

CHAPTER 7

FUTURE INITIATIVES

7.1 OVERVIEW OF CHOWAN RIVER BASINWIDE GOALS AND OBJECTIVES

Near-term objectives, or those achievable at least in part during the next five years, include coordinating with various agencies to implement the control strategies outlined in Chapter 6. These strategies are aimed at reducing point and nonpoint source loadings of nutrients and other pollutants. These steps are necessary to progress towards restoring impaired waters, protecting threatened waters from further degradation, protecting waters with a high resource value and maintaining the quality of other waters currently supporting their uses.

The long-term goal of basinwide management is to protect the water quality standards and uses of the basin's surface waters while accommodating reasonable economic growth.

Attainment of these goals and objectives will require determined, widespread public support; the combined cooperation of state, local and federal agencies, agriculture, forestry, industry and development interests; and considerable financial expenditure on the parts of all involved. However, with the needed support and cooperation, DWQ believes that these goals are attainable through the basinwide water quality management approach.

7.2 FUTURE ACTIVITIES IN THE CHOWAN RIVER BASIN

7.2.1 Nonpoint Source Control Strategies and Priorities/Nutrient Reduction Efforts

Improving our knowledge of and controlling nonpoint source pollution will be a high priority over the next five years. Nonpoint source pollution is primarily responsible for the impaired and threatened waters in the Chowan River Basin. The following initiatives (described in Section 7.2.2, 7.2.3 and 7.2.4) are underway to address the protection of surface waters from nonpoint sources of pollution.

7.2.2 Chowan River Basin Nonpoint Source (NPS) Team

In July 1996, DWQ contacted potential NPS Team Members in the Chowan River basin. NPS Team Members met to describe what is known about nonpoint sources in the basin and to obtain local input on issues and recommendations for addressing nonpoint source pollution. The team will work toward creating Action Plans consisting of voluntary commitments made by the various agencies to address nonpoint source pollution. A list of agencies which comprise the NPS Team is presented in Table 7.1.

The Action Plans will be evaluated and updated every five years as part of the basinwide planning process. The responsibilities of the NPS Team members can be summarized as follows.

- Describe existing programs for nonpoint source pollutant control.
- Prioritize impaired waters for development and implementation of restoration strategies.
- Prioritize NPS issues for remedial action.
- Develop five-year Action Plan for improving water quality in targeted watersheds.

- Determine what is needed to address the priority waters and NPS issues.
- Implement Action Plans.
- Monitor effectiveness of management strategies.

Table 7.1 Chowan River Basin NPS Team Members

Category	Agency/Group
Agriculture	NC Department of Agriculture USDA - Natural Resources Conservation Service NCSU - Cooperative Extension Service NC Division of Soil and Water Conservation Soil and Water Conservation District NC Farm Bureau
Construction/Mining	NC Division of Land Resources
Forestry	NC Division of Forest Resources
Groundwater	NC Division of Water Quality - Groundwater Section
On-site wastewater treatment	NC Division of Environmental Health
Solid waste	NC Division of Solid Waste Management
Surface water	US Fish and Wildlife Service NC Division of Water Quality NC Division of Coastal Management NC Division of Marine Fisheries NC Wildlife Resources Commission U.S. Army Corps of Engineers
Urban	Division of Water Quality NC Department of Transportation
Local Government	NC League of Municipalities Bertie County Chowan County Gates County Hertford County Northampton County
Additional	NC Coastal Federation NC Wildlife Federation Natural Resources Leadership Institute Roanoke - Chowan Wildlife Council Sierra Club

7.2.3 Use Restoration Waters

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 will 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 will include a mix of

voluntary and mandatory programs. The voluntary and mandatory programs will be coordinated on a watershed-specific basis by DWQ and a group of stakeholders who have an interest in the impaired water body and associated watershed. In addition, the URW program will attempt to develop cooperative relationships among these agencies so that overlapping efforts can be consolidated and targeted to restore designated water body uses.

7.2.4 Further Evaluation Of Swamp Systems

Many of the waterbodies in the eastern third of the State are classified as swamp waters. It is difficult to evaluate monitoring data in these systems to determine if a waterbody is impaired. For example, a swamp may have low dissolved oxygen concentrations, but these may be due to natural background concentrations rather than from impacts from point and nonpoint sources. DWQ will continue its efforts to evaluate these systems using chemical and biological data.

7.2.5 Wetlands Restoration

The NC General Assembly approved the establishment of a wetland restoration program in this state. North Carolina is beginning a concentrated effort to inventory and digitally map wetlands throughout the state. As the program progresses, a restoration plan will be developed for each river basin and incorporated into the basinwide planning process. Through this, the water quality protection function of wetlands can be used more effectively in areas prioritized during basinwide planning.

7.2.6 Regional Councils

The Comprehensive Conservation and Management Plan (CCMP) for the Albemarle/Pamlico (A/P) Sounds region recommended that regional councils be formed in each of the A/P region's five river basins. An Executive Order was signed by Governor Hunt in March 1995 calling for the establishment of the five regional councils. The Neuse River Basin Regional Council was the first formed (November 1995). The other four, including one for the Chowan, are to be formed in 1997.

Each council will include local government representation (one municipal and one county rep from each county in the basin) as well as representation from non-governmental stakeholder groups in each basin. The groups would have the potential to help target and implement the water quality and resources issues of greatest concern to stakeholders in the basin and to forge the link between the APES program, the CCMP and basinwide planning.

7.2.7 Improved Monitoring Coverage and Coordination with Other Agencies

Monitoring of the chemical and biological status of receiving waters will provide critical feedback on the success of the basin management strategy. As discussed in Chapter 4, monitoring data will be collected from (1) ambient water chemistry, (2) sediment chemistry, (3) biological communities, (4) contaminant concentrations in fish and other biota, (5) ambient toxicity, and (6) facility self-monitoring data. The specific parameters measured will relate directly to the long-term water quality goals and objectives defined within the basinwide management strategy.

In addition to this, DWQ and other environmental agencies have been discussing the potential for coordination of field resources. One of the principal constraints with the frequency of ambient water quality monitoring is that significant water quality events could be missed because the monitoring did not occur during the event. If individuals from another environmental agency are visiting certain waterbodies to investigate fish populations or wetland areas, they could also collect water quality data from these areas. The coordination of these activities should help to better blend

the activities of the various agencies as well as increase the frequency and coverage of the monitoring.

7.3 PROGRAMMATIC INITIATIVES

7.3.1 NPDES Program Initiatives

In the next five years, efforts will be continued to:

- improve compliance with permitted limits;
- improve pretreatment of industrial wastes to municipal wastewater treatment plants so as to reduce the toxicity in effluent wastes;
- encourage pollution prevention at industrial facilities in order to reduce the need for pollution control;
- require dechlorination of chlorinated effluents or use of alternative disinfectants;
- require multiple treatment trains at wastewater facilities; and
- require plants to begin plans for enlargement well before they reach capacity.

Longer-term objectives will include refining overall management strategies after obtaining feedback on current management efforts during the next round of water quality monitoring. Long-term point source control efforts will stress reduction of wastes entering wastewater treatment plants, seeking more efficient and creative ways of recycling byproducts of the treatment process (including nonpotable reuse of treated wastewater), and keeping abreast of and recommending the most advanced wastewater treatment technologies.

7.3.2 Promotion of Non-Discharge Alternatives/Regionalization

DWQ requires all new and expanding dischargers to submit an alternatives analysis as part of its NPDES permit application. Non-discharge alternatives, including tying on to an existing WWTP or land-applying wastes are preferred from an environmental standpoint. If the Division determines that there is an economically reasonable alternative to a discharge, DWQ may recommend denial of the NPDES permit.

7.3.3 Addressing Inflow and Infiltration (I&I) Problems at Municipal Wastewater Treatment Plants

There is a need to provide financial assistance to local governments in the Chowan and other basins for correction of inflow and infiltration (I & I) problems in municipal wastewater sewage collection systems. Virtually every municipal wastewater treatment plant in the basin has deteriorating sewer lines that are either allowing groundwater to seep in (infiltration) and/or that have lines that receive excessive flows of surface waters from cross-connections with stormwater systems or flooding of manholes (inflow). I & I problems can overwhelm the hydrologic capacity of waste treatment plants causing both raw wastewater overflows and upsetting of the plant's biology which impacts its ability to treat wastes for some time after the event. Many towns have to construct oversized waste treatment plants to compensate for this problem (it's often cheaper to build a bigger plant than correct the I & I problem).

Most municipal wastewater treatment facilities in the Chowan Basin use land application systems instead of discharging to surface waters in order to reduce the amount of nutrients reaching surface waters. These facilities have been running into problems when the amount of water getting into the system exceeds the hydrologic capacity of the land onto which the treated effluent is applied. Unless corrected, towns will be seeking permission to discharge their wastewater to streams instead of land-applying it. Correcting this problem will be very costly, but ultimately necessary in order to protect the river.

Because of the cost and widespread nature of the problem, this is an issue that will probably require attention by the general assembly to address.

7.3.4 Coordinating Basinwide Management With the Construction Grants and Loans Program

The potential exists to use the basinwide planning process as a means of identifying and prioritizing wastewater treatment plants in need of funding through DWQ's Construction Grants and Loan Program. Completed basin documents are provided to this office for their use.

7.3.5 Improved Data Management and Expanded Use of Geographic Information System (GIS) Computer Capabilities

DWQ is in the process of centralizing and improving its computer data management systems. Most of its water quality program data including permitted dischargers, waste limits, compliance information, water quality data, stream classifications, and so on, will be put in a central data center which will then be made accessible to most staff at desktop computer stations. Much of this information is also being entered into the state's GIS computer system (Center for Geographic Information and Analysis or CGIA). As this and other information is made available to the GIS system, including land use data from satellite or air photo interpretation, and as the system becomes more user friendly, the potential to graphically display the results of water quality data analysis will be tremendous.

Research Triangle Institute performed a pilot study in the Tar-Pamlico River Basin in which high priority waterbodies for nonpoint source control programs were mapped. These maps were used by the various nonpoint source agencies for planning purposes. As resources become available, this tool will be developed for other basins.

7.4 WATER QUALITY RECOMMENDATIONS OF THE FISHERIES MORATORIUM STEERING COMMITTEE

Depending upon legislative actions that may occur in 1997, DWQ may be required to perform some new duties with regard to coastal water quality management fisheries resource protection.

In July 1994, the North Carolina General Assembly declared a two-year moratorium on new vessel, crab and shellfish licenses and non-vessel endorsements to sell fish. The moratorium was extended in 1995 to last until 1997 to allow for the development of recommendations and the solicitation of public comment on those recommendations. The moratorium resulted from the concerns of fishermen, fisheries managers and others regarding the health of the state's coastal fisheries resources.

The General Assembly also appointed an 18 member panel of commercial and recreational fishermen, scientists, fisheries managers and representatives of legislature. The panel, known as the Moratorium Steering Committee, was instructed to study the problems and provide recommendations for solutions. The Committee divided into five working groups (subcommittees) to tackle specific issues - License, Marine Fisheries Commission and Division of Marine Fisheries Organization, Law Enforcement, Habitat and Gear.

In August 1996, the Committee approved a set of draft recommendations. They subsequently held 19 hearings across the state in August and September. In late October, the recommendations were finalized after revisions were made based on public input. In February of 1997, the Joint Legislative Commission on Seafood and Aquaculture considered these recommendations and by a close vote (7 - 6), decided not to forward them for further consideration by the General Assembly.

However, recommendations made by the Moratorium Steering Committee may be considered in whole or in part at a later date.

Some of the recommendations of the Habitat Subcommittee directly relate to water quality protection. Highlights of some of the recommendations made by the Habitat Subcommittee include, but are not limited to, (from Report of the Habitat Subcommittee to the Moratorium Steering Committee - Adopted by the Moratorium Steering Committee for Recommendation to the "Joint Legislative Commission on Seafood and Aquaculture" on October 24, 1996"):

- the General Assembly should amend appropriate legislation to give more weight to Division of Marine Fisheries objections to permits approved by other state agencies [such as NPDES permits issued by DWQ];
- the General Assembly should require the Coastal Resources Commission, Environmental Management Commission and Marine Fisheries Commission to adopt a Habitat Protection Plan for critical coastal fishery habitats as soon as possible but no later than July 1, 1999; and
- the General Assembly should establish and fund a comprehensive state program to acquire, preserve, and restore habitats critical to marine and/or estuarine fisheries.