining, solid waste and resource protection.

DWQ staff first reviews proposals for minimum 319 eligibility criteria such as:

- Does it support the state NPS Management Program milestones?
- Does the project address targeted, high priority watersheds (See Table 5.4)?
- Is there sufficient nonfederal cost-share match available (40% of project costs)?
- Is the project period adequate?
- Are measurable outputs identified?
- Is monitoring required? Is there a QA/QC plan for monitoring?
- If GIS is used, is it compatible with those of the state?
- Is there a commitment for educational activities and a final report?

Workgroup members separately review and rank each proposal which meets the minimum Section 319 eligibility criteria. In their review, members consider such factors as: technical soundness; likelihood of achieving water quality results; degree of balance lent to the statewide NPS Program in terms of project type; and competence/reliability of contracting agency. They then convene to discuss individual projects' merits, to pool all rankings and to arrive at final rankings for the projects. The Workgroup seeks a balance between geographic regions of the state and types of projects. All proposals that rank above the funding target are included in the annual grant application to EPA, with DWQ reserving the right to make final changes to the list. Actual funding depends on approval from EPA and yearly Congressional appropriations.

While it is preferable that 319(h) proposals address high or medium priority watersheds, it is not a requirement. However, the Workgroup has agreed to reserve approximately 40% of the competitive funds for the FY99 grant for projects in impaired waters.

All proposals that rank above the annual funding target are included in the grant application to EPA, with DWQ reserving the right to make final changes to the list. Obtaining the funding depends on approval from EPA and yearly Congressional appropriations. To obtain more information about applying for section 319(h) grants, contact:

Linda Hargrove, DWQ - Planning Branch  
P.O. Box 29535, Raleigh, NC 27626-0535  
(919) 733-5083 ext. 352

Table 5.4 Nonpoint Source (NPS) 319 Priority Ratings for Non-Coastal Waters

**High priority waters**

- monitored waters that have an overall use support rating of non-supporting,
- monitored waters that have a use support rating of partially supporting but have a high predicted loading for one or more pollutants,
- highly valued resource waters as documented by special studies
  - High Quality Waters
  - Outstanding Resource Waters
  - Water Supply I, Water Supply II, Critical areas of WS-II, WS-III or WS-IV

**Medium priority waters**

- monitored waters that have an overall use support rating of partially supporting,

**Low priority waters:**

- All other waters not considered high or medium priority

### 5.8.2 Wetlands Restoration Program

The North Carolina Wetlands Restoration Program (NCWRP) is responsible for implementing wetland and stream restoration projects on a basinwide scale throughout the state (See Appendix VI for more details). The focus of the program is to enhance water quality, flood prevention, fisheries, wildlife habitat and recreational opportunities. The NCWRP is not a grant program. However, it can compliment grant programs like the Section 319 program by taking on restoration projects identified through Section 319 grant applications. Alternatively, studies funded by Section 319 to identify suitable stream or wetland restoration sites can then be implemented by the NCWRP. The NCWRP can also directly fund other stream or wetland restoration sites identified by Nonpoint Source Teams or other means, provided those sites are located within a priority subbasin, as determined by the NCWRP. Finally, the NCWRP can perform restoration projects cooperatively with other state or federal programs, or with environmental groups. For more information on the NCWRP, contact Ron Ferrell at (919) 733-5083, ext. 358.

### 5.8.3 Other Sources of Funding

Besides Section 319(h) funding, there are numerous sources of funding for all types of water quality projects. The sources of funding include federal and state agencies, nonprofit, and private funding. Funds may be loans, cost-shares, or grants.

If a local government, environmental group, university researcher, or other individual or agency wants to find funding to address a local water quality problem, it is well worth the time to prepare a thorough but concise proposal and submit it to applicable funding agencies. The list of goals for Section 319(h) proposals can be used as a guideline for other funding agencies. Even if a project is not funded, persistence may be beneficial when funding agencies observe several consecutive proposals from the same group.

Tables 5.5 and Appendix VI provide summaries of the agencies that are potential sources of funds for point sources of pollution. Table 5.6 and Appendix VI provide summaries of the agencies that are potential funding sources for nonpoint sources of pollution.

In addition to these sources, the Clean Water Management Trust Fund will be another source of funding for both point and nonpoint sources of pollution. The 1996 General Assembly earmarked 6.5% annually of the year end General Fund credit balance to help finance projects that address water pollution problems and focus on upgrading surface waters, eliminating pollution and protecting and preserving unpolluted surface waters. Contact the Executive Director, Dave McNaught, at (919) 830-3222 and refer to Appendix VI for more details on this program.

Table 5.5 Funding Agencies for Assistance With Point Sources

Source	Agency and Name of Funding Source
Federal	<u>U.S. Rural Utilities Service:</u> Water and Wastewater Loan and Grant Program <u>Rural Business and Cooperative Service:</u> Rural Business Enterprise Grants <u>U.S. Economic Development Administration:</u> Public Works and Development Facilities Grant Program
State	<u>NC Division of Water Quality:</u> Construction Grants and Loans Program <u>NC Division of Community Assistance:</u> Small Cities Community Development Block Grant <u>NC Commerce Finance Center:</u> Industrial Development Fund
Private	<u>Rural Economic Development Center, Inc.:</u> Supplemental and Capacity Grants Program

Table 5.6 Funding Agencies for Assistance with Nonpoint Sources

Type of Assistance	Agency and Name of Funding Source
Agriculture	NC Agriculture Cost Share Program for NPS Pollution Control (NCACSP) Environmental Quality Incentives Program (EQIP) Conservation Reserve Program (CRP) Wetland Reserve Program (WRP) Small Watershed Program, PL-566 Conservation Easement Soil and Water Conservation Loan Program
Education	GTE Foundation Toyota TAPESTRY Grants National Environmental Education and Training Foundation (NEETF)
Water Quality Planning	Section 205(j) Water Quality Planning Grants
Stream Restoration	NC Division of Water Resources Stream Repair Funding
Forestry	Forestry Stewardship Incentive Program Forestry Incentives Program
Land Conservation	National Wetland Priority Conservation Plan NC Conservation Tax Credit Program Federal Wild and Scenic Rivers Program Emergency Wetlands Resources Act of 1986

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