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 seventeen 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 entails the coordinated efforts of many agencies, local governments and stakeholders in the state. The first basinwide plan for the Savannah River basin was completed in 1997.

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

DWQ considered comments from two public workshops held in the basin, subsequent discussions with local resource agency staff and citizens during draft plan development, one public meeting, and a 45-day public comment period. Appendix V summarizes all comments received. This input will help guide continuing DWQ activities in the basin.

Goals of the Basinwide Approach

The goals of DWQ's basinwide program are to:

- identify water quality problems and restore full use to impaired waters;
- identify and protect high value resource waters;
- protect unimpaired waters while allowing for reasonable economic growth;
- develop appropriate management strategies to protect and restore water quality;
- assure equitable distribution of waste assimilative capacity for dischargers; and
- improve public awareness and involvement in the management of the state's surface waters.

Savannah River Basin Overview

Despite its status as the smallest basin in the state (only 172 square miles), the upper Savannah River watershed in southwestern NC is ruggedly beautiful and remote. Rivers in the basin, such as the Tullulah in Clay County, the Chattooga and Horsepasture in Jackson County, and the Toxaway in Transylvania County, generally flow southward toward Georgia and South Carolina. Roughly 55 percent of the Savannah River basin is in Georgia, 43 percent is in South Carolina, and two percent is in North Carolina.

The North Carolina portion of the basin contains approximately 176 miles of freshwater streams and rivers. A significant portion of the basin lies within the Nantahala National Forest, and 3,000 acres are Wildlife Resources Commission Game Lands. Additionally, Gorges State Park was created in 1999 and encompasses 7,000 acres. The steep slopes, high elevation and large amount of annual rainfall result in spectacular waterfalls, as well as a large number of rare and endangered species that are specially adapted to moist microhabitats. Trout waters are abundant, and many streams have been classified as High Quality or Outstanding Resource Waters.

While most of the land is forested (96 percent), many retirement and second home developments, as well as commercial resorts, continue to be constructed in the basin. A portion of the Town of Highlands is the only municipal area; however, the Cashiers community represents a large portion of the developed land. Population of the basin, based on 1990 census data, was estimated to be 3,950. The overall population density of the basin was 23 persons per square mile compared to the statewide average of 139 persons per square mile. The 2000 census data have not been divided according to river basin and subbasin boundaries. Significant growth is expected over the next five-year basinwide planning cycle.

Assessment of Water Quality in the Savannah 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 *fully supporting* (FS), *partially supporting* (PS) or *not supporting* (NS). The ratings refer to whether the classified uses of the water (i.e., aquatic life protection, primary recreation and water supply) are being met. For example, waters classified for fish consumption, aquatic life protection and secondary recreation (Class C for freshwater) are rated FS if data used to determine use support meet certain criteria. However, if these criteria were not met, then the waters would be rated as PS or NS, depending on the degree of degradation. Waters rated PS or NS are considered to be impaired. Waters lacking data, having inconclusive data, or for which criteria have not been developed are listed as not rated (NR).

Beginning in 2000 with the *Roanoke River Basinwide Water Quality Plan*, DWQ assesses ecosystem health and human health risk through the development of use support ratings for six categories: aquatic life and secondary recreation, fish consumption, shellfish harvesting, primary recreation, water supply and "other" uses. These categories are tied to the uses associated with the primary classifications applied to NC rivers and streams. 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). This method of determining use support differs from that done prior to 2000; in that, there is no longer an *overall* use support rating for a water.

<u>Aquatic Life/Secondary Recreation</u>

The aquatic life/secondary recreation use support category is applied to all waters in North Carolina. Therefore, this category is applied to the total number of stream miles (176.2) and lake acres (1,366) in the North Carolina portion of the Savannah River basin. Approximately 23

percent of stream miles (40.4) were monitored for the protection of aquatic life and secondary recreation by DWQ during this basinwide planning cycle. A basinwide summary of current aquatic life/secondary recreation use support ratings is presented in Table 1.

Table 1 Aquatic Life/Secondary Recreation Use Support Summary (1999)

Aquatic Life/Secondary Recreation Use Support Ratings	Monitored and Evaluated Waters*			Monitored Waters Only**	
	Miles or Acres	%		Miles or Acres	%
Fully Supporting	**108.6 mi**	**62%**		**40.4 mi**	**100%**
Partially Supporting	**0.0 mi**	**0%**		**0.0 mi**	**0%**
Not Supporting	**0.0 mi**	**0%**		**0.0 mi**	**0%**
Not Rated	**67.6 mi** **1,366 ac**	**38%** **100%**		**0.0 mi**	**0%**
TOTAL	**176.2 mi** **1,366 ac**			**40.4 mi**	

* = Percent based on total of all waters, both monitored and evaluated. ** = Percent based on total of all monitored waters.

Fish Consumption

Like the aquatic life/secondary recreation use support category, fish consumption is also applied to all waters in the state. Fish consumption use support ratings are based on fish consumption advisories issued by the NC Department of Health and Human Services (NCDHHS). Currently, there are no fish consumption advisories specific to the NC portion of the basin. Therefore, all waters are considered to be fully supporting the fish consumption category. No waters were monitored for fish consumption during this basinwide cycle because of the lack of any significant contaminant concerns in the Savannah River basin.

Primary Recreation

There are 24.5 stream miles and 1,366 lake acres currently classified for primary recreation (Class B) in the Savannah River basin. Approximately 19 percent of stream miles (4.6) were monitored by DWQ over the past five years; all are fully supporting the primary recreation use. A basinwide summary of current primary recreation use support ratings is presented in Table 2.

Table 2 Primary Recreation Use Support Summary (1999)

Primary Recreation Use Support Ratings	Monitored and Evaluated Waters*			Monitored Waters Only**	
	Miles	%		Miles	%
Fully Supporting	**4.6 mi**	**18.8%**		**4.6 mi**	**100%**
Partially Supporting	**0.0 mi**	**0%**		**0.0 mi**	**0%**
Not Supporting	**0.0 mi**	**0%**		**0.0 mi**	**0%**
Not Rated	**19.9 mi** **1,366 ac**	**81.2%** **100%**		**0.0 mi**	**0%**
TOTAL	**24.5 mi** **1,366 ac**			**4.6 mi**	

* = Percent based on total of all streams, both monitored and evaluated. ** = Percent based on total of all monitored streams.

There are no waters classified WS in the Savannah River basin; therefore, no waters were assigned a water supply use support rating. No lakes in the basin were monitored by DWQ in 1999. Currently, there are no impaired waters in the North Carolina portion of the Savannah River basin.

Strategies for Addressing Notable Water Quality Impacts in Unimpaired Waters

Often during DWQ's use support assessment, water quality concerns are documented for waters that are fully supporting designated uses. While these waters are not considered impaired, attention and resources should be focused on these waters over the next basinwide planning cycle to prevent additional degradation or to facilitate water quality improvement. Waters with notable water quality concerns in the Savannah River basin include the upper Chattooga River and its tributaries, the upper Horsepasture River and its tributaries, and smaller streams draining the land south of Highlands.

The most prevalent water quality concern throughout the Savannah River basin is habitat degradation. Habitat degradation includes sedimentation, bank erosion, channelization, lack of riparian vegetation, loss of pools or riffles, loss of woody habitat, and streambed scour. It is attributed to nonpoint source pollution. The primary sources of nonpoint source pollution in the Savannah River basin are runoff from construction sites, roads (both paved and unpaved) and developed areas. The task of quantifying nonpoint sources of pollution and developing management strategies for these waters is resource intensive. DWQ plans to notify local agencies and others of water quality concerns for these waters and work with them to conduct further monitoring and to locate sources of water quality protection funding for these unimpaired waters.