

CHAPTER 7

FUTURE INITIATIVES

7.1 OVERVIEW OF BROAD 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 BROAD RIVER BASIN

7.2.1 Development of Field-Calibrated Models

In the Broad River basin's larger river systems (i.e. the First Broad River and Second Broad River) there are issues related to assimilative capacity and wasteload allocation that need to be addressed. These rivers receive waste from a number of both industrial and domestic wastewater treatment facilities and are also influenced by water withdrawals from water treatment systems. DWQ will be pursuing the development of a more sophisticated model for these rivers to better predict point source impacts to dissolved oxygen concentrations in surface waters. This model will be used to apply appropriate wastewater treatment effluent limits for oxygen-consuming wastes to dischargers to protect instream water quality.

7.2.2 Investigation into Long-term Impacts of Chip Mills

In response to North Carolina citizens' increasing concerns regarding the growing chip mill industry, Governor Hunt directed the NC Department of Environment and Natural Resources (NC DENR) to conduct an environmental and economic study of wood chip production in the state. These are facilities that produce wood chips for use in the production of paper products. One of the big concerns about these facilities is their potential to increase the amount of timber harvesting, especially clearcutting, in their vicinity. For several months, NC DENR staff have been gathering information needed to identify issues that should be examined in the study. In October of 1997, public meetings were held across North Carolina to receive general public input into this process. Attendance was good and many ideas regarding the scope and nature of the forthcoming study were received.

7.2.3 Broad River Basin Nonpoint Source (NPS) Team

DWQ has begun establishing voluntary Nonpoint Source Teams in each of the state's 17 major river basins. The goals of these teams are to use local knowledge, expertise, and support to develop and implement management strategies that restore and protect priority NPS waterbodies in the basin in a targeted, coordinated, and ongoing manner. The team members participate voluntarily on the NPS team within their existing resource constraints. Only limited progress can be expected in restoring impaired waters through the team without additional resources. Key elements of these goals are the participation of local stakeholders, prioritization of NPS-affected waters and developing coordination among various agencies to more effectively manage problem nonpoint sources.

The teams provide descriptions of current NPS management activities within a basin, conduct assessments of NPS controls in targeted watersheds, prioritize impaired waters for development and implementation (including funding) of restoration strategies and NPS issues for remedial action. The team will develop five year action plans to reflect these priorities.

A portion of the annual Section 319 grant from EPA is set aside for the teams. Teams that have a basin plan approved in a given year will have a Section 319 allocation from that year's funding. The Teams must submit an acceptable proposal to the State 319 Workgroup to obtain the funding. This funding will enable teams to develop management activities on priority issues and watersheds.

In May of 1997, DWQ initiated a NPS Team in the Broad River Basin. The team has identified and ranked specific problem waters from a nonpoint source standpoint. The Team has received funding through the federal NPS program (Section 319) to take action to reduce sedimentation above Lake Lure.

7.3 PROGRAMMATIC INITIATIVES

7.3.1 Efforts to Improve NC's Sedimentation and Erosion Control Program

Recently, there has been an initiative in the Division of Land Resources to address sediment and turbidity water quality problems across the state. The Sedimentation and Erosion Control Commission has recognized the need to evaluate the implementation of the existing programs. A Technical Advisory Committee was established, along with three subcommittees, to perform the evaluation and develop recommendations. The committee and subcommittees met for several months during the fall of 1997 and presented a list of recommendations to the Commission in November. The Commission supported the recommendations and instructed the staff to implement the ones which can be implemented without rule or statute changes and have established a schedule to implement the others. It is believed that the changes initiated will result in program implementation improvements and reduction in sediment losses to our streams.

7.3.2 The North Carolina Wetlands Restoration Program

The North Carolina Wetlands Restoration Program (NCWRP) was established by the General Assembly in 1996. The purpose of the NCWRP is to protect and improve water quality, flood prevention, fisheries, wildlife and plant habitats, and recreational opportunities through the protection and restoration of wetlands and riparian areas. The NCWRP will accomplish this purpose by implementing projects that will restore wetland and riparian area functions and values throughout North Carolina.

Beginning July 1, 1997, comprehensive Basinwide Restoration Plans will be developed for each river basin in conjunction with the Basinwide Water Quality Management Plans. GIS-based mapping methodologies will be used to assess the status of the existing wetlands and riparian area

resources within each basin and to identify degraded wetlands and riparian areas. Potential restoration sites will be prioritized based on the ability of the restored sites to address problems that have been identified in the Basinwide Water Quality Management Plans. The restoration plans will provide the framework for the Wetlands Restoration Program, therefore it is essential that the public, local governments, state and federal agencies and others be involved in the development of these plans. Requests for information concerning the NCWRP and the Basinwide Restoration Plans should be sent to the following address: NC Wetlands Restoration Program, Division of Water Quality, P.O. Box 29535, Raleigh, NC 27626-0535.

7.3.3 NPDES Program Initiatives

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

- improve compliance with permitted limits;
- improve pretreatment of industrial wastes discharged to municipal wastewater treatment plants so as to reduce effluent toxicity;
- encourage pollution prevention at industrial facilities in order to reduce the need for pollution control;
- require dechlorination of chlorinated effluents or use of alternative disinfection methods;
- 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 refinement of 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 reuse of nonpotable treated wastewater), and keeping abreast of and recommending the most advanced wastewater treatment technologies.

7.3.4 Use of Discharger Self-Monitoring Data

DWQ will continue to make greater use of discharger self-monitoring data to augment the data it collects through the programs described in Chapter 4. Quality assurance, timing and consistency of data from plant to plant will be issues of importance. Also, a system will need to be developed to enter the data into a computerized database for later analysis.

7.3.5 Use Restoration Waters (URW) Strategy

Throughout North Carolina, there are waters with pollution problems that prevent them from supporting their designated uses. Designated uses include aquatic life support, swimming and commercial shellfish harvest. These waters are often very difficult to restore due to the multitude of nonpoint sources contributing pollutants to the waterbody. Point source dischargers may also be a source of the impairment.

To address waters that have a persistent loss (full or partial) of designated uses, the Division of Water Quality is developing a Use Restoration Waters (URW) Program. If approved, this program would include voluntary and regulatory management strategies to control the specific parameters of concern in selected impaired watersheds. These voluntary and mandatory management strategies could include:

- best management practices for nonpoint sources,
- source reduction strategies such as education and land use planning,
- ecosystem restoration,
- wastewater treatment requirements, and
- other waste treatment management requirements.

The restoration strategies developed under the URW program would include coordination with other agencies' programs and funding mechanisms to create a holistic approach to address the array of pollution problems in the watersheds

7.3.6 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 connection 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 deny the NPDES permit.

7.3.7 Coordinating Basinwide Management With Other Programs

The basinwide planning process can be used by other programs as a means of identifying and prioritizing waterbodies in need of restoration or protection efforts and provides a means of disseminating this information to other water quality protection programs. For example, the plan can be used to identify and prioritize wastewater treatment plants in need of funding through DWQ's Construction Grants and Loan Program. The plans can also assist in identifying projects and waterbodies applicable to the goals of the Clean Water Management Trust Fund, Wetlands Restoration Program, or Section 319 grants program. Information and finalized basin plans are provided to these offices for their use and to other state and federal agencies.

7.3.8 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, etc.) will be put in a central data center which will then be made accessible to most staff at desktop computer stations. Some of this information is also being submitted into the NC Geographic Data Clearinghouse (Center for Geographic Information and Analysis or CGIA). As this and other information (including land use data from satellite or air photo interpretation) is made available to the GIS system, 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 may be developed for other basins.

7.3.9 Improved Monitoring and Assessment of Erosion Impacts

Sedimentation is perceived by the workshop participants and the Yadkin-Pee Dee River basin NPS Teams as one of the highest priorities in the basin. Many streams are impacted or impaired, at least in part, due to sedimentation. Erosion is evident throughout the basin. The fact that sedimentation is visible and aesthetically unpleasant helps make it a higher profile issue. The extent of sedimentation problems can be difficult to diagnose with the monitoring methods historically used by DWQ and many other state water quality agencies. Suspended solids sampling conducted on a scheduled monthly basis is likely to miss most of the high-flow periods during which the majority of sediment is transported. Benthic monitoring techniques may not always identify the effects of sedimentation, which can impact aquatic organisms by reducing and altering available habitat.

Some of the actions that DWQ and others will take towards improving monitoring and assessment of erosion impacts are:

- DWQ currently does not have adequate means of quantifying the effects of sedimentation on water quality. This points to the need for targeted management efforts coupled with a monitoring strategy which effectively measures sediment transport under both average and extreme conditions. DWQ will initiate discussion among staff and others to determine what, if any, programmatic changes can be made to gain better knowledge on sedimentation.
- Locally-based watershed improvement efforts represent an important mechanism for restoring streams and watersheds degraded by sedimentation. The Division is working with several such projects in the Yadkin-Pee Dee River basin and will continue to do so. Funding for such efforts can come from a number of sources, including the Agricultural Cost Share Program, Section 319 grants and the Clean Water Management Trust Fund. The Division's role in such projects can include assistance with problem identification and targeting, monitoring and other technical assistance.
- The Division recognizes the need to improve its targeting and monitoring capabilities in order to further the identification of sediment problems as well as to facilitate and support efforts to restore degraded areas. This includes enhancing our ability to measure and model erosion and sediment levels, to identify sediment source areas, and to recommend appropriate management practices. DWQ will initiate discussions among staff to determine how these issues can best be addressed given current resource constraints.
- DWQ is currently working with the Division of Land Resources, Division of Forest Resources and Division of Soil and Water Conservation to develop a Memorandum of Agreement for Turbidity. Turbidity is an indicator of sedimentation in a waterbody. The intent of the agreement is to establish a relationship between the agencies that better defines each agency's responsibility for activities related to turbidity. The turbidity standard is not being changed under this agreement.

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the integrity of the financial system and for the ability to detect and prevent fraud. The document also notes that records should be kept for a sufficient period to allow for a thorough audit.

In addition, the document outlines the responsibilities of those who are entrusted with the management of the funds. It states that these individuals must act in the best interests of the organization and must be held accountable for their actions. The document also discusses the need for regular communication and reporting to the governing body to ensure transparency and accountability.

Finally, the document concludes by reiterating the importance of these principles and the need for ongoing vigilance. It calls for a commitment to high standards of conduct and a dedication to the public good. The document is intended to serve as a guide for all those involved in the management of the organization's affairs.