Executive Summary

North Carolina's Basinwide Approach to Water Quality Management

Basinwide water quality planning is a nonregulatory watershed-based approach to restoring and protecting the quality of North Carolina's surface waters. Basinwide water quality plans are prepared by the NC Division of Water Quality (DWQ) for each of the 17 major river basins in the state. Each basinwide plan is revised at five-year intervals. While these plans are prepared by the DWQ, their implementation and the protection of water quality entail the coordinated efforts of many agencies, local governments and stakeholders in the state. The first basinwide plan for the Tar-Pamlico River basin was completed in 1994 and the second in 1999.

This document is the third five-year update of the *Tar-Pamlico River Basinwide Water Quality Plan*. The format of this plan was revised in response to comments received during the first and second planning cycles. DWQ replaced much of the general information in the first plan with more detailed information specific to the Tar-Pamlico River basin. A greater emphasis was placed on identifying causes and sources of pollution for individual streams in order to facilitate local restoration efforts.

DWQ considered comments from four public workshops held in the basin and subsequent discussions with local resource agency staff and citizens during draft plan development. This input will help guide continuing DWQ activities in the basin.

Goals of the Basinwide Approach

The goals of basinwide planning are to:
- Identify water quality problems and restore full use to Impaired waters.
- Identify and protect high value resource waters.
- Protect unimpaired waters yet allow for reasonable economic growth.

DWQ accomplishes these goals through the following objectives:
- Collaborate with other agencies to develop appropriate management strategies.
- Assure equitable distribution of waste assimilative capacity.
- Better evaluate cumulative effects of pollution.
- Improve public awareness and involvement.

Tar-Pamlico River Basin Overview

The Tar-Pamlico River basin is the fourth largest river basin in North Carolina and is one of only four river basins whose boundaries are located entirely within the state. The Tar River originates in north central North Carolina in Person, Granville and Vance counties and flows southeasterly until it reaches tidal waters near Washington and becomes the Pamlico River. The Pamlico River is a tidal estuary that flows into the Pamlico Sound. Major tributaries of the Tar River include Fishing Creek, Swift Creek, Little Fishing Creek, Town Creek, Conetoe Creek, Chicod Creek, Tranters Creek and the Pungo River.

From 1982 to 1997, urban and built-up land cover increased by 87,000 acres. Uncultivated cropland and pastureland also increased by 46,000 acres. Forest and cultivated cropland cover significantly decreased by 57,000 and 154,000 acres, respectively. Most land cover change is accounted for in the Pamlico Sound hydrologic unit that includes rapidly growing areas in Hyde and Dare counties.

Populations of counties that are wholly or partly contained within the basin increased by over 89,000 people between 1990 and 2000. Franklin, Granville and Nash counties are growing the fastest in the upper basin, with Pitt County growing the fastest in the lower basin. The county populations are expected to grow by more than 170,000 by 2020 to almost one million people. Although the Tar-Pamlico River basin population is growing slower than some other river basins, there will be increased drinking water demands and wastewater discharges. There will also be loss of natural areas and increases in impervious surfaces associated with construction of new homes and businesses.

There are 2,566.4 freshwater stream miles, 3,976.8 acres of freshwater reservoirs and lakes, 663,593.2 estuarine acres, and 17.3 miles of Atlantic coastline in the Tar-Pamlico River basin. There are also countless miles of unmapped small perennial, intermittent and ephemeral streams. The lower Tar-Pamlico River basin contains many wetland communities also. The basin starts in the eastern Piedmont physiographic region with about two-thirds of the basin in the Coastal Plain.

Assessment of Water Quality in the Tar-Pamlico River Basin

Surface waters are classified according to their best-intended uses. Determining how well a waterbody supports its uses (*use support* status) is an important method of interpreting water quality data and assessing water quality.

Surface waters are rated *Supporting and Impaired*. These ratings refer to whether the classified uses of the water (such as water supply, aquatic life protection and recreation) are being met. For example, waters classified for fish consumption, aquatic life protection and secondary recreation (Class C for freshwater or SC for saltwater) are rated Supporting if data used to determine use support meet certain criteria. However, if these criteria were not met, then the waters would be rated as Impaired. Waters with inconclusive data are listed as Not Rated. Waters lacking data are listed as No Data. More specific methods are presented in Appendix III.

In previous use support assessments, surface waters were rated fully supporting (FS), partially supporting (PS), not supporting (NS) and not rated (NR). FS was used to identify waters that were meeting their designated uses. Impaired waters were rated PS and NS, depending on their degree of degradation. NR was used to identify waters lacking data or having inconclusive data. The 2002 Integrated Water Quality Monitoring and Assessment Report Guidance issued by the EPA requested that states no longer subdivide the Impaired category. In agreement with this guidance, North Carolina no longer subdivides the Impaired category and rates waters as Supporting, Impaired, Not Rated or No Data.

Use support methods have been developed to assess ecosystem health and human health risk through the development of use support ratings for six categories: aquatic life, recreation, fish

consumption, shellfish harvesting, water supply and "other" uses. These categories are tied to the uses associated with the primary classifications applied to NC rivers, streams and lakes. A single water could have more than one use support rating corresponding to one or more of the six use support categories. For many waters, a use support category will not be applicable (N/A) to the use classification of that water (e.g., shellfish harvesting is only applied to Class SA waters). A full description of the classifications is available in the DWQ document titled: *Classifications and Water Quality Standards Applicable to Surface Waters of North Carolina*. For more detailed information regarding use support methodology, refer to Appendix III.

Aquatic Life Category

The aquatic life category is applied to all waters in North Carolina. Therefore, this category is applied to all 2,566.4 freshwater miles, 3,976.8 freshwater acres, 663,593.4 estuarine acres, and 17.3 Atlantic coastline miles in the Tar-Pamlico River basin. Biological, chemical and physical monitoring data collected between September 1997 and August 2002 were used to assign a use support rating in this category. Use support ratings by subbasin are summarized in Section B.

Approximately 32.9 percent of stream miles (845.5 miles) were monitored. Impaired stream miles (64.1 miles) accounted for 2.5 percent of all stream miles and 7.6 percent of monitored stream miles. Approximately 29.8 percent of freshwater acres (1,186.5 acres) were monitored. Impaired freshwater acres (369.9) accounted for 9.3 percent of all freshwater acres and 31.1 percent of monitored acres. Approximately 91.5 percent of estuarine acres (607,211.4 acres) were monitored. Impaired estuarine acres (6,070.9) accounted for 0.95 percent of all estuarine acres and 1.0 percent of monitored acres. No data were collected along the 17.3-mile coastline to assess water quality in the aquatic life category. Table 1 summarizes aquatic life use support ratings in the Tar-Pamlico River basin.

Table 1 Aquatic Life Use Support Ratings Summary for Waters in the Tar-Pamlico River Basin (1997-2002)

Aquatic Life Ratings/Basis	Freshwater		Estuarine Acres	Coastline Miles
	Miles	Acres		
Impaired/Monitored	64.1	369.9	6,070.9	0.0
Supporting/Monitored	699.3	816.6	598,786.2	0.0
Not Rated/Monitored	82.1	0.0	2,354.2	0.0
Total Monitored	**845.5**	**1,186.5**	**607,211.4**	**0.0**
Supporting/Evaluated	153.4	0.0	77.0	0.0
Not Rated/Evaluated	153.0	0.0	690.4	0.0
No Data	1,414.5	2,790.3	55,614.4	17.3
Total Unmonitored	**1,720.9**	**2,790.3**	**56,381.8**	**17.3**
Total	**2,566.4**	**3,976.8**	**663,593.2**	**17.3**

Aquatic Life Summary Percentages	Freshwater		Estuarine Acres	Coastline Miles
	Miles	Acres		
Percent of Total Monitored	32.9	29.8	91.5	0.0
Percent of Monitored/Impaired	7.6	31.1	1.0	0.0
Percent of Total Impaired	2.5	9.3	0.95	0.0

Recreation Category

Like the aquatic life category, the recreation category is applied to all waters in North Carolina. Therefore, this category is applied to all 2,566.4 freshwater miles, 3,976.8 freshwater acres, 663,593.4 estuarine acres, and 17.3 Atlantic coastline miles in the Tar-Pamlico River basin. DWQ fecal coliform monitoring data and DEH Recreational Water Quality Monitoring Program data collected between September 1997 and August 2002 were used to assign use support ratings in this category. Use support ratings by subbasin are summarized in Section B.

Approximately 9.4 percent of stream miles (242.4 miles) were monitored. There were no Impaired stream miles in this category. No freshwater acres were monitored. Approximately 14.7 percent of estuarine acres (97,266.4 acres) were monitored. Impaired estuarine acres (2.8) were less than 1 percent of all estuarine acres. Table 2 summarizes recreation use support ratings in the Tar-Pamlico River basin.

Table 2 Recreation Use Support Ratings Summary for Waters in the Tar-Pamlico River Basin (1997-2002)

Recreation Ratings and Basis	Freshwater		Estuarine Acres	Coastline Miles
	Miles	Acres		
Impaired/Monitored	0.0	0.0	2.8	0.0
Supporting/Monitored	242.4	0.0	97,266.4	0.0
Not Rated/Monitored	0.0	0.0	0.0	0.0
Total Monitored	**242.4**	**0.0**	**97,269.2**	**0.0**
Supporting/Evaluated	0.0	0.0	0.0	0.0
Not Rated/Evaluated	0.0	0.0	0.0	0.0
No Data	2,324.0	3,976.8	566,324.0	17.3
Total Unmonitored	**2,324.0**	**3,976.8**	**566,324.0**	**17.3**
Total	**2,566.4**	**3,976.8**	**663,593.2**	**17.3**

Recreation Summary Percentages	Freshwater		Estuarine Acres	Coastline Miles
	Miles	Acres		
Percent of Total Monitored	9.4	0.0	14.7	0.0
Percent of Monitored/Impaired	0.0	0.0	<1	0.0
Percent of Total Impaired	0.0	0.0	<1	0.0

Fish Consumption Category

Like the aquatic life and recreation categories, the fish consumption category is applied to all waters in North Carolina. Therefore, this category is applied to all 2,566.4 freshwater miles, 3,976.8 freshwater acres, 663,593.4 estuarine acres, and 17.3 Atlantic coastline miles in the Tar-Pamlico River basin. Department of Health and Human Services Fish Consumption Advice was used to assign a use support rating in this category. Use support ratings by subbasin are summarized in Section B.

Fish tissue data were collected on 28.6 miles of the Tar River and for 17.3 Atlantic coastline miles. These waters are Impaired/Monitored in the fish consumption category. All waters in the basin are Impaired/Evaluated because of widespread fish consumption advice.

Shellfish Harvesting Category

There are 564,938.6 estuarine acres classified for shellfish harvesting (Class SA) in the Tar-Pamlico River basin. All were monitored during the past five years by DEH Shellfish Sanitation. DEH growing area classifications were used to assign a use support rating in this category. Impaired estuarine acres accounted for 1.3 percent (7,515.9 acres) of the estuarine acres in the

shellfish harvesting category. Use support ratings by subbasin are summarized in Section B. Table 3 summarizes shellfish harvesting use support ratings in the Tar-Pamlico River basin.

Table 3 Shellfish Harvesting Use Support Ratings Summary for Waters in the Tar-Pamlico River Basin (1997-2002)

Shellfish Harvesting Status and Basis	**Estuarine Acres**
Impaired/Monitored	7,515.9
Supporting/Monitored	557,422.7
Total Monitored	**564,938.6**
Shellfish Harvesting Summary Percentages	**Estuarine Acres**
Percent of Monitored/Impaired	1.3
Percent of Total Impaired	1.3

Water Supply Category

There are 481.3 freshwater stream miles and 821.0 freshwater acres currently classified for water supply in the Tar-Pamlico River basin. All water supply waters have been assigned a use support rating of Supporting on an evaluated basis based on reports from DEH regional water treatment consultants. The reports are used to evaluate the ability of water treatment plants to provide potable water to consumers for Class WS waters. Raw water quality is not assessed in this category.

Impaired Waters

Table 4 presents Impaired waters (in all categories) in the Tar-Pamlico River basin that were monitored by DWQ within the last five years. The category for which a water is Impaired is indicated in the table. Descriptions of Impaired segments, as well as problem parameters, are outlined in Appendix III. Current status and recommendations for restoration of water quality for each water are discussed in detail in the appropriate subbasin chapter. Maps showing current use support ratings for waters in the Tar-Pamlico River basin are presented in each subbasin chapter in Section B.

Table 4 Impaired Monitored Waters within the Tar-Pamlico River Basin (1997 to 2002) [1]

Name	Assessment Unit	Class	Subbasin	Miles	Acres	Category
Fishing Creek	28-11c	C NSW	03-03-01	0.9	0.0	Aquatic Life
Fishing Creek	28-11d	C NSW	03-03-01	1.0	0.0	Aquatic Life
Cokey Swamp	28-83-3a	C NSW	03-03-03	8.6	0.0	Aquatic Life
Bynums Mill Creek	28-83-4	C NSW	03-03-03	9.7	0.0	Aquatic Life
Conetoe Creek	28-87-(0.5)d	C NSW	03-03-03	6.7	0.0	Aquatic Life
Conetoe Creek	28-87-(0.5)b	C NSW	03-03-03	5.9	0.0	Aquatic Life
Crisp Creek	28-87-1	C NSW	03-03-03	8.7	0.0	Aquatic Life
Ballahack Canal	28-87-1.2	C NSW	03-03-03	8.4	0.0	Aquatic Life
Chicod Creek	28-101	C NSW	03-03-05	14.1	0.0	Aquatic Life
TAR RIVER	28-(102.5)	C NSW	03-03-07	0.0	338.0	Aquatic Life
Kennedy Creek	28-104	C NSW	03-03-07	0.0	32.0	Aquatic Life
PAMLICO RIVER	29-(1)	SC NSW	03-03-07	0.0	739.5	Aquatic Life
Rodman Creek	29-4-(2)	SC NSW	03-03-07	0.0	19.1	Aquatic Life
PAMLICO RIVER	29-(5)a	SB NSW	03-03-07	0.0	1,765.6	Aquatic Life
Chocowinity Bay	29-6-(1)	SC NSW	03-03-07	0.0	389.6	Aquatic Life
Chocowinity Bay	29-6-(5)	SB NSW	03-03-07	0.0	503.2	Aquatic Life
Pantego Creek	29-34-34-(2)	SC NSW	03-03-07	0.0	952.4	Aquatic Life
Pungo Creek	29-34-35	SC NSW	03-03-07	0.0	1,701.6	Aquatic Life
Pungo River	29-34-(12)b	SB NSW	03-03-07	0.0	2.8	Recreation
TAR RIVER	28-(66.5)	WS-IV NSW CA	03-03-02	0.7	0.0	Fish Consumption
TAR RIVER	28-(80)	C NSW	03-03-03	14.8	0.0	Fish Consumption
TAR RIVER	28-(94)	C NSW	03-03-05	13.1	0.0	Fish Consumption
Atlantic Ocean	99-(6)	SB	03-03-08	17.3	0.0	Fish Consumption
South Creek	29-28-(6.5)	SA NSW	03-03-07	0.0	3,073.5	Shellfish Harvesting
Whitehurst Creek	29-28-7-(2)	SA NSW	03-03-07	0.0	15.6	Shellfish Harvesting
Jacks Creek	29-28-8-(2)	SA NSW	03-03-07	0.0	8.8	Shellfish Harvesting
Little Creek	29-28-9-(2)	SA NSW	03-03-07	0.0	21.3	Shellfish Harvesting
Jacobs Creek	29-28-10-(2)	SA NSW	03-03-07	0.0	13.4	Shellfish Harvesting
Drinkwater Creek	29-28-10-3-(2)	SA NSW	03-03-07	0.0	10.3	Shellfish Harvesting
Short Creek	29-28-11	SA NSW	03-03-07	0.0	6.5	Shellfish Harvesting
Tooley Creek	29-28-12-(2)	SA NSW	03-03-07	0.0	15.4	Shellfish Harvesting
Long Creek	29-28-13-(2)	SA NSW	03-03-07	0.0	30.4	Shellfish Harvesting
Schooner Creek	29-28-14	SA NSW	03-03-07	0.6	0.0	Shellfish Harvesting
Bond Creek	29-28-15-(2)	SA NSW	03-03-07	0.0	373.2	Shellfish Harvesting

Alligator Gut	29-28-15-3	SA NSW	03-03-07	0.0	3.2	Shellfish Harvesting
Flannigan Gut	29-28-15-4	SA NSW	03-03-07	0.0	4.0	Shellfish Harvesting
Muddy Creek	29-28-15-5-(2)	SA NSW	03-03-07	0.0	97.2	Shellfish Harvesting
Robin Gut	29-28-15-5-3	SA NSW	03-03-07	0.0	0.2	Shellfish Harvesting
Wilson Gut	29-28-15-5-4	SA NSW	03-03-07	0.0	0.1	Shellfish Harvesting
Sheepskin Creek	29-28-15-5-5	SA NSW	03-03-07	0.0	1.6	Shellfish Harvesting
North Creek	29-29-(2)a	SA NSW	03-03-07	0.0	162.0	Shellfish Harvesting
Garrett Gut	29-29-4	SA NSW	03-03-07	0.0	8.0	Shellfish Harvesting
Eastham Creek	29-33-3a	SA NSW	03-03-07	0.0	62.5	Shellfish Harvesting
Alligator Creek	29-33-3-1	SA NSW	03-03-07	0.0	1.8	Shellfish Harvesting
Long Creek	29-33-3-2	SA NSW	03-03-07	0.0	1.1	Shellfish Harvesting
Slade Creek	29-34-40a	SA NSW	03-03-07	0.0	591.0	Shellfish Harvesting
Jones Creek	29-34-40-1	SA NSW	03-03-07	0.0	15.1	Shellfish Harvesting
Jarvis Creek	29-34-40-2	SA NSW	03-03-07	0.0	8.0	Shellfish Harvesting
Raffing Creek	29-34-40-3	SA NSW	03-03-07	0.0	5.0	Shellfish Harvesting
Becky Creek	29-34-40-4	SA NSW	03-03-07	0.0	19.6	Shellfish Harvesting
Neal Creek	29-34-40-5	SA NSW	03-03-07	0.0	68.0	Shellfish Harvesting
Wood Creek	29-34-40-6	SA NSW	03-03-07	0.0	26.7	Shellfish Harvesting
Spellman Creek	29-34-40-7	SA NSW	03-03-07	0.0	15.2	Shellfish Harvesting
Speer Creek	29-34-40-8	SA NSW	03-03-07	0.0	10.7	Shellfish Harvesting
Jordan Creek	29-34-41a	SA NSW	03-03-07	0.0	90.0	Shellfish Harvesting
Satterthwaite Creek	29-34-48a	SA NSW	03-03-07	0.0	85.8	Shellfish Harvesting
Wrights Creek	29-34-49	SA NSW	03-03-07	0.0	40.1	Shellfish Harvesting
North Prong Wrights Creek	29-34-49-1	SA NSW	03-03-07	0.0	37.6	Shellfish Harvesting
South Prong Wrights Creek	29-34-49-2	SA NSW	03-03-07	0.0	45.2	Shellfish Harvesting
Bradley Creek	29-34-49-2-1	SA NSW	03-03-07	0.0	9.6	Shellfish Harvesting
Oyster Creek	29-35a	SA NSW	03-03-07	0.0	117.6	Shellfish Harvesting
Bill Daniels Gut	29-35-1	SA NSW	03-03-07	0.0	1.7	Shellfish Harvesting
Bill Gut	29-35-2	SA NSW	03-03-07	0.0	6.2	Shellfish Harvesting
River Ditch	29-35-3	SA NSW	03-03-07	0.0	8.4	Shellfish Harvesting
PAMLICO RIVER AND PAMLICO SOUND	29-(40.5)e	SA	03-03-08	0.0	48.9	Shellfish Harvesting
PAMLICO RIVER AND PAMLICO SOUND	29-(40.5)c	SA	03-03-08	0.0	0.4	Shellfish Harvesting
PAMLICO RIVER AND PAMLICO SOUND	29-(40.5)b	SA	03-03-08	0.0	48.7	Shellfish Harvesting
PAMLICO RIVER AND PAMLICO SOUND	29-(40.5)d	SA	03-03-08	0.0	120.0	Shellfish Harvesting
Germantown Bay	29-42-1a	SA	03-03-08	0.0	179.7	Shellfish Harvesting
Long Creek	29-42-1-1	SA	03-03-08	0.0	53.6	Shellfish Harvesting

Midgette Creek	29-42-1-2	SA	03-03-08	0.0	8.4	Shellfish Harvesting
Rose Bay	29-44a	SA	03-03-08	0.0	318.0	Shellfish Harvesting
Rose Bay Creek	29-44-1	SA	03-03-08	0.0	154.3	Shellfish Harvesting
Swanquarter Bay	29-49a	SA ORW	03-03-08	0.0	136.2	Shellfish Harvesting
Oyster Creek	29-49-3a	SA ORW	03-03-08	0.0	35.3	Shellfish Harvesting
Juniper Bay	29-52a	SA ORW	03-03-08	0.0	66.6	Shellfish Harvesting
Northwest Creek	29-52-2	SA	03-03-08	0.0	19.4	Shellfish Harvesting
Wysocking Bay	29-60a	SA	03-03-08	0.0	126.3	Shellfish Harvesting
Middle Town Creek	29-66	SA	03-03-08	0.0	71.5	Shellfish Harvesting
Cedar Creek	29-67	SA	03-03-08	0.0	12.2	Shellfish Harvesting
Lone Tree Creek	29-69	SA	03-03-08	0.0	1.8	Shellfish Harvesting
Far Creek	29-70-(4)	SA	03-03-08	0.0	389.5	Shellfish Harvesting
Waupopin Creek	29-70-5-(3)	SA	03-03-08	0.0	96.2	Shellfish Harvesting
Oyster Creek	29-70-6	SA	03-03-08	0.0	50.1	Shellfish Harvesting
Berrys Bay	29-71a	SA	03-03-08	0.0	12.5	Shellfish Harvesting
Long Shoal River	29-73-(2)a	SA	03-03-08	0.0	419.8	Shellfish Harvesting
Long Shoal River	29-73-(2)c	SA	03-03-08	0.0	35.2	Shellfish Harvesting

* Although all waters in the basin are considered Impaired for the fish consumption category, only the Tar River (28.6 miles) and the Atlantic coastline (17.3 miles) were monitored. Refer to Appendix III for a description of the Impaired segments.

Recommended Management Strategies for Restoring Impaired Waters

The long-range mission of basinwide planning is to provide a means of addressing the complex problem of planning for increased development and economic growth while maintaining, protecting and enhancing water quality and intended uses of the Tar-Pamlico River basin's surface waters.

Within this basinwide plan, DWQ presents management strategies and recommendations for those waters considered to be Impaired or that exhibit some notable water quality problem. Major water quality problems in the basin include habitat degradation, algal blooms, low dissolved oxygen (affecting aquatic life), mercury in fish tissue (affecting fish consumption), and fecal coliform bacteria contamination (affecting shellfish harvesting and recreation). Habitat degradation, including sedimentation, streambed scour and streambank erosion, is primarily attributed to nonpoint source pollution (NPS). Sources of nonpoint source pollution include runoff from construction sites, agricultural lands and urban areas, and hydromodification.

For streams degraded by point source pollution, the plan presents a management strategy to reduce the impacts from that pollutant source. The task of quantifying nonpoint sources of pollution and developing management strategies for these Impaired waters is very resource intensive. This task is overwhelming, given the current limited resources of DWQ, other agencies (e.g., Division of Land Resources, Division of Soil and Water Conservation, Cooperative Extension Service, etc.), and local governments.

DWQ plans to further evaluate Impaired waters in the Tar-Pamlico River basin in conjunction with other agencies that deal with nonpoint source pollution issues and develop management strategies for a portion of these Impaired waters for the next *Tar-Pamlico River Basinwide Water Quality Plan* (2009).

Addressing Waters on the State's 303(d) List

Section 303(d) of the Clean Water Act requires states to identify waters not meeting standards. EPA must then provide review and approval of the listed waters. A list of waters not meeting standards is submitted to EPA biennially. Waters placed on this list, termed the 303(d) list, require the establishment of total maximum daily loads (TMDLs) intended to guide the restoration of water quality. EPA issued guidance in August 1997 that called for states to develop schedules for developing TMDLs for all waters on the 303(d) list within 8-13 years.

The 303(d) list and accompanying data are updated as the basinwide plans are revised. In some cases, the new data will demonstrate water quality improvement and waters may receive a better use support rating. These waters may be removed from the 303(d) list when water quality standards are attained. In other cases, the new data will show a stable or decreasing trend in overall water quality resulting in the same, or lower, use support rating. Attention remains focused on these waters until water quality standards are met.

Challenges Related to Achieving Water Quality Improvements

To achieve the goal of restoring Impaired waters throughout the basin, DWQ will need to work more closely with other state agencies and stakeholders to identify and control pollutants. The costs of restoration will be high, but several programs exist to provide funding for restoration efforts. These programs include the Clean Water Management Trust Fund, the NC Agricultural Cost Share Program, the Wetlands Restoration Program, and the federally funded Conservation Reserve Enhancement Program.

With increased development occurring, there will be significant challenges ahead in balancing economic growth with the protection of water quality in this basin. Point source impacts on surface waters can be measured and addressed through the basinwide planning process. Nonpoint sources of pollution can be identified through the basinwide plan, but actions to address these impacts must be taken at the local level. Such actions should include: development and enforcement of local erosion control ordinances; requirement of stormwater best management practices for existing and new development; development and enforcement of buffer ordinances; and land use planning that assesses impacts on natural resources. This basinwide plan presents many water quality initiatives and accomplishments that are underway within the basin. These actions provide a foundation on which future initiatives can be built.