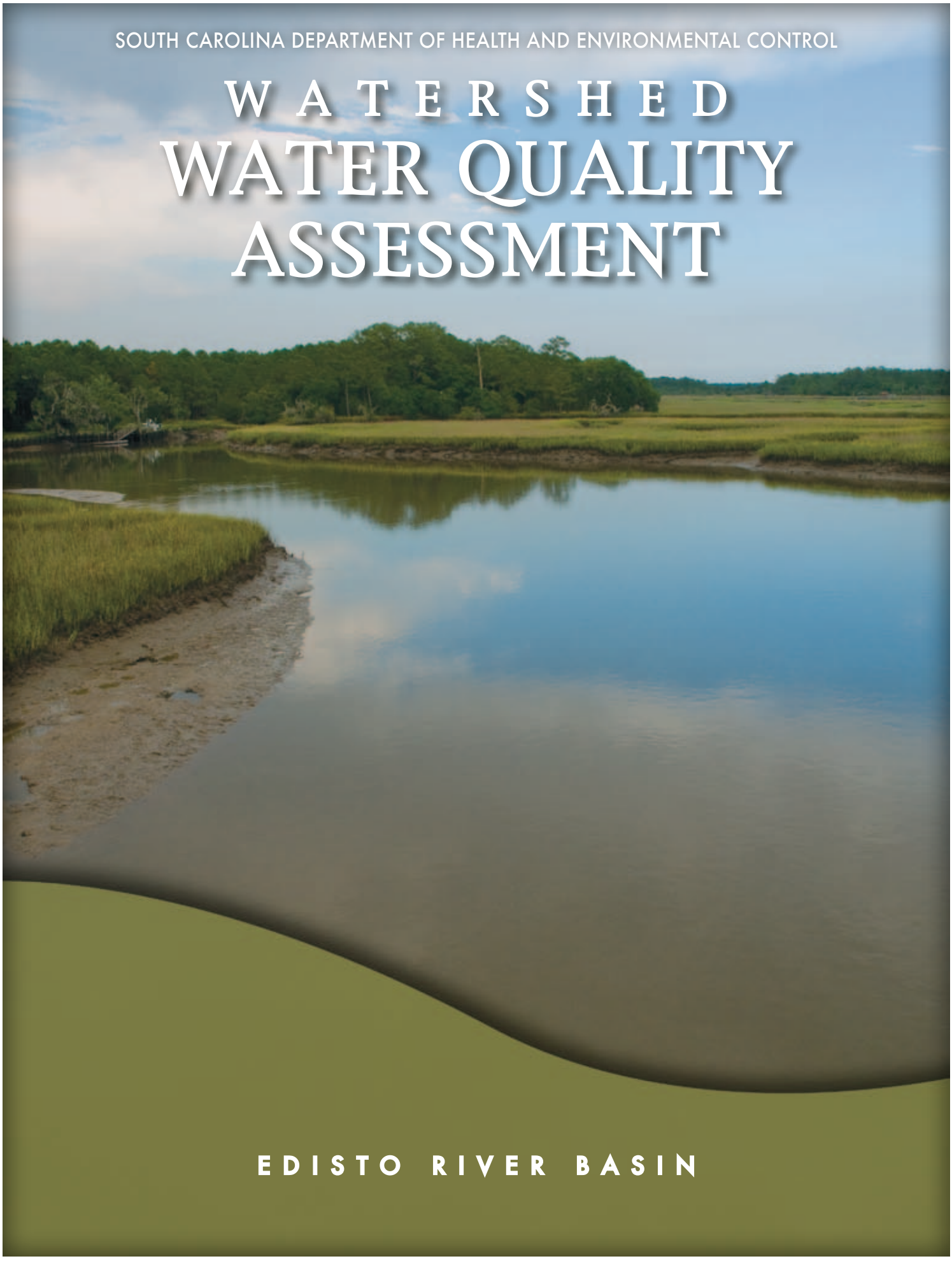
SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

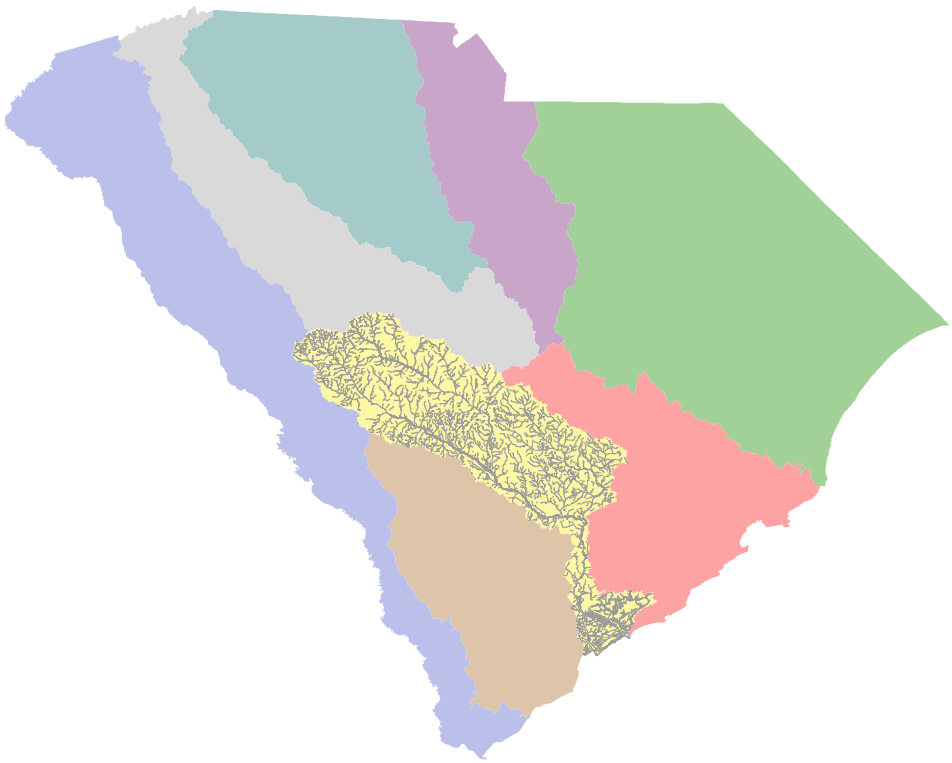
WATERSHED WATER QUALITY ASSESSMENT



EDISTO RIVER BASIN

Watershed Water Quality Assessment

Edisto River Basin
2012



South Carolina Department of Health and Environmental Control

Bureau of Water

2600 Bull Street

Columbia, SC 29201

803-898-4300

www.scdhec.gov/water

PREFACE

In 1993, the South Carolina Department of Health and Environmental Control (SCDHEC) published the first in a series of five watershed management documents. The first in that series, Watershed Water Quality Management Strategy: Savannah-Salkehatchie Basin, communicated SCDHEC's innovative watershed approach, summarizing water programs and water quality in the basins. The approach continues to evolve and improve.

The watershed documents facilitate broader participation in the water quality management process. Through these publications, SCDHEC shares water quality information with internal and external partners, providing a common foundation for water quality improvement efforts at the local watershed or large-scale, often interstate, river basin level.

Water quality data from the Edisto River Basin was collected during 2002 through 2006 and assessed during this fourth, five-year watershed management cycle. This updated atlas provides summary information on a watershed basis, as well as geographical presentations of all permitted watershed activities. Waterbody, monitoring station and facility indices allow the reader to locate information on specific waters and facilities of interest.

A brief summary of the water quality assessments included in the body of this document is provided following the Table of Contents. This summary lists all waters within the Edisto River Basin that fully support recreational and aquatic life uses, followed by those waters not supporting uses. In addition, the summaries list changes in use support status; those that have improved or degraded over the five years since the last assessment was written. More comprehensive information can be found in the individual watershed sections. The information provided is accurate to the best of our knowledge at the time of writing and will be updated in five years.

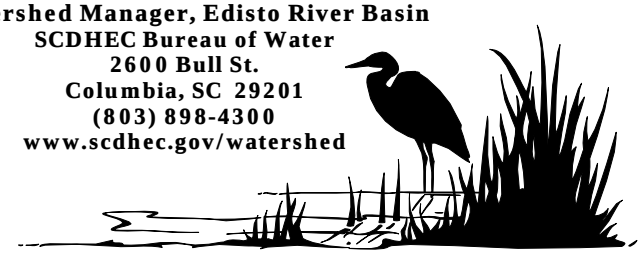
General information on Edisto River Basin Watershed Protection and Restoration Strategies can be found under that section on page 27, and more detailed information is located within the individual watershed evaluations.

A major change to this newest assessment is the use of the National Watershed Boundary dataset using the 8-, 10-, 12-Digit Hydrologic Unit Codes for South Carolina. This more accurate hydrologic unit code's use changes numerous boundaries in the basin and introduces a new numbering system for the watersheds. For comparison, each watershed evaluation will state the prior hydrologic code.

As SCDHEC continues basinwide and statewide water quality protection and improvement efforts, we are counting on the support and assistance of all stakeholders in the Edisto River Basin to participate in water quality improvements. We look forward to working with you.

If you have questions or comments regarding this document, or if you are seeking further information on the water quality in the Edisto Basin, please contact:

Watershed Manager, Edisto River Basin
SCDHEC Bureau of Water
2600 Bull St.
Columbia, SC 29201
(803) 898-4300
www.scdhec.gov/watershed



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Water Quality Assessment Summary

Edisto River Basin

TERMS USED IN TABLES

AQUATIC LIFE USE SUPPORT (AL) - The degree to which aquatic life is protected is assessed by comparing important water quality characteristics and the concentrations of potentially toxic pollutants with standards. Aquatic life use support is based on the percentage of standards excursions at a sampling site.

For **dissolved oxygen** and **pH**:

If the percentage of standard excursions is 10% or less, then uses are ***fully supported***.

If the percentage of standard excursions is greater than 10% and less than or equal to 25%, then uses are ***partially supported***.

If the percentage of standard excursions is greater than 25%, uses are ***not supported*** (see p.12 for further information).

For **toxins** (heavy metals, priority pollutants, chlorine, ammonia):

If the chronic or acute aquatic life standard for any individual toxicant is not exceeded more than once, uses are ***fully supported***.

If the appropriate acute or chronic aquatic life standard is exceeded more than once (i.e. $\geq$ 2), but is less than or equal to 10% of the samples, uses are ***partially supported***.

If the appropriate acute or chronic aquatic life standard is exceeded more than once (i.e.$\geq$2), and is greater than 10% of the samples, aquatic life uses are ***not supported*** (see p.12 for further information).

For **turbidity** and waters with **numeric total phosphorus, total nitrogen, and chlorophyll-a**:

If the percentage of standard excursions is 25% or less, then uses are ***fully supported***.

If the percentage of standard excursions is greater than 25%, then uses are ***not supported*** (see p.13 for further information).

RECREATIONAL USE SUPPORT (REC) - The degree to which the swimmable goal of the Clean Water Act is attained (recreational use support) is based on the frequency of fecal coliform bacteria excursions, defined as greater than 400/100 ml for all surface water classes.

If 10% or less of the samples are greater than 400/100 ml, then recreational uses are said to be ***fully supported***.

If the percentage of standards excursions is greater than 10% and less than or equal to 25%, then recreational uses are said to be ***partially supported***.

If the percentage of standards excursions is greater than 25%, then recreational uses are said to be ***nonsupported*** (see p.14 for further information).

Excursion - The term excursion is used to describe a measurement that does not comply with the appropriate water quality standard.

Table 1. Fully Supported Sites in the Edisto River Basin 2002-2006

***** = Station not evaluated for Recreational Support; TD=TMDL Developed; TI=TMDL Implementation; TI*=TMDL Implementation after 2006; Trend Data 1992-2006

Watershed	Waterbody Name	Station #	Improving Trends	Other Trends
03050203-01	Lightwood Knot Creek	E-605*		
	Black Creek	E-604*		
		E-103	Decreasing Turbidity	Increasing BOD_5, Total Nitrogen; Decreasing pH
03050203-02	North Fork Edisto River	E-104	Decreasing Turbidity	Increasing BOD_5; Decreasing pH
	Bull Swamp Creek	E-042	Decreasing Turbidity	Increasing BOD_5; Decreasing pH
03050203-03	North Fork Edisto River	E-007A	Decreasing Turbidity, Total Phosphorus	Increasing BOD_5; Decreasing pH
		E-007C	Decreasing Turbidity	Increasing BOD_5; Decreasing pH
		E-008A	Decreasing Turbidity, Total Phosphorus, Fecal Coliform	Increasing BOD_5; Decreasing pH
03050204-01	First Branch	E-001	Decreasing Turbidity, Total Phosphorus	
	South Fork Edisto River	E-090	Decreasing Turbidity, Total Phosphorus, Total Nitrogen	Increasing BOD_5; Decreasing pH
		E-021	Decreasing Turbidity, Fecal Coliform	Increasing BOD_5; Decreasing pH
	McTier Creek Tributary	RS-03518		
	McTier Creek	E-578*		
	Shaw Creek	RS-02480		
		E-579*		
		E-106	Decreasing Turbidity	Increasing BOD_5; Decreasing pH
03050204-02	Dean Swamp Creek	E-107	Decreasing Turbidity, Fecal Coliform	Increasing BOD_5; Decreasing pH
03050204-03	South Fork Edisto River	E-011	Decreasing Turbidity	Increasing BOD_5, Fecal Coliform; Decreasing pH

Table 1. Fully Supported Sites in the Edisto River Basin 2002-2006

***** = Station not evaluated for Recreational Support; TD=TMDL Developed; TI=TMDL Implementation; TI*=TMDL Implementation after 2006; Trend Data 1992-2006

Watershed	Waterbody Name	Station #	Improving Trends	Other Trends
03050204-03 (continued)-	South Fork Edisto River	E-012	Decreasing Turbidity, Total Phosphorus	Increasing BOD_5; Decreasing pH
03050205-02	Sandy Run Tributary	RS-02473		
	Cedar Swamp	E-596*		
03050205-03	Four Hole Swamp	E-015A		Increasing BOD_5
03050206-01	Edisto River	E-013A	Decreasing Turbidity	Increasing BOD_5; Decreasing pH
		E-014	Increasing Dissolved Oxygen; Decreasing Fecal Coliform	Increasing pH
		E-086	Increasing Dissolved Oxygen; Decreasing Fecal Coliform	Increasing BOD_5
03050206-02	Indian Field Swamp	E-597*		
03050206-03	Edisto River	E-015	Increasing Dissolved Oxygen; Decreasing Total Phosphorus, Fecal Coliform	Increasing BOD_5, pH
		RS-05584		
		MD-119	Decreasing Total Phosphorus, Total Nitrogen	Increasing pH, Turbidity
	South Edisto River	RO-036043		
		MD-244	Decreasing Total Nitrogen	Increasing BOD_5, Total Phosphorus; Decreasing pH
		RO-06311		
	Scott Creek	RT-052105		
	Pine Island Creek	RT-06007		

Table 1. Fully Supported Sites in the Edisto River Basin 2002-2006

***** = Station not evaluated for Recreational Support; TD=TMDL Developed; TI=TMDL Implementation; TI*=TMDL Implementation after 2006; Trend Data 1992-2006

Watershed	Waterbody Name	Station #	Improving Trends	Other Trends
03050206-04	Younges Island Creek	MD-261	Decreasing Total Nitrogen	
	Wadmalaw River Tributary	RT-042075		
	Wadmalaw River	RO-036039		
		RO-056091		
	Sand Creek	RT-02021		
	Westbank Creek	RO-02013		
	Leadenwah Creek Tributary	RT-042077		
	Leadenwah Creek	RO-06315		
	North Edisto River	MD-262	Decreasing Total Nitrogen	
	Adams Creek	RT-052095		
	Bohicket Creek	MD-210		
	Ocella Creek	RO-056093		

Table 2. Impaired Sites in the Edisto River Basin 2002-2006

REC=Recreational; AL=Aquatic Life; DW= Drinking Water; PS=Partially Supported Standards; NS=Nonsupported Standards; *=Station not evaluated for Recreational Support; TD=TMDL Developed; TI=TMDL Implementation; TI*=TMDL Implementation after 2006; Trend Data 1992-2006

Watershed	Waterbody Name	Station #	Use	Status	Water Quality Indicator	Improving Trends	Other Trends
03050203-01	Chinquapin Creek	E-091 [TD]	REC	NS	Fecal Coliform	Decreasing Turbidity	Decreasing Dissolved Oxygen
		E-606	AL	PS	Macroinvertebrates		
	Lightwood Knot Creek	E-101	REC	NS	Fecal Coliform	Decreasing Turbidity	Increasing pH; Decreasing Dissolved Oxygen
	North Fork Edisto River	E-084[TD]	AL	PS	Ammonia	Decreasing Turbidity, Total Phosphorus	Increasing BOD_5
		E-102 [TD]	REC	PS	Fecal Coliform		Increasing BOD_5; Decreasing pH
03050203-02	North Fork Edisto River	E-092	REC	PS	Fecal Coliform	Decreasing Turbidity	Increasing BOD_5; Decreasing pH
	Bull Swamp Creek	E-034	AL	NS	Dissolved Oxygen		Increasing BOD_5; Decreasing pH
		E-035	REC	PS	Fecal Coliform	Decreasing Turbidity, Total Phosphorus	
03050203-03	North Fork Edisto River	E-099	REC	PS	Fecal Coliform	Decreasing Turbidity, Total Phosphorus, Fecal Coliform	Increasing BOD_5; Decreasing pH
		E-007	AL	NS	pH	Decreasing Turbidity, Total Nitrogen	Increasing BOD_5; Decreasing pH
		E-007B	REC	PS	Fecal Coliform	Decreasing Turbidity, Total Phosphorus	Increasing BOD_5; Decreasing pH
		E-008	REC	PS	Fecal Coliform	Decreasing Turbidity, Total Phosphorus	Increasing BOD_5; Decreasing pH
	Caw Caw Swamp	E-105	REC	PS	Fecal Coliform	Decreasing Turbidity	Increasing BOD_5

Table 2. Impaired Sites in the Edisto River Basin 2002-2006

REC=Recreational; AL=Aquatic Life; DW= Drinking Water; PS=Partially Supported Standards; NS=Nonsupported Standards; *=Station not evaluated for Recreational Support; TD=TMDL Developed; TI=TMDL Implementation; TI*=TMDL Implementation after 2006; Trend Data 1992-2006

Watershed	Waterbody Name	Station #	Use	Status	Water Quality Indicator	Improving Trends	Other Trends
03050204-01	South Fork Edisto River	E-002 TD	REC	NS	Fecal Coliform	Decreasing Turbidity	Increasing Fecal Coliform
		E-113	REC	PS	Fecal Coliform		
	Hillyer Branch	RS-03344	AL	NS	Macroinvertebrates pH		
	Shaw Creek	E-094	AL	NS	pH	Decreasing Turbidity	Increasing $BOD_{5;}$ Decreasing pH
03050204-03	Goodland Creek	E-036 TD	REC	PS	Fecal Coliform	Decreasing Turbidity, Total Phosphorus	Increasing $BOD_{5,}$ Fecal Coliform; Decreasing pH
	Windy Hill Creek	E-029*	AL	PS	Macroinvertebrates		
	Roberts Swamp	E-039 TD	REC	NS	Fecal Coliform	Decreasing Total Phosphorus, Total Nitrogen	
03050205-01	Gramling Creek	E-022 TD	REC	NS	Fecal Coliform	Decreasing Turbidity	Decreasing Dissolved Oxygen
	Little Bull Creek	E-076 TD	AL	NS	pH	Decreasing Turbidity	Decreasing Dissolved Oxygen, pH
			REC	NS	Fecal Coliform		
	Little Bull Swamp	E-589*	AL	PS	Macroinvertebrates		
	Four Hole Swamp	E-059 TD	REC	NS	Fecal Coliform	Decreasing Turbidity, Total Nitrogen	Increasing BOD_5
		E-111	REC	PS	Fecal Coliform	Decreasing Turbidity, Total Phosphorus	
	Four Hole Swamp Tributary	RS-04537	AL	PS	Macroinvertebrates		
			REC	NS	Fecal Coliform		
	Cow Castle Creek	E-050 TD	REC	NS	Fecal Coliform		Increasing pH

Table 2. Impaired Sites in the Edisto River Basin 2002-2006

REC=Recreational; AL=Aquatic Life; DW= Drinking Water; PS=Partially Supported Standards; NS=Nonsupported Standards; *=Station not evaluated for Recreational Support; TD=TMDL Developed; TI=TMDL Implementation; TI*=TMDL Implementation after 2006; Trend Data 1992-2006

Watershed	Waterbody Name	Station #	Use	Status	Water Quality Indicator	Improving Trends	Other Trends
03050205-02	Dean Swamp	E-030	REC	PS	Fecal Coliform	Decreasing Total Phosphorus, Total Nitrogen	Increasing pH, Fecal Coliform
03050205-03	Providence Swamp	E-051 TD	AL	NS	Dissolved Oxygen, Copper	Decreasing Turbidity, Total Phosphorus	Increasing BOD_5
			REC	PS	Fecal Coliform		
	Horse Range Swamp	RS-02303	REC	NS	Fecal Coliform		
		E-052 TD	REC	PS	Fecal Coliform		Increasing BOD_5
	Four Hole Swamp	E-112	AL	NS	Dissolved Oxygen	Decreasing Turbidity	Increasing pH
		E-100	REC	PS	Fecal Coliform		Increasing pH
03050206-01	Edisto River	E-013	REC	PS	Fecal Coliform	Decreasing Turbidity, Total Nitrogen	Increasing BOD_5, Decreasing pH
		RS-06180	REC	PS	Fecal Coliform		
	Cattle Creek	E-108 TD	REC	NS	Fecal Coliform	Increasing Dissolved Oxygen; Decreasing Turbidity	
03050206-02	Gum Branch	RS-05572	REC	NS	Fecal Coliform		
	Indian Field Swamp	E-032 TD	AL	PS	Dissolved Oxygen		Increasing pH
			REC	PS	Fecal Coliform		
	Polk Swamp	E-016 TD	AL	NS	Dissolved Oxygen	Decreasing Total Nitrogen	Decreasing Dissolved Oxygen
		E-109 TD	REC	PS	Fecal Coliform	Decreasing BOD_5, Turbidity	Increasing pH
03050206-03	South Edisto River	MD-260	AL	NS	Turbidity, Copper		

Table 2. Impaired Sites in the Edisto River Basin 2002-2006

REC=Recreational; AL=Aquatic Life; DW= Drinking Water; PS=Partially Supported Standards; NS=Nonsupported Standards; *=Station not evaluated for Recreational Support; TD=TMDL Developed; TI=TMDL Implementation; TI*=TMDL Implementation after 2006; Trend Data 1992-2006

Watershed	Waterbody Name	Station #	Use	Status	Water Quality Indicator	Improving Trends	Other Trends
	Pine Island Creek Tributary	RT-02019	AL	NS	Copper		
03050206-04	Church Creek	MD-195	AL	PS	Dissolved Oxygen	Increasing Dissolved Oxygen; Decreasing Total Nitrogen	Increasing pH
	Fishing Creek	RT-02005	AL	NS	Turbidity		
	Dawho River	MD-120	AL	NS	Dissolved Oxygen	Decreasing Total Nitrogen, Fecal Coliform	Increasing $BOD_{5,}$ pH
	Bohicket Creek	RO-036041	AL	NS	Dissolved Oxygen		
		MD-209	AL	NS	Dissolved Oxygen	Decreasing Total Nitrogen	Increasing $BOD_{5,}$ Turbidity; Decreasing pH

Table 3. Changes in Use Support Status

Edisto River Basin Sites that Improved from 2002 to 2006

REC= Recreational; AL=Aquatic Life; FS=Fully Supported Standards; PS=Partially Supported Standards; NS=Nonsupported Standards; TD=TMDL Developed; TI=TMDL Implementation; TI*=TMDL Implementation after 2006

Watershed	Waterbody Name	Station #	Use	Status		Water Quality Indicator	
				2002	2006	2002	2006
03050203-03	North Fork Edisto River	E-007A	REC	PS	FS	Fecal Coliform	
		E-007C	AL	NS	FS	pH	
03050204-03	Goodland Creek	E-036[TD]	REC	NS	PS	Fecal Coliform	Fecal Coliform
	Roberts Swamp	E-039 [TD]	AL	PS	FS	Macroinvertebrates	
03050205-01	Gramling Creek	E-022 [TD]	AL	NS	FS	Dissolved Oxygen	
	Four Hole Swamp	E-111	AL	NS	FS	Dissolved Oxygen	
03050205-03	Four Hole Swamp	E-100	AL	PS	FS	Chromium	
03050206-02	Polk Swamp	E-016 [TD]	REC	NS	FS	Fecal Coliform	
		E-109 [TD]	AL	NS	FS	Dissolved Oxygen	
03050206-04	Church Creek	MD-195	AL	NS	PS	Dissolved Oxygen	Dissolved Oxygen
	Younges Island Creek	MD-261	AL	NS	FS	Turbidity	

Table 4. Changes in Use Support Status

Edisto River Basin Sites that Degraded from 2002 to 2006

REC= Recreational; AL=Aquatic Life; FS=Fully Supported Standards; PS=Partially Supported Standards; NS=Nonsupported Standards; TD=TMDL Developed; TI=TMDL Implementation; TI*=TMDL Implementation after 2006

Watershed	Waterbody Name	Station #	Use	Status		Water Quality Indicator	
				2002	2006	2002	2006
03050203-01	Lightwood Knot Creek	E-101	REC	FS	NS		Fecal Coliform
	North Fork Edisto River	E-084 TD	AL	FS	PS		Ammonia
		E-102 TD	REC	FS	PS		Fecal Coliform
03050203-02	North Fork Edisto River	E-092	REC	FS	PS		Fecal Coliform
	Bull Swamp Creek	E-035	REC	FS	PS		Fecal Coliform
03050203-03	Caw Caw Swamp	E-105	REC	FS	PS		Fecal Coliform
	North Fork Edisto River	E-007B	REC	FS	PS		Fecal Coliform
		E-008	REC	FS	PS		Fecal Coliform
03050204-01	South Fork Edisto River	E-002 TD	REC	FS	NS		Fecal Coliform
		E-113	REC	FS	PS		Fecal Coliform
03050204-03	Roberts Swamp	E-039 TD	REC	FS	NS		Fecal Coliform
03050205-01	Little Bull Creek	E-076 TD	REC	PS	NS	Fecal Coliform	Fecal Coliform
	Four Hole Swamp	E-059 TD	REC	PS	NS	Fecal Coliform	Fecal Coliform
	Cow Castle Creek	E-050 TD	REC	PS	NS	Fecal Coliform	Fecal Coliform
03050205-02	Dean Swamp	E-030	REC	FS	PS		Fecal Coliform
03050205-03	Providence Swamp	E-051 TD	AL	PS	NS	Dissolved Oxygen	Dissolved Oxygen, Copper
			REC	FS	PS		Fecal Coliform
03050206-01	Edisto River	E-013	REC	FS	PS		Fecal Coliform
	Cattle Creek	E-108 TD	REC	PS	NS	Fecal Coliform	Fecal Coliform
03050206-03	South Edisto River	MD-260	AL	FS	NS		Turbidity, Copper

Introduction

The South Carolina Department of Health and Environmental Control (SCDHEC or the Department) initiated its first watershed planning activities as a result of a U.S. Environmental Protection Agency (USEPA) grant in June of 1972. These activities were soon extended by requirements for a Continuing Planning Process under §303(e), "Federal Water Pollution Control Act Amendments of 1972," U.S. Public Law 92-500. In 1975, the SCDHEC published basin-planning reports for the four major basins in South Carolina. A related planning activity resulted from §208 of the Federal Water Pollution Control Act, which required states to prepare planning documents on an areawide basis. The Continuing Planning Process, watershed assessments, and 208 plans are elements of South Carolina's overall water quality management plan. In 1992, SCDHEC's Bureau of Water initiated its Watershed Water Quality Management program to better coordinate river basin planning and water quality management. Watershed-based management allows the Department to address Congressional and Legislative mandates in a coordinated manner and to better utilize current resources. The watershed approach also improves communication between the Department, the regulated community, and the public on existing and future water quality issues.

Purpose of the Watershed Water Quality Assessment

A watershed is a geographic area into which the surrounding waters, sediments, and dissolved materials drain, and whose boundaries extend along surrounding topographic ridges. Watershed-based water quality management recognizes the interdependence of water quality related activities associated with a drainage basin including: monitoring, problem identification and prioritization, water quality modeling, planning, permitting, and other activities. The Bureau of Water's watershed approach integrates these and other activities by watershed, resulting in appropriately focused water quality protection efforts. While an important aspect of the program is water quality problem identification and solution, the emphasis is on problem prevention.

The Department has divided the State into five regions (areas consisting of one or more river basins), along hydrologic lines, which contain approximately the same number of NPDES permitted dischargers. A Watershed Water Quality Assessment (WWQA) will be created for each major river basin within the five regions and will be updated on a five-year rotational basis. This will allow for effective allocation and coordination of water quality activities and efficient use of available resources. The Edisto River Basin is subdivided into 13 watersheds or hydrologic units, all within South Carolina, and includes the South Fork Edisto River Basin, the North Fork Edisto River Basin, Four Hole Swamp Basin, and the Edisto River Basin.

The hydrologic units are based on the National Watershed Boundary dataset using the 8-, 10-, 12-Digit Hydrologic Unit Codes for South Carolina. All water quality related evaluations for the Edisto River Basin are described at the 10-digit watershed level. The stream names used are derived from USGS topographic maps. The National Hydrography Dataset (NHD) served as the basemap for streams and lakes. The dataset was used to calculate stream length estimates, and lake acreages. NHD is the digital database of the USGS 1:24,000 scale hydrography, integrated with reach (stream) related information from the USEPA. Based on the blue line streams of the USGS topographic maps, it is likely that portions

of the stream network in terms of perennial, intermittent, and ephemeral streams are not accurately represented.

The watershed-based assessments fulfill a number of USEPA reporting requirements including various activities under §303(d), §305(b), §314, and §319 of the Clean Water Act (CWA). Section 303(d) requires a listing of waters located within a watershed that do not meet applicable water quality standards. Section 305(b) requires that the State biennially submit a report that includes a water quality description and analysis of all navigable waters to estimate environmental impacts. Section 314 requires that the State submit a biennial report that identifies, classifies, describes, and assesses the status and trends in water quality of publicly owned lakes. The watershed plan is also a logical evaluation, prioritization, and implementation tool for nonpoint source (§319) requirements. Nonpoint source best management practices (BMPs) can be selected by identifying water quality impairments and necessary controls, while considering all the activities occurring in the drainage basin.

The assessment also allows for more efficient issuance of National Pollutant Discharge Elimination System (NPDES) and State wastewater discharge permits. Proposed permit issuances within a watershed may be consolidated and presented to the public in groups, rather than one at a time, allowing the Department to realize a resource savings and the public to realize an information advantage.

The Watershed Water Quality Assessment (WWQA) is a geographically based document that describes, at the watershed level, water quality related activities that may potentially have an adverse impact on water quality. The Watershed Implementation Staff investigates the impaired streams mentioned in the WWQA to determine, where possible, the source of the impairment and recommends solutions to correct the problems. As part of this effort, the watershed staff is forging partnerships with various federal and state agencies, local governments, and community groups. In particular, the Department's Watershed Program and the NRCS (Natural Resources Conservation Service) district offices are working together to address some of the nonpoint source (NPS) concerns in the basin. By combining NRCS's local knowledge of land use and the Department's knowledge of water quality, we are able to build upon NRCS's close relationships with landowners and determine where NPS projects are needed. These projects may include educational campaigns or special water quality studies.

Factors Assessed in Watershed Evaluations

Surface Water Quality

SCDHEC's Bureau of Water and Bureau of Environmental Services work to ensure that the water in South Carolina is safe for drinking and recreation, and that it is suitable to support and maintain aquatic flora and fauna. Functions include planning, permitting, compliance assurance, enforcement, and monitoring. This section provides an overview of water quality evaluation and protection activities.

Monitoring

In an effort to evaluate the State's water quality, the Department operates and collects data from a statewide network of ambient monitoring sites. The ambient monitoring network is directed toward determining long-term water quality trends, assessing attainment of water quality standards, identifying locations in need of additional attention, and providing background data for planning and evaluating stream classifications and standards.

Ambient monitoring data are also used in the process of formulating permit limits for wastewater discharges with the goal of maintaining State and Federal water quality standards and criteria in the receiving streams in accordance with the goals of the Clean Water Act. These standards and criteria define the instream chemical concentrations that provide for protection and reproduction of aquatic flora and fauna, help determine support of the classified uses of each waterbody, and serve as instream limits for the regulation of wastewater discharges or other activities. In addition, by comparing the ambient monitoring network data to the State Water Quality Standards, these data are used in the preparation of the biennial §305(b) report to Congress, which provides a general summary of statewide water quality, and the §303(d) list of impaired waters with respect to attainment of classified uses.

There are several major components to SCDHEC's ambient surface water quality monitoring activities, including ongoing fixed-location monitoring, cyclic watershed monitoring, and statewide probability-based monitoring, each designed to provide data for water quality assessment of major water resource types at different spatial and temporal scales. In addition to sites sampled specifically as part of the cyclical watershed activities (W), the ambient surface water quality monitoring program includes several different monitoring station types: Integrator (INT), Special Purpose (SPRP), Summer-Only (SUMM), Random Stream for year ## (RS##), Random Lake for year ## (RL##), Random Tide Creek for year ## (RT##), Random Open Water for year ## (RO##), biological (BIO) stations. Special Study Sites (SSS) are designed to investigate specific activities at a station.

Integrator Sites are fixed-location sites sampled on a monthly basis, year-round, every year, and target the furthest downstream access of each of the 10-digit watershed units in the state, as well as the major waterbodies that occur within these watershed units. Special Purpose Sites are also

permanent, monthly, year-round, fixed-location sites, but represent locations of special interest to the Department that do not meet the location criteria of Integrator Sites.

Summer-Only stations are sampled monthly from May through October, a period critical to aquatic life, and characterized by higher water temperatures and lower flows. There are very few Summer-Only Sites as they are intended to track specific reservoir eutrophication concerns.

Watershed stations are sampled on a monthly basis, year-round, during a basin's target year. Watershed stations are located to provide more complete and representative coverage within the larger drainage basin, and to identify additional monitoring needs. Watershed stations have the same parameter coverage as Integrator Sites. Watershed stations are locations with extensive historic monitoring data (e.g. primary or secondary monitoring sites under the previous design). Changes in water quality can be identified by comparison of the new data to the historic data.

A statewide Probability-Based, or random sampling, component is part of the monitoring design. A probability-based monitoring design is a type of a survey design in which the population of interest is sampled in a fashion that allows statements to be made about the whole population based on a subsample, and produces an estimate of the accuracy of the assessment results. The advantage of the probability-based sampling design is that statistically valid statements about water quality can be made about large areas based on a relatively small subsample. Separate monitoring schemes have been developed for stream, lake/reservoir, and estuarine resources. Each year a new statewide set of probability-based random sites is selected for each waterbody type. Random Sites are sampled on a monthly basis for one year with the same parameter coverage as Integrator Sites. The data from those Random Sites located within this basin are included in this assessment.

Ambient biological trend monitoring is conducted to collect data to indicate general biological conditions of State waters that may be subject to a variety of point and nonpoint source impacts. Ambient biological sampling is also used to establish regional reference or "least impacted" sites from which to make comparisons in future monitoring. Additionally, special macroinvertebrate studies, in which stream specific comparisons among stations located upstream and downstream from a known discharge or nonpoint source area, are used to assess impact.

Qualitative sampling of macroinvertebrate communities is the primary bioassessment technique used in ambient biological trend monitoring. A habitat assessment of general stream habitat availability and a substrate characterization is conducted at each site. Annual ambient biological monitoring is conducted during low flow "worst case" conditions in July - September. Some coastal plain streams that have no flow conditions in the summer months may be sampled in the winter (January-March). This technique may also be used in special studies for the purpose of determining if, and to what extent, a wastewater discharge or nonpoint source runoff is impacting the receiving stream. A minimum of two sample locations, one upstream and one downstream from a discharge or runoff area, is collected. At least one downstream recovery station is also established when appropriate. Sampling methodology follows procedures described in Standard Operating Procedures, Biological Monitoring. Only sites described as 'BIO' will collect information on the macroinvertebrate communities used in the ambient biological trend monitoring.

Many pollutants may be components of point source discharges, but may be discharged in a discontinuous manner, or at such low concentrations that water column sampling for them is impractical. Some pollutants are also common in nonpoint source runoff, reaching waterways only after a heavy rainfall; therefore, in these situations, the best media for the detection of these chemicals are sediment and fish tissue where they may accumulate over time. Their impact may also affect the macroinvertebrate community.

The ambient monitoring program has the capability of sampling a wide range of media and analyzing them for the presence or effects of contaminants. Ambient monitoring data (2002-2006) and trend data (1992- 2006) from 93 stations were reviewed for the Edisto River Basin.

Natural Swimming Areas

Although all waters of the State are protected for swimming, some areas are more popular than others and may require closer monitoring. Currently monitored areas are located and discussed in the appropriate watershed evaluations.

Classified Waters, Standards, and Natural Conditions

The waters of the State have been classified in regulation based on the desired uses of each waterbody. The South Carolina water quality standards are promulgated in S.C. Regulation 61-68, *Water Classifications and Standards*. S.C. Regulation 61-69, *Classified Waters,* is a compilation of many of the waters of the State listed by name, the county(ies) where the waterbody is located, the classification of the waterbody and any designation for that waterbody, and a brief description of the waterbody and any site-specific numeric criteria that apply to the listed waterbody. State standards for various parameters have been established to protect all uses within each classification. The water-use classifications that apply to this basin are as follows.

Class ORW, or "outstanding resource waters", are freshwaters or saltwaters that constitute an outstanding recreational or ecological resource, or those freshwaters suitable as a source for drinking water supply purposes, with treatment levels specified by the Department.

Class FW, or "freshwaters", are freshwaters that are suitable for primary and secondary contact recreation and as a source for drinking water supply, after conventional treatment, in accordance with the requirements of the Department. These waters are suitable for fishing, and the survival and propagation of a balanced indigenous aquatic community of fauna and flora. This class is also suitable for industrial and agricultural uses.

Class SA comprises "tidal saltwaters" suitable for primary and secondary contact recreation, crabbing and fishing. These waters are not protected for harvesting of clams, mussels, or oysters for market purposes or human consumption. The waters are suitable for the survival and propagation of a balanced indigenous aquatic community of marine fauna and flora.

Class SB are "tidal saltwaters" suitable for the same uses listed in SA. The difference between the Class SA and SB saltwater concerns the DO limitations. Class SA waters must maintain daily DO averages not less than 5.0 mg/l, with a minimum of 4.0 mg/l, and Class SB waters maintain DO levels not less than 4.0 mg/l.

Class GB, or "groundwaters", include all groundwaters of the State, unless classified otherwise, which meet the definition of underground sources of drinking water.

Site specific numeric standards (*) for surface waters may be established by the Department to replace the numeric standards found in Regulation 61-68 or to add new standards not contained in R.61-68. Establishment of such standards shall be subject to public participation and administrative procedures for adopting regulations. In addition, such site specific numeric standards shall not apply to tributary or downstream waters unless specifically described in the water classification listing in R.61-69.

The standards are used as instream water quality goals to maintain and improve water quality and also serve as the foundation of the Bureau of Water's program. They are used to determine permit limits for treated wastewater dischargers and any other activities that may impact water quality. Using mathematical Wasteload Allocation Models, the impact of a wastewater discharge on a receiving stream is predicted under critical conditions following R.61-68. These predictions are then used to set limits for different pollutants on the National Pollutant Discharge Elimination System (NPDES) permits issued by the Department. The NPDES permit limits are set so that, as long as a permittee (wastewater discharger) meets the established permit limits, the discharge should not cause a standards violation in the receiving stream. All discharges to the waters of the State are required to have an NPDES permit and must abide by those limits, under penalty of law.

Classifications are based on desired uses, not on natural or existing water quality, and are a legal means to obtain the necessary treatment of discharged wastewater to protect designated uses. Actual water quality may not have a bearing on a waterbody's classification. A waterbody may be reclassified if desired or existing public uses justify the reclassification and the water quality necessary to protect these uses is attainable. A classification change is an amendment to a State regulation and requires public participation, SCDHEC Board approval, and General Assembly approval.

Natural conditions may prevent a waterbody from meeting the water quality goals as set forth in the standards. The fact that a waterbody does not meet the specified numeric standards for a particular classification does not mean the waterbody is polluted or of poor quality. Certain types of waterbodies (i.e. swamps, lakes, tidal creeks) may naturally have water quality lower than the numeric standards. A waterbody can have water quality conditions below standards due to natural causes and still meet its use classification. A site specific numeric standard may be established by the Department after being subjected to public participation and administrative procedures for adopting regulations. Site specific numeric standards apply only to the stream segment described in the water classification listing, not to tributaries or downstream unspecified waters.

Water Quality Indicators

Water quality data are used to describe the condition of a waterbody, to help understand why that condition exists, and to provide some clues as to how it may be improved. Water quality indicators include physical, chemical, and biological measurements. The current State of S.C. Monitoring Strategy describes what parameters are sampled, where they are sampled, and how frequently. It is available on our website at www.scdhec.gov/environment/water/docs/strategy.pdf .

MACROINVERTEBRATE COMMUNITY

Macroinvertebrates are aquatic insects and other aquatic invertebrates associated with the substrates of waterbodies (including, but not limited to, streams, rivers, tidal creeks, and estuaries). Macroinvertebrates can be useful indicators of water quality because these communities respond to integrated stresses over time that reflect fluctuating environmental conditions. Community responses to various pollutants (i.e. organic, toxic, and sediment) may be assessed through interpretation of diversity, known organism tolerances, and in some cases, relative abundances and feeding types.

FISH TISSUE

Many pollutants occur in such low concentrations in the water column that they are usually below analytical detection limits. Over time many of these chemicals may accumulate in fish tissue to levels that are easily measured. By analyzing fish tissue it is possible to see what pollutants may be present in waterbodies at very low levels. This information can also be used to determine if consumption of the fish poses any undue human health concerns and to calculate consumption rates that are safe.

DISSOLVED OXYGEN

Oxygen is essential for the survival and propagation of aquatic organisms. If the amount of oxygen dissolved in water falls below the minimum requirements for survival, aquatic organisms or their eggs and larvae may die. A severe example is a fish kill. Dissolved oxygen (DO) varies greatly due to natural phenomena, resulting in daily and seasonal cycles. Different forms of pollution also can cause declines in DO.

Changes in DO levels can result from temperature changes or the activity of plants and other organisms present in a waterbody. The natural diurnal (daily) cycle of DO concentration is well documented. Dissolved oxygen concentrations are generally lowest in the morning, climbing throughout the day due to photosynthesis and peaking near dusk, then steadily declining during the hours of darkness.

There is also a seasonal DO cycle in which concentrations are greater in the colder, winter months and lower in the warmer, summer months. Streamflow (in freshwater) is generally lower during the summer and fall, and greatly affects flushing, reaeration, and the extent of saltwater intrusion, all of which affect dissolved oxygen values.

BIOCHEMICAL OXYGEN DEMAND

Five-day biochemical oxygen demand (BOD_5) is a measure of the amount of dissolved oxygen consumed by the decomposition of carbonaceous and nitrogenous matter in water over a five-day period. The BOD_5 test indicates the amount of biologically oxidizable carbon and nitrogen that is present in wastewater or in natural water. Matter containing carbon or nitrogen uses dissolved oxygen from the water as it decomposes, which can result in a dissolved oxygen decline. The quantity of BOD_5 discharged by point sources is limited through the National Pollutant Discharge Elimination System (NPDES) permits issued by the Department. The discharge of BOD_5 from a point source is restricted by the permits so as to maintain the applicable dissolved oxygen standard.

pH

pH is a measure of the hydrogen ion concentration of water, and is used to indicate degree of acidity. The pH scale ranges from 0 to 14 standard units (SU). A pH of 7 is considered neutral, with values less than 7 being acidic, and values greater than 7 being basic.

Low pH values are found in natural waters rich in dissolved organic matter, especially in Coastal Plain swamps and black water rivers. The tannic acid released from the decomposition of vegetation causes the tea coloration of the water and low pH. High pH values in lakes during warmer months are associated with high phytoplankton (algae) densities. The relationship between phytoplankton and daily pH cycles is well established. Photosynthesis by phytoplankton consumes carbon dioxide during the day, which results in a rise in pH. In the dark, phytoplankton respiration releases carbon dioxide. In productive lakes, carbon dioxide decreases to very low levels, causing the pH to rise to 9-10 SU.

FECAL COLIFORM BACTERIA

Fecal coliform bacteria are present in the digestive tract and feces of all warm-blooded animals, including humans, poultry, livestock, and wild animal species. Fecal coliform bacteria are themselves generally not harmful, but their presence indicates that surface waters may contain pathogenic microbes. Diseases that can be transmitted to humans through water contaminated by improperly treated human or animal waste are the primary concern. At present, it is difficult to distinguish between waters contaminated by animal waste and those contaminated by human waste.

Public health studies have established correlations between fecal coliform numbers in recreational and drinking waters and the risk of adverse health effects. Based on these relationships, the USEPA and SCDHEC have developed enforceable standards for surface waters to protect against adverse health effects from various recreational or drinking water uses. Proper waste disposal or sewage treatment prior to discharge to surface waters minimizes this type of pollution.

NUTRIENTS

Oxygen demanding materials and plant nutrients are common substances discharged to the environment by man's activities, through wastewater facilities and by agricultural, residential, and stormwater runoff. The most important plant nutrients, in terms of water quality, are phosphorus and nitrogen. In general, increasing nutrient concentrations are undesirable due to the potential for accelerated growth of aquatic plants, including algae.

The forms of nitrogen routinely analyzed at SCDHEC stations are ammonia and ammonium nitrogen (NH_3/NH_4), total Kjeldahl nitrogen (TKN), and nitrite and nitrate nitrogen (NO_2/NO_3). Ammonia and ammonium are readily used by plants. TKN is a measure of organic nitrogen and ammonia in a sample. Nitrate is the product of aerobic transformation of ammonia, and is the most common form used by aquatic plants. Nitrite is usually not present in significant amounts. Total nitrogen is the sum of TKN and NO_2/NO_3.

Total phosphorus (TP) is commonly measured to determine phosphorus concentrations in surface waters. TP includes all of the various forms of phosphorus (organic, inorganic, dissolved, and particulate) present in a sample.

CHLOROPHYLL *a*

Nuisance plant growth can create imbalances in the aquatic community, as well as aesthetic and access issues. Invasive growth of rooted aquatic vegetation can clog boat motors and create disagreeable conditions for swimming and water skiing. High densities of microscopic algae (phytoplankton) can cause wide fluctuations in pH and dissolved oxygen, and can cause undesirable shifts in the composition of aquatic life, or even fish kills. Chlorophyll *a* is a dominant photosynthetic pigment in plants and is used as an indicator of the density of phytoplankton in the water column. The process of cultural eutrophication, from increased plant nutrients, is particularly noticeable in lakes. Continuous flushing in streams prevents the development of significant phytoplankton populations and the resultant chemical changes in water quality.

TURBIDITY

Turbidity is an expression of the scattering and absorption of light through water. The presence of clay, silt, fine organic and inorganic matter, soluble colored organic compounds, and plankton and other microscopic organisms increases turbidity. Increasing turbidity can be an indication of increased runoff from land. It is an important consideration for drinking water as finished water has turbidity limits.

TOTAL SUSPENDED SOLIDS

Total Suspended Solids (TSS) are the suspended organic and inorganic particulate matter in water. Although increasing TSS can also be an indication of increased runoff from land, TSS differs from turbidity in that it is a measure of the mass of material in, rather than light transmittance

through, a water sample. High TSS can adversely impact fish and fish food populations and damage invertebrate populations. There are no explicit State standards for TSS.

HEAVY METALS

Concentrations of cadmium, chromium, copper, lead, mercury, and nickel in water are routinely measured by the Department to compare to State standards intended to protect aquatic life and human health. These metals occur naturally in the environment, and many are essential trace elements for plants and animals. Human activities, such as land use changes and industrial and agricultural processes have resulted in an increased flux of metals from land to water. Atmospheric inputs are also recognized as important sources of metals to aquatic systems. Metals are released to the atmosphere from the burning of fossil fuels (coal, oil, gasoline), wastes (medical, industrial, municipal), and organic materials. The metals are then deposited on land and in waterways from the atmosphere via rainfall and attached to particulates (dry deposition).

Assessment Methodology

The Watershed Water Quality Assessment is a geographically-based document that describes, at the watershed level, water quality as well as conditions and activities related to water quality. This section provides an explanation of the information assessment methodology used to generate the watershed-level summaries. Water quality data summaries used in this assessment are presented in Appendix A.

USE SUPPORT DETERMINATION

Physical, chemical and biological data were evaluated, as described below, to determine if water quality met the water quality criteria established to protect the State classified uses defined in S.C. Regulation 61-68, *Water Classifications and Standards*. Some waters may exhibit characteristics outside the appropriate criteria due to natural conditions. Such natural conditions do not constitute a violation of the water quality criteria. To determine the appropriate classified uses and water quality criteria for specific waterbodies and locations, refer to S.C. Regulation 61-69, *Classified Waters*, in conjunction with S.C. Regulation 61-68.

At the majority of SCDHEC's surface water monitoring stations, samples for analysis are collected as surface grabs once per month, quarter, or year, depending on the parameter. Grab samples collected at a depth of 0.3 meters are considered to be a surface measurement. For the purpose of assessment, only surface samples are used in standards comparisons and trend assessments. Because of the inability to target individual high or low flow events on a statewide basis these data are considered to represent typical physical conditions and chemical concentrations in the waterbodies sampled. All water and sediment samples are collected and analyzed according to standard procedures (SCDHEC 1997, 2001).

Results from water quality samples can be compared to State and USEPA criteria, with some restrictions due to time of collection and sampling frequency. For certain parameters, the monthly

sampling frequency employed in the ambient monitoring network is insufficient for strict interpretation of the standards. The USEPA does not define the sampling method or frequency other than indicating that it should be "representative." The grab sample method is considered to be representative for the purpose of indicating excursions relative to criteria, within certain considerations. A single grab sample is more representative of a one-hour average than a four-day average, more representative of a one-day average than a one-month average, and so on; thus, when inferences are drawn from grab samples relative to criteria, sampling frequency and the intent of the criteria must be weighed. When the sampling method or frequency does not agree with the intent of the particular criterion, any conclusion about water quality should be considered as only an indication of conditions, not as a proven circumstance.

Macroinvertebrate community structure is analyzed routinely, at selected stations, as a means of detecting adverse biological impacts on the aquatic fauna of the state's waters due to water quality conditions that may not be readily detectable in the water column chemistry.

This water quality assessment is based on the last complete five years of available quality assured physical, chemical, and biological data ***(2002 - 2006).***

AQUATIC LIFE USE SUPPORT

One important goal of the Clean Water Act, the South Carolina Pollution Control Act, and the State Water Quality Classifications and Standards is to maintain the quality of surface waters to provide for the survival and propagation of a balanced indigenous aquatic community of fauna and flora. The degree to which aquatic life is protected (Aquatic Life Use Support) is assessed by comparing important water quality characteristics and the concentrations of potentially toxic pollutants with numeric criteria.

Support of aquatic life uses is determined based on the percentage of numeric criteria excursions and, where data are available, the composition and functional integrity of the biological community. The term excursion is used to describe a measured pollutant concentration that is outside of the acceptable range as defined by the appropriate criterion. Some waters may exhibit characteristics outside the appropriate criteria due to natural conditions. Such natural conditions do not constitute a violation of the water quality criteria. A number of waterbodies have been given waterbody-specific criteria for pH and dissolved oxygen, which reflect natural conditions. To determine the appropriate numeric criteria and classified uses for specific waterbodies and locations, please refer to S.C. Regulation 61-68, *Water Classifications and Standards* and S.C. Regulation 61-69, *Classified Waters*.

If the appropriate criterion for **dissolved oxygen and pH** are contravened in 10 percent or less of the samples, the criterion is said to be fully supported. If the percentage of criterion excursions is greater than 10 percent, but less than or equal to 25 percent, the criterion is partially supported, unless excursions are due to natural conditions. If there are more than 25 percent excursions, the criterion is not supported, unless excursions are due to natural conditions. The decision that criteria excursions are due to natural conditions is determined by consensus and/or the professional judgment of SCDHEC staff with specific local knowledge.

If the appropriate acute or chronic aquatic life criterion for any individual **toxicant** (**heavy metals, priority pollutants, ammonia**) is exceeded more than once, representing more than 10 percent of the samples collected, the criterion is not supported. If the acute or chronic aquatic life criterion is exceeded more than once, but in less than or equal to 10 percent of the samples, the criterion is partially supported.

The total recoverable metals criteria for **heavy metals** are adjusted to account for solids partitioning following the approach set forth in the Office of Water Policy and Technical Guidance on Interpretation and Implementation of Aquatic Life Metals Criteria, October 1, 1993, by Martha G. Prothro, Acting Assistant Administrator for Water, available from the Water Resource center, USEPA, 401 M St., SW, mail code RC4100, Washington, DC 20460; and 40CFR131.36(b)(1). Under this approach, a default TSS value of 1 mg/L is used. Where the metals criteria are hardness based, a default value of 25 mg/L is used for waters where hardness is 25 mg/l or less.

The calculation of the appropriate criterion value for **ammonia** requires the values of several associated field parameters measured concurrent with the ammonia sample collection. Where direct measurements of any of the parameters are lacking the ammonia value will not be used to determine compliance with the standards.

If the appropriate criterion for **turbidity** in all waters, and for waters with **numeric total phosphorus, total nitrogen, and chlorophyll-a** criteria is exceeded in more than 25 percent of the samples, the criterion is not supported. If the criterion is exceeded in more than 10 but less than 25 percent, sites are evaluated on a case-by-case basis to determine if local conditions indicate that classified uses are impaired. Among the characteristics considered are: hydrology and morphometry of the waterbody, existing and projected trophic state, characteristics of pollutant loadings and ongoing pollutant control mechanisms. If the criterion is exceeded in less than 10 percent of the samples, then the criterion is fully supported.

If the conclusion for any single parameter is that the criterion is “not supported”, then it is concluded that aquatic life uses are not supported for that waterbody, at that monitoring location. If there are no criteria that are “not supported”, but the conclusion for at least one parameter criterion is “partially supported”, then the conclusion is aquatic life uses are partially supported. Regardless of the number of samples, no monitoring site will be listed as partially or not supporting for any pollutant based a single sample result because of the possibility of an anomalous event.

The goal of the standards for aquatic life uses is the protection of a balanced indigenous aquatic community; therefore, biological data is the ultimate deciding factor, regardless of chemical conditions. If biological data shows a healthy, balanced community, the use is considered supported even if chemical parameters do not meet the applicable criteria.

MACROINVERTEBRATE DATA INTERPRETATION

Macroinvertebrate community assessment data are used to directly determine Aquatic Life Use Support and to support determinations based on water chemistry data. Macroinvertebrate community data may also be used to evaluate potential impacts from the presence of sediment contaminants. Aquatic and semi-aquatic macroinvertebrates are identified to the lowest practical taxonomic level depending on the condition and maturity of specimens collected. The EPT Index and the North Carolina Biotic Index are the main indices used in analyzing macroinvertebrate data. To a lesser extent, taxa richness and total abundance may be used to help interpret data.

The EPT Index or the Ephemeroptera (mayflies) - Plecoptera (stoneflies) - Trichoptera (caddisflies) Index is the total taxa richness of these three generally pollution-sensitive orders. EPT values are compared with least impacted regional sites. The Biotic Index for a sample is the average pollution tolerance of all organisms collected, based on assigned taxonomic tolerance values. A database is currently being developed to establish significant EPT index levels to be used in conjunction with the Biotic Index to address aquatic life use support.

Taxa richness is the number of distinct taxa collected and is the simplest measure of diversity. High taxa richness is generally associated with high water quality. Increasing levels of pollution progressively eliminate the more sensitive taxa, resulting in lower taxa richness. Total abundance is the enumeration of all macroinvertebrates collected at a sampling location. When gross differences in abundance occur between stations, this metric may be considered as a potential indicator.

RECREATIONAL USE SUPPORT

Recreational use support is defined as the degree to which the swimmable goal of the Clean Water Act is attained and is based on the frequency of fecal coliform bacteria excursions. A fecal coliform excursion is defined as an occurrence of a bacteria concentration greater than 400/100 ml for all surface water classes. Comparisons to the bacteria geometric mean standard are not considered appropriate based on sampling frequency and the intent of the standard. If 10 percent or less of the samples are greater than 400/100 ml, then recreational uses are said to be fully supported. If the percentage of standards excursions is greater than 10 percent, but less than or equal to 25 percent, then recreational uses are said to be partially supported. If the percentage of excursions is greater than 25 percent, then it is considered to represent nonsupport of recreational uses.

FISH CONSUMPTION USE SUPPORT

The Department uses a risk-based approach to evaluate fish tissue data and to issue consumption advisories in affected waterbodies. This approach contrasts the average daily exposure dose to the reference dose (RfD). Using these relationships, fish tissue data are interpreted by determining the consumption rates that would not be likely to pose a health threat to adult males and nonpregnant adult females. Because an acceptable RfD for developmental neurotoxicity has not been developed, pregnant women, infants, and children are advised to avoid consumption of fish from any waterbody where a mercury advisory was issued.

Fish consumption use support is determined by the occurrence of advisories or bans on consumption for a waterbody. For the support of fish consumption uses, a fish consumption advisory indicates partial use support, a consumption ban indicates nonsupport of uses. Fish consumption advisories are updated annually in the spring. For background information and the most current advisories please visit the Bureau of Water homepage at http://www.scdhec.gov/water and click on "Advisories." For more information or a hard copy of the advisories, call SCDHEC's Fish Consumption Advisory toll-free hotline at (888) 849-7241.

DRINKING WATER USE SUPPORT

Nonattainment of drinking water use is indicated if the median concentration of the ambient surface water data for any pollutant exceeds the appropriate drinking water Maximum Contaminant Level (MCL), based on a minimum of three samples. Where MCLs do not exist, SCDHEC may use or develop other criteria such that pollutant concentrations or amounts do not interfere with drinking water use, actual or intended, as determined by SCDHEC.

Additional Screening and Prioritization Tools

Evaluation of water quality data and other supplemental information facilitates watershed planning. Information from the following is used to develop watershed-based protection and prevention strategies.

LONG-TERM TREND ASSESSMENT

As part of the watershed water quality assessments, surface data from each station are analyzed for statistically significant long-term trends using the Seasonal Kendall Test Without Correction (SKWOC) for significant serial correlation, using a program written in-house using SAS. Flows are not available for most stations, and the parametric concentrations are not flow-corrected. Seasonal Kendall's Tau Analysis is used to test for the presence of a statistically significant trend of a parameter, either increasing or decreasing, over a fifteen-year period. It indicates whether the concentration of a given parameter is exhibiting consistent change in one direction over the specified time period. A two sided test at $p=0.1$ is used to determine statistically significant trends, and the direction of trend. An estimate of the magnitude of any statistically significant trend is calculated.

A rigorous evaluation for trends in time-series data usually includes a test for autocorrelation. The data are not tested for autocorrelation prior to the trend analysis. It is felt that autocorrelation would not seriously compromise a general characterization of water quality trends based on such a long series of deseasonalized monthly samples.

One of the advantages of the seasonal Kendall test is that values reported as being below detection limits (DL) are valid data points in this nonparametric procedure, since they are all considered to be tied at the DL value. When the DL changed during the period of interest, all values are considered to be tied at the highest DL occurring during that period. Since it is possible to measure concentrations equal to the value of the DL, values less than DL are reduced by subtraction of a constant so that they

remain tied with each other, but are less than the values equal to the DL. Since fecal coliform bacteria detection limits vary with sample dilution, there is no set DL; therefore, for values reported as less than some number, the value of the number is used.

For the purposes of this assessment, long-term trends in selected parameters were examined using data collected from **1992** through **2006**.

Shellfish Water Quality

The shellfish-monitoring program provides the database that is used in conducting a comprehensive evaluation of each shellfish growing area. Evaluations of growing areas, which meet National Shellfish Sanitation Program requirements, are conducted annually. Routine bacteriological monitoring and subsequent laboratory analyses of water quality from approximately 465 strategically located sample sites are conducted monthly. South Carolina currently has 25 management areas comprising approximately 578,000 surface acres of estuarine and coastal riverine habitat suitable for the cultivation and harvest of molluscan shellfish. These management areas are assigned water quality classifications for the primary purpose of public health protection. The shellfish areas in the Edisto River Basin are located in portions of the Lowcountry and Trident Management Areas. All standards, monitoring methodology, and laboratory analyses comply with guidance set forth in the National Shellfish Sanitation Program Model Ordinance. The Department uses combinations of the following harvesting classifications for shellfish area management:

Approved - Areas that are normally open for the direct marketing of shellfish for human consumption. Approved areas must not exceed an established water quality standard.

Conditionally Approved - Areas that meet criteria for an Approved classification except under predictable conditions. Closure criteria and subsequent re-opening procedures are described in an area-specific management plan.

Restricted - Areas exceeding Approved area water quality standards and normally closed for direct harvesting activities but where harvesting may be allowed by special permit.

Prohibited – Areas that are administratively closed for the harvesting of shellfish for any purposes related to human consumption. These closures are established adjacent to permitted wastewater discharges, marina facilities, or areas containing multiple point sources of pollution. The Prohibited classification is not based upon violation of a bacteriological standard.

For background information and the most current evaluation, please visit the Bureau of Water homepage at http://www.scdhec.gov/environment/water/shellfish.htm.

Ocean Water Quality

SCDHEC's Ocean Water Quality Monitoring Program allows the public to make informed decisions concerning recreating in waters with the potential to cause adverse health effects. Routine monitoring of ocean front beaches by SCDHEC began in 1998 in Horry and Georgetown counties and was expanded to include all coastal counties in 2000. Beginning in 2002, SCDHEC has been awarded grant monies by EPA under the Beaches Environmental Assessment and Coastal Health (BEACH) Act. This grant money has allowed South Carolina to continue and to enhance a comprehensive monitoring and public notification program. To effectively allocate available resources, EPA required all monitoring and notification efforts be based on potential risk and intensity of use. An initial evaluation and classification of all beaches was performed to establish a three-tier monitoring program with Tier 1 beaches being highest priority. More information on the South Carolina Beach Program can be found online at: http://www.scdhec.gov/environment/water/ow.htm.

All beaches within the Edisto River Basin were classified as either Tier 2 or 3 due to limited risk and/or use. Edisto Island is classified as a Tier 2 beach and routinely sampled twice per month from May 15 to October 15. Edingsville Beach and Botany Bay are considered Tier 3 beaches due to low use and are currently not sampled. A special study in watershed 03050206-03 is ongoing to determine if a Tier status change is necessary for portions of Edisto Island.

Groundwater Quality

The state of South Carolina depends upon its groundwater resources to supply an estimated 40 percent of its residents. To monitor the ambient quality of this valuable resource, a network of existing public and private water supply wells has been established that provides groundwater quality data representing all of the State's major aquifers (see SCDHEC's Ambient Groundwater Quality Monitoring Network Report for listing of groundwater quality data). A great deal of monitoring is also being carried out at regulated sites with known or potential groundwater contamination (see SCDHEC's South Carolina Groundwater Contamination Inventory).

The ambient monitoring network has been designed to avoid wells in areas of known or potential contamination in order to analyze natural aquifer conditions. Information collected can then be used to identify variations in water chemistry among the major aquifers of South Carolina and give a general understanding of the groundwater conditions throughout the state at varying depths.

Wells sampled in the Edisto River Basin were drilled into one of four major aquifers. The most prominent aquifers utilized are the Middendorf, Black Creek, Floridan, and Surficial Sands. All well samples met state standards for Class GB groundwater (see section on Classified Waters, Standards, and Natural Conditions). The ambient monitoring well sites are indicated in the appropriate watershed evaluations and depicted on the watershed maps.

Middendorf Aquifer

The Middendorf Aquifer directly overlies the Bedrock Aquifer and stretches from the Fall Line, where it outcrops, to the Atlantic coast, where it exceeds depths of 3000 feet. The Middendorf Aquifer is the main provider of groundwater to numerous private and public wells in the upper portion of the Edisto River Basin. It is generally composed of fairly coarse sands and therefore is capable of yielding considerable amounts of water.

The sands that make up the Middendorf Aquifer are typically clean, containing relatively few heavy minerals or organics. The aquifer, especially in the exposed recharge areas, is highly leached of soluble minerals and recharge water approaches the chemistry of distilled water. Water tends to be soft, acidic, and low in dissolved solids, with locally high iron content. This tendency changes toward the coast due to minute amounts of minerals that slowly dissolve in the water as it flows and ages. As it reaches the coastal areas, the concentration is high enough to affect the water quality; however, the Middendorf Aquifer now lies beneath waters of similar quality and more easily reached aquifers.

Floridan Aquifer

The Floridan aquifer is composed of solid limestone and is capable of yielding great quantities of water. Wells drilled in this aquifer are similar to those drilled in bedrock in that they do not use screens, but utilize open holes with a solid case up to the surface.

Water from the Floridan Aquifer is easily distinguished from all other aquifers in the state by its high concentration of calcium and its alkaline pH, ranging from 7.4 to 9.0. The hardness of this aquifer's groundwater can approach 2000 mg/l. While many aquifers tend to be low in necessary fluoride, levels in the Floridan often fall within the optimum range of 0.8 to 1.2 mg/l.

Surficial Sands Aquifer

The Surficial Sands Aquifer is a shallow, coastal aquifer that is utilized mainly by relatively shallow private wells. As its name implies, the aquifer consists mainly of sands and is the water table aquifer in most of its extent. Due to its close proximity to both the surface and the ocean, the water is predictably high in dissolved solids, has a widely varied pH ranging from 6.2 to 8.6, and has elevated levels of sodium and chloride. Amounts of dissolved solids are also widely varied, ranging from 80 to 2400 mg/l. Water pumped from this aquifer may have an obvious odor and distinct taste, but is still within standards for drinking water. Despite the higher levels of dissolved solids, this aquifer is frequently used because of its proximity to the surface and its decent yields.

NPDES Program

The Water Facilities Permitting Division is responsible for drafting and issuing National Pollutant Discharge Elimination System (NPDES) permits. Facilities are defined as either "major" or "minor." For municipal permits, a facility is considered a "major" if it has a permitted flow of 1 MGD (million gallons per day) or more and is not a private facility. The determination for industrial facilities is based on facility and stream characteristics, including toxicity, amount of flow, BOD (biochemical oxygen demand) loading, proximity of drinking water source, potential to exceed stream standards, and potential effect on coastal waters.

Permitting Process

A completed draft permit is sent to the permittee, the SCDHEC District office, and if it is a major permit, to the USEPA for review. A public notice is issued when the permit draft is finalized. Comments from the public are considered and, if justified, a public hearing is arranged. Both oral and written comments are collected at the hearing, and after considering all information, the Department staff makes the decision whether to issue the permit as drafted, issue a modified permit, or to deny the permit. Everyone who participated in the process receives a notice of the final decision. A copy of the final permit will be sent to anyone who requests it. Staff decisions may be appealed according to the procedures in R.61-72 and the rule of the Administrative Law Court of South Carolina.

The permitting Divisions use general permits with statewide coverage for certain categories of discharges. Discharges covered under general permits include utility water, potable surface water treatment plants, potable groundwater treatment plants with iron removal, petroleum contaminated groundwater, mine dewatering activities, aquaculture facilities, bulk oil and gas terminals, hydrostatic test waters (oil & gas lines), and vehicle wash waters. State land application systems for land disposal and lagoons are also permitted.

Wasteload Allocation

A wasteload allocation (WLA) is the portion of a stream's assimilative capacity for a particular pollutant that is allocated to an existing or proposed point source discharge. Existing WLAs are updated during the basin review process and included in permits during the normal permit expiration and reissuance process. New WLAs are developed for proposed projects seeking a discharge permit or for existing discharges proposing to increase their effluent loading at the time of application. Wasteload allocations for oxygen demanding parameters and nutrients are developed by the Department's modeling staff, and WLAs for toxic pollutants and metals are developed by the appropriate permitting division.

The ability of a stream to assimilate a particular pollutant is directly related to its physical and chemical characteristics. Various techniques are used to estimate this capacity. Simple mass balance/dilution calculations may be used for a particular conservative (nondecaying) pollutant while complex models may be used to determine the fate of nonconservative pollutants that degrade in the

environment. Waste characteristics, available dilution, and the number of discharges in an area may, along with existing water quality, dictate the use of a simple or complex method of analysis. Projects that generally do not require complex modeling include: groundwater remediation, noncontact cooling water, mine dewatering, air washers, and filter backwash. Streams that have been modeled are indicated on the watershed maps.

Streams are considered either effluent limited or water quality limited based on the level of treatment required of the dischargers to that particular portion of the stream. In cases where the USEPA published effluent guidelines and the minimum treatment levels required by law are sufficient to maintain instream water quality standards, the stream is said to be effluent limited. Streams lacking the assimilative capacity for a discharge at minimum treatment levels are said to be water quality limited. In cases where better than technology limits are required, water quality, not minimum treatment requirements, controls the permit limits. The Department's modeling staff develops limits for numerous parameters including ammonia nitrogen (NH3-N), dissolved oxygen (DO), and five-day biochemical oxygen demand (BOD_5). Limits for other parameters, including metals, toxics (including total residual chlorine), and nutrients are developed by the Water Facilities Permitting Division in conjunction with support groups within the Department.

Nonpoint Source Management Program

Nonpoint source (NPS) water pollution, sometimes called "runoff pollution" or "polluted runoff" does not result from a discharge at a specific, single location (or point), but generally comes from diffuse, numerous sources. Runoff occurring after a rain event may transport sediment from plowed fields, construction sites, or logging operations, pesticides and fertilizers from farms and lawns, motor oil and grease deposited on roads and parking lots, or bacteria containing waste from agricultural animal facilities or malfunctioning septic systems. The rain moves the pollutants across the land to the nearest waterbody or storm drain where they may impact the water quality in creeks, rivers, lakes, estuaries, and wetlands. NPS pollution may also impact groundwater when it is allowed to seep or percolate into aquifers. Adverse effects of NPS pollution include physical destruction of aquatic habitat, fish kills, interference with or elimination of recreational uses of a waterbody (particularly lakes), closure of shellfish beds, reduced water supply or taste and odor problems in drinking water, and increased potential for flooding because waterbodies become choked with sediment.

Congress recognized the growing problem of nonpoint source pollution in the late 1980s, and added NPS provisions to the federal law. Section 319 of the 1987 Amendments to the Clean Water Act required states to assess the nonpoint source water pollution associated with surface and groundwater within their borders and then develop and implement a management strategy to control and abate the pollution. The first Assessment of Nonpoint Source Pollution in South Carolina accomplished this purpose. The Department's Bureau of Water manages the ongoing State NPS Management Program, which develops strategies and targets waterbodies for priority implementation of management projects. Section 319 funds various voluntary efforts, including watershed-based improvement projects, which

address many aspects of the pollution prevention management measure and provide education, outreach and technical assistance to various groups and agencies. Most of the projects are implemented by cooperating agencies.

Many land activities can individually or cumulatively contribute to NPS pollution. Eight categories of NPS pollution sources have been identified as contributing to water quality degradation in South Carolina: agriculture, forestry, urban areas, marinas and recreational boating, mining, hydrologic modification, wetlands and riparian areas disturbance, land disposal, and groundwater contamination. There are programs in place, both regulatory and voluntary to address all eight categories.

Agriculture

In South Carolina, pesticides, fertilizers, animal waste, and sediment are potential sources of agricultural NPS pollution. Agricultural activities also have the potential to directly impact the habitat of aquatic species through physical disturbances caused by livestock or equipment, and through the management of water. The State has laws and regulations that prevent NPS pollution from several agricultural sources including pesticides and animal waste. Funding programs, including those under §319 grants from EPA such as the Environmental Quality Incentives Program (EQIP) and the Conservation Reserve Program (CRP), cost share funds from USDA and are used to implement best management practices that are not covered under regulations. Agriculture land acreage is quantified in the basin-wide and individual watershed evaluations.

Silviculture

Forests comprise a major portion of South Carolina's land base. As of 2009, 67% (12.9 million acres) of the State's total land area is in timberland. Silvicultural practices associated with road access, harvest, and regeneration of timber present the most significant potential for NPS pollution. Silvicultural activities have the potential to degrade the State's waters through the addition of sediment, nutrients, organics, elevated temperature, and pesticides. Erosion and subsequent sedimentation are the most significant and widespread NPS problems associated with forestry practices. Sudden removal of large quantities of vegetation through harvesting or silvicultural practices can also increase leaching of nutrients from the soil system into surface waters and groundwaters. Most water quality impacts from forestry are temporary or short-lived, can be minimized or mitigated when Best Management Practices (BMPs) are applied, and the site recovers within 2-3 years as vegetation is re-established.

Overall compliance with South Carolina's Best Management Practices for Forestry is 98.6% for timber harvesting operations. Programs to abate or control NPS pollution from forestry activities are primarily the responsibility of the S.C. Forestry Commission (SCFC) and the United States Department of Agriculture's Forest Service (USFS), with other agencies having supplementary programs. SCFC provides the results of courtesy exams of forestry operations monthly to both SCDHEC's Division of Water Quality and to forest industries. Impacts from silviculture can be significant if BMPs are not properly applied. If water quality was impacted by a forestry operation, SCDHEC may institute

enforcement action under the South Carolina Pollution Control Act. The United States Department of Agriculture's Natural Resources Conservation Service (USDA-NRCS) also provides technical assistance to government, landowners, and land users. Forest land acreage is quantified in the basin-wide and individual watershed evaluations.

Urban Areas

Urbanization has been linked to the degradation of urban waterways. The major pollutants found in runoff from urban areas include sediment, nutrients, oxygen-demanding substances, heavy metals, petroleum hydrocarbons, pathogenic bacteria, and viruses. Suspended sediments constitute the largest mass of pollutant loadings to receiving waters from urban areas. Construction sites are a major source of sediment erosion. Nutrient and bacterial sources of contamination include fertilizer and pesticide usage, pet wastes, leaves, grass clippings, and faulty septic tanks. Petroleum hydrocarbons result mostly from automobile sources. From April 2000 through July 2008, statewide population growth was 11.7 percent, while the coastal counties had an increase of 19.7 percent, during the same time period. This continuing development and population growth has the potential to make urban runoff the most significant source of pollution in waters of the State in the future, particularly in South Carolina's coastal communities. Urban land acreage is quantified in the basin-wide and individual watershed evaluations.

SCDHEC has a number of statewide programs that address components of urban NPS pollution. The Bureau of Water administers four permitting programs that control runoff from new and existing urban sources. These include the Stormwater and Sediment Reduction program, Municipal Separate Storm Sewer System (MS4), Industrial NPDES Stormwater Permits, and the §401 water quality certification program (see p.27). Additional controls for urban runoff in the coastal zone are implemented by SCDHEC's Oceans and Coastal Resources Management (OCRM) through the State Coastal Zone Management Plan.

SCDHEC's Bureau of Environmental Health's Division of Onsite Wastewater Management administers the Onsite Sewage Disposal System program for the entire State, and oversees the permitting for the installation and management of septic systems. Although not associated with urban land use, this Division permits the septic systems of camping facilities if the facility is not on public sewer. The camp sewage is discharged into a public collection, treatment and disposal system if available, or an onsite wastewater treatment and disposal system (septic tank) is used.

Marinas and Recreational Boating

As with any human activity, marinas and associated recreational boating activities have the potential to impact the natural environment. Marine sanitation devices and illicit discharges can be sources of bacteria and oxygen demanding substances. Antifouling paints, exhausts, and maintenance activities can be sources of toxic metals, hydrocarbons, and other pollutants. Construction and maintenance activities, such as dredging, can negatively impact aquatic habitats and ecosystems. The physical characteristics of marinas (basin verses open water, high tidal flushing verses low or no tidal flushing, etc.) have the potential to impact water quality. To ensure that impacts associated with existing and proposed marinas are minimized to the greatest extent possible, the U.S. Army Corps of Engineers and the SCDHEC are responsible for permitting marinas in South Carolina. Within SCDHEC, the two offices that have marina permitting authority are the Office of Ocean and Coastal Resource Management (SCDHEC OCRM) and the Office of Environmental Quality Control (SCDHEC Bureau of Water). SCDHEC OCRM issues critical area permits for marinas within the critical area of the coastal zone. SCDHEC Bureau of Water issues permits for marinas at all other locations within the State and issues §401 Water Quality Certifications (see p.27) for marinas statewide. The U.S. Coast Guard and the S.C. Department of Natural Resources are responsible for managing recreational boating activity.

Mining

South Carolina's mineral production consists of non-fuel minerals that provide raw materials for construction products and a precious metal industry. Portland cement clays (kaolin and brick), sand and gravel, and crushed stone represent the majority of the total mineral value. As of June 30, 2009 there were 615 permitted mining operations in South Carolina totaling 76,546 acres (includes acreage for excavation, buffer, and mine reserves). There were 335.8 acres of mine land reclaimed during the past fiscal year, which brings the cumulative total of mine land reclaimed since the beginning of the mining and reclamation program to 17,271 acres. Surface mining has the potential to generate NPS pollution during mineral exploration, mine development extraction, transportation, mining and processing, product storage, waste disposal, or reclamation. Potential nonpoint source impacts related to mining activities generally include hydrologic modification, erosion and sedimentation, water quality deterioration, fish and wildlife disturbances, and public nuisances.

The Department's Bureau of Land and Waste Management has primary regulatory responsibility for mining activities. Within the Bureau, the Division of Mining and Solid Waste Permitting is responsible for administering and implementing the S.C. Mining Act and its associated regulations. The Mining Act serves as part of an overall management plan for NPS pollution from active mines. Mining activities and locations are identified in the appropriate watershed evaluations.

Hydromodification

Hydrologic modification (or hydromodification) is defined as stream channelization, channel modification, and dam construction. These activities can negatively impact water quality, destroy or modify in-stream habitat and increase streambank and shoreline erosion. Two State permits, implemented by the SCDHEC, are involved in the implementation of management measures for hydromodification. A critical area permit is required for coastal waters, saltwater wetlands, and beaches defined as critical areas. A navigable waters permit is required for the remainder of the State. Implementation of State policy for dam construction is similar to control of other hydromodification projects in South Carolina, requiring the same State permits and certifications. In addition, dams require a State dam safety permit or a State stormwater management and sediment reduction permit. The Department must also issue Water Quality Certifications pursuant to §401 of the Federal Clean Water Act for dam construction and hydropower operations licensed by the Federal Energy Regulatory Commission.

Wetlands

The U.S. Fish and Wildlife Service is the principal Federal agency that provides information to the public on the extent and status of the Nation's wetlands. According to the most recent survey by the U.S. Fish and Wildlife Service (Dahl 1999), twenty-one percent of South Carolina is covered by 4,104,805 acres of wetlands. The U.S. Army Corps of Engineers implements the federal program for regulating development in wetlands with guidelines established by EPA. The Corps delineates wetlands and determines which wetlands fall under regulatory jurisdiction and require a federal permit for development. At the state level, the primary focus of wetland regulation is through the §401 Water Quality Certification. In accordance with §401 of the Federal Clean Water Act, a certification is required by the state for any Federal permit that may result in a discharge to waters of the state, including wetlands. Applications for wetland alterations may be denied or modified due to the special nature of a wetland or the functions that a wetland provides. Wetland impacts must be compensated for through restoration, enhancement, preservation, or creation and protected in perpetuity. Future development would be legally protected in these areas. Knowledge of areas that are restricted from development due to mitigation or special water classification is useful in planning future development in a watershed. Wetland acreage is quantified in the basin-wide and individual watershed evaluations.

Land Disposal

Solid Waste Landfills are permitted by the Bureau of Land and Waste Management under Regulation 61-107.19. There are three classifications of Solid Waste Landfills in South Carolina: Class One Landfills, Class Two Landfills, and Class Three Landfills. The landfill classifications are based upon the physical and chemical characteristics of the waste that is disposed in each landfill. There are currently 171 permitted landfills in South Carolina. This total represents 56 Class One Landfills that are limited to disposal of land-clearing debris; 91 Class Two Landfills that receive construction and

demolition debris and waste streams that characterize at less than ten times the maximum contamination limits for drinking water; and 24 Class Three Landfill that receive municipal solid wastes and other nonhazardous waste streams that must be characterized prior to acceptance. Solid Waste Landfills are considered point sources of pollution and are thereby required to have BOW industrial storm water permits. Storm water runoff from these landfills may have an impact on the watershed if it is not managed correctly. Regulatory authority over solid waste disposal activities resides with SCDHEC's Bureau of Land and Waste Management. All active and closed Solid Waste Landfills are identified in the appropriate watershed evaluations.

Land application of wastewater or its by-products is a form of recycling because it allows recovery of elements needed for crop production. Land application of biosolids may be beneficial and environmentally sound when applied at the correct agronomic rate. Land applying biosolids can benefit farmers by offsetting the costs of fertilizer and lime while reducing the pressure on existing landfills. SCDHEC's Bureau of Water, Division of Water Monitoring, Assessment and Protection, Groundwater Management Section conducts a program to prevent and monitor groundwater contamination from nonpoint source pollution from land application of wastewater biosolids, solids, animal manures, biosolids, and sewage sludge. Land application, which is not a discharge, requires a "no discharge" permit (ND). All active industrial and municipal land applications are identified in the appropriate watershed evaluations.

Groundwater Contamination

All aquifers in the State are potential Underground Sources of Drinking Water and are protected under the S.C. Water Classifications and Standards. Groundwaters are thus protected in a manner consistent with the SCDHEC groundwater protection strategy. Staff hydrogeologists implement a screening program for nonpoint source impacts from pits, ponds, and lagoons associated with the permitted storage, treatment, and disposal of industrial and municipal wastewaters. In cases where a groundwater impact has been identified in violation of S.C. Water Classifications and Standards, appropriate actions will be coordinated with the facility owner to ensure regulatory compliance. The hydrogeologist coordinates with the facility owner to implement source identification, contaminant extent assessments, initiation of contaminant remediation systems, and performance evaluations of corrective actions. In addition to releases from wastewater treatment systems, the staff evaluates releases from other nonpoint sources such as above ground tanks, nonregulated fuel oil tanks, spills and/or leaks. Sites with confirmed groundwater impact will be placed under a Consent Agreement or an Order. SCDHEC's South Carolina Groundwater Contamination Inventory quantifies the status of groundwater quality in South Carolina. The sites in the inventory are known groundwater contamination cases in the State, and are referenced by name and county, and updated annually.

Water Quantity

Any withdrawal of surface water over 3 million gallons in any month is required to be permitted and reported to the Department per the *Surface Water Withdrawal, Permitting, Use and Reporting Act* 49-4-10 (effect as of January 1, 2011). Any withdrawal of groundwater over 3 million gallons in any month is required to be reported to the Department and permits are required in counties designated as Capacity Use Areas (per the *Groundwater Use and Reporting Act* 49-5-10). Capacity Use Areas consist mainly of coastal counties where significant groundwater use has resulted in the lowering of groundwater levels in major aquifers.

Interbasin Transfer of Water

Requirements pertaining to the interbasin transfer of surface water between major river basins in the South Carolina are contained in the *Surface Water Withdrawal, Permitting, Use and Reporting Act* 49-4-10. The Act lists fifteen river basins to be used when applying the interbasin transfer requirements of the Act. The regulation developed pursuant to the Act (*Surface Water Withdrawal, Permitting, Use and Reporting Regulation* R.61-119) is currently at the South Carolina Legislature awaiting legislative approval. The regulation proposes reducing the number of river basins to be considered under the interbasin transfer requirements of the Act from fifteen to eight basins. The Edisto River Basin is listed as a separate basin in both the Act and the proposed regulation. The primary requirements for a new surface water withdrawal that involves the transfer of water between two different basins listed in the Act or proposed regulation are additional public notification requirements. The status of interbasin transfer permits and registrations issued under the now repealed Interbasin Transfer of Water Regulation (former R. 121-10) is addressed in the *Surface Water Withdrawal, Permitting, Use and Reporting Act* 49-4-10.

Capacity Use Program

As authorized under the Groundwater Use and Reporting Act, the Department may declare a capacity use area if the resource is threatened by increasing demand or the potential problems of saltwater intrusion. The Capacity Use Program requires large groundwater users to obtain a permit in capacity use areas. Permits are required for groundwater withdrawn in excess of 3 million gallons in a month. Permit owners are required to report the amount of groundwater withdrawn per month on an annual basis. As part of the Capacity Use Program, the Department monitors a large number of wells to determine the relationship between water levels and pumpage in order to determine regional impacts and evaluate reserve supply. A reserve supply is maintained to offset drought conditions. The Low Country Capacity Use Area includes Beaufort, Colleton, Hampton, and Jasper Counties. The Trident Capacity Use Area includes Berkeley, Charleston, and Dorchester Counties. The Edisto River basin extends into both the Low Country and Trident Capacity Use Areas.

Growth Potential and Planning

Land use and management can define the impacts to water quality in relation to point and nonpoint sources. Assessing the potential for an area to expand and grow allows for water quality planning to occur and, if appropriate, increased monitoring for potential impairment of water quality. Indicators used to predict growth potential include water and sewer service, road and highway accessibility, and population trends. These indicators and others were used as tools to determine areas having the greatest potential for impacts to water quality as a result of development.

Watershed boundaries extend along topographic ridges and drain surrounding surface waters. Roads are commonly built along ridge tops with the best drainage conditions. Cities often develop in proximity to ridges as a result of their plateau terrain. It is not uncommon, then, to find cities or road corridors located along watershed boundaries, and thus influencing or impacting several watersheds.

SCDHEC's Strategic Plan for 2005-2010 (www.scdhec.gov/news/releases/pdf files/Stratpln.pdf) acknowledges that growth issues are best handled at the local government level. SCDHEC's role is to work with local governments and communities to help them understand the importance of planning for smart growth: buffers, green spaces, mass transit, subdivision and roadway planning, bike paths and bike lanes, and park and ride lots. SCDHEC can also provide assistance in helping local entities access information and provide consultation on technical issues such as the establishment of buffers and watershed stormwater planning. Many counties in the Edisto River Basin lack county wide zoning ordinances; therefore, there is little local regulatory power to influence the direction or magnitude of regional growth. The majority of municipalities have zoning ordinances in place; however, much of the growth takes place just outside the municipal boundaries, where infrastructure is inadequate. Section 208 of the Clean Water Act serves to encourage and facilitate the development and implementation of areawide waste treatment management plans. South Carolina's water quality management plans support consolidation of wastewater treatment facilities into larger regional systems.

The regional Councils of Government (COGs) located in the Edisto River Basin include the Upper Savannah COG, the Lower Savannah COG, the Central Midlands COG, the Berkeley Charleston Dorchester (BCD) COG, and the Lowcountry COG. Growth potential reported in the individual watershed evaluations are updated by the COGs active in that watershed.

Watershed Protection and Restoration Strategies

SCDHEC's Bureau of Water is responsible for ensuring that South Carolina's water is safe for drinking and recreation, and suitable to support aquatic life. This section provides an overview of other important Bureau programs and strategies applied statewide to protect and restore water quality. The point and nonpoint source controls described previously assist with achieving these goals.

Under §303(d) of the Federal Clean Water Act, each state is required to provide a comprehensive inventory of impaired waters for which existing required pollution controls are not stringent enough to achieve State water quality standards or Federal Clean Water Act goals. This biennial list, commonly referred to as the "303(d) list", is the basis for targeting waterbodies for watershed-based solutions. A copy of the current §303(d) list can be obtained by contacting the Bureau of Water (803-898-4300) or online at www.scdhec.gov/water. Several Bureau programs address these impaired streams in an effort to restore them.

Total Maximum Daily Load

A Total Maximum Daily Load (TMDL) is the calculated maximum allowable pollutant loading to a waterbody at which water quality standards are maintained. A TMDL is made up of two main components, a load allocation and a wasteload allocation. A load allocation is the portion of the receiving water's loading capacity attributed to existing or future nonpoint sources or to natural background sources. The waste load allocation is the portion of a receiving water's loading capacity allocated to an existing or future point source.

A TMDL is a means for recommending controls needed to meet water quality standards in a particular water or watershed. Historically, the typical TMDL has been developed as a wasteload allocation, considering a particular waterbody segment, for a particular point source, to support setting effluent limitations. In order to address the combined cumulative impacts of all sources, broad watershed-based TMDLs are now being developed.

The TMDL process is linked to all other State water quality activities. Water quality impairments are identified through monitoring and assessment. Watershed-based investigations result in source identification and TMDL development. TMDLs form links between water quality standards and point and nonpoint source controls. Where TMDLs are established, they constitute the basis for NPDES permits and for strategies to reduce nonpoint source pollution. The effectiveness and adequacy of applied controls are evaluated through continued monitoring and assessment.

Funding for TMDL implementation is currently available with USEPA's §319 of the Clean Water Act grants. For more information, see the Bureau of Water web page www.scdhec.gov/water or call the TMDL Program at (803) 898-4300.

Antidegradation Implementation

The State's Antidegradation Policy as part of S.C. Regulation 61-68 is represented by a three-tiered approach to maintaining and protecting various levels of water quality and uses; streams included on the §303(d) list are addressed under Tier 1. Tier 1 antidegradation policies apply to all waters of the State and require that existing uses and the minimum level of water quality for those uses be maintained and protected. Tier 2 policies apply to high quality water where the water quality exceeds the mandatory minimum levels to support the Clean Water Act's goals of propagation of fish, shellfish, wildlife, and recreation in and on the water. The Department considers all the waters of the State as high quality waters. Tier 3 policies apply to the maintenance of water quality in waters that constitute an Outstanding National Resource Water and do not allow for any permanent permitted dischargers. Outstanding Resource Waters of the State are provided a higher level of protection than Tier 2, but do not meet the requirements of Tier 3.

Tier 1 protection will be implemented when applying numeric standards included in Regulation 61-68 for human health, aquatic life, and organoleptic protection as follows: if a waterbody has been affected by a parameter of concern causing it to be on the §303(d) list, then the Department will not allow a permitted net increase of loading for the parameter of concern unless the concentration will not contribute to a violation of water quality standards. This no net increase will be achieved by reallocation of existing total load(s) or by meeting applicable water quality standard(s) at the end-of-pipe. No discharge will be allowed to cause or contribute to further degradation of a §303(d) listed waterbody.

The Antidegradation Rules apply to both nonpoint source pollution and for point sources into impaired waters. Many activities contributing to nonpoint source pollution are controlled with voluntary measures. The Department implements permitting or certification programs for some of these activities and has the opportunity to ensure compliance with the Antidegradation Rules. The activities of primary concern are land development projects which are immediately adjacent to and discharge runoff or stormwater into impaired waters.

§401 Water Quality Certification Program

If a Federal permit for a discharge into waters of the State, including wetlands, is required, the Department must issue a Water Quality Certification pursuant to §401 of the Federal Clean Water Act. Certification is required for permits issued by the U.S. Army Corps of Engineers for construction in navigable waters and for deposition of dredged or fill material.

Regulation 61-101 Water Quality Certification requires SCDHEC to consider whether or not a project is water dependent; whether or not there are feasible alternatives which will have less adverse consequences on water quality and classified uses; the intended purpose of the project; and all potential water quality impacts of the project, both direct and indirect, over the life of the project. Any project with the potential to affect waters of the State must be conducted in such a manner as to maintain the specified standards and classified and existing water uses.

As a routine part of the §401 Water Quality Certification review process, the waterbody in question is identified as impaired or not impaired according to the §303(d) list. If it is impaired, the parameter of concern is noted, along with any steps required to prevent further degradation of the water quality of that waterbody.

Stormwater Program

Stormwater discharges result from precipitation during rain events. Runoff washes pollutants associated with industrial activities (including construction activity), agricultural operations, and commercial and household sites directly into streams, or indirectly into drainage systems that eventually drain into streams. The SCDHEC Stormwater Permitting Program focuses on pollution prevention to reduce or eliminate stormwater pollution. The Department has general permitting authority for stormwater discharges associated with industrial activity, including construction. General NPDES permits SCR000000 and SCR100000 for industrial and construction activities, respectively, require permittees to develop and implement stormwater pollution prevention plans that establish best management practices to effectively reduce or eliminate the discharge of pollutants via stormwater runoff. The Construction, Stormwater and Agricultural Division is responsible for issuing NPDES stormwater permits to prevent degradation of water quality as well as for issuing state sediment and erosion control permits for construction sites.

NPDES permits are issued under the authority of the federal Clean Water Act and the S.C. Pollution Control Act. The state sediment and erosion control permits are issued under the authority of two S.C. laws. The S.C. Stormwater Management and Sediment Reduction Act of 1991 addresses construction on land that is not state owned or managed. Currently, NPDES permits are required for: construction sites 1 acre and greater; construction sites in the coastal area that are within 1/2 mile of a receiving water body; and construction sites less than 1 acre on a case-by-case basis where water quality is a concern. Permits are required under the state sediment and erosion control for construction sites that are greater than 2 acres; however, there are exemptions under the law and regulation. The State Sediment and Erosion Program is somewhat duplicative of the NDPES Stormwater Program. The state program created by the 1991 Act can be delegated to local governments. SCDHEC's Office of Ocean and Coastal Resource Management (OCRM) oversees stormwater permitting in the coastal area. The Stormwater Permitting Section manages the program in the remainder of the state.

SCDHEC is assisted in implementing these regulations by many cities and counties that have been delegated to run a stormwater program under provisions of the 1991 Act and/or are owners of Municipal Separate Storm Sewer Systems (MS4) and required to run stormwater management programs under the NPDES program. MS4 will identify all impaired water bodies in a Stormwater Management Plan (SWMP). In addition, existing pollution discharge control methods will be identified and incorporated into the SWMP. Procedures, processes, and methods to control the discharge of pollutants from the MS4 into impaired waterbodies and publicly owned lakes included

on the §303(d) list will be described in the SWMP. The effectiveness of these controls will be assessed and necessary corrective measures, if any, shall be developed and implemented.

NPDES MS4 permits allow communities to design SWMP that are suited for controlling pollutants in their jurisdiction. There are three population-based categories of MS4: large (population of 250,000 or greater), medium (population of 100,000 or more but less than 250,000), and small (population less than 100,000). Large and medium MS4 have been regulated since the 1990s. Those small MS4 within the boundaries of an urbanized area are called Regulated Small MS4. MS4 NPDES Permits are required for all large, medium, and regulated small MS4. MS4 can extend over more than one 10-digit watershed or even 8-digit river basin as it follows municipal boundaries, so the same permit can be listed in multiple watersheds. The MS4 receiving stream listed in the individual watershed evaluations is the mainline stream of the 10-digit hydrologic unit. The initial receiving source of the MS4 may be a smaller tributary upstream.

South Carolina Animal Feeding Operations Strategy

Among the general categories of pollution sources, agriculture ranks as the number one cause of stream and lake impairment nationwide. Many diseases can potentially be contracted from drinking water or coming into contact with waters contaminated with animal wastes. The Department uses S.C. Regulation 61-43: *Standards for the Permitting of Agricultural Animal Facilities* to address the permitting of animal feeding operations (AFOs). Implementing these regulations and their corresponding compliance efforts are a priority for the Department in order to reduce public health and environmental impacts from AFOs. There are approximately 1,100 active AFOs in S.C. There are no federally defined concentrated animal feeding operations (CAFOs) in operation in South Carolina based on the EPA definition of a CAFO in the NPDES regulations. Using the Watershed Program cycle and the division of the State into five regions, AFOs will be monitored and inspected by region. The §303(d) list will be used to prioritize the inspections. After all the inspections have been made in a region, the Department will move to the river basins in the next region in the watershed cycle. The Department is continuing to work in cooperation and coordination with the U.S. Department of Agriculture, the Natural Resources Conservation Service, the S.C. Department of Agriculture, the S.C. Soil and Water Conservation Districts, and the Clemson Extension Service.

Sewer Overflow Strategy

Sanitary sewers are designed to collect municipal and industrial wastewater, with the allowance for some acceptable level of infiltration and inflow, and transport these flows to a treatment facility. When the sewer system is unable to carry these flows, the system becomes surcharged and an overflow may occur. Sewer overflows (SSOs) have existed since the introduction of separate sanitary sewers, and most overflows are caused by inadequate operation, maintenance, and management of the collection system.

The Department encourages utilities to embrace the principals of EPA's capacity Management, Operations, and Maintenance (cMOM) program. Through this program utilities can ensure adequate funding and capacity as well as a proactive approach to operations and maintenance. Those that have implemented cMOM programs have been able to significantly reduce or eliminate overflows from their collection systems. Additionally, the Department has adopted requirements for operation and maintenance of sewer systems in Regulation 61-9, Water Pollution Control Permits.

The Department's approach has been to shift resources historically applied to treatment plant inspections to include evaluations of pump stations and collection systems where problems are suspected. To assist in identifying water quality violations related to SSOs, staff have utilized the 303(d) list of impaired waters to identify waters impacted by fecal coliform or other appropriate pollutants and correlate those with collection systems with incidences of SSOs. The Department's Enforcement Referral Procedures Document is to be used to determine when a collection system should be referred to enforcement for SSOs. The enforcement process allows for the Department to consider actions taken by the collection system such as: timely and proper notification, containment and mitigation of discharge, voluntarily conducting self evaluations, and requests for compliance assistance. The Department will take immediate action where it has been determined that SSOs have occurred and the collection system has not made timely and proper notification.

SCDHEC's Watershed Stewardship Programs

Public participation is an important component of the Department's Watershed Water Quality Management Program. Benefits to this interaction on the local level include improved public awareness about SCDHEC water programs, and increased local interest and participation in water quality improvement. Described below are some of the Department's water programs that encourage public interest and involvement in water quality. These programs and their contacts are listed on the Department's website at www.scdhec.gov/water.

Source Water Assessment Program

A safe, adequate source of drinking water is key to development of communities and the health of citizens. The Safe Drinking Water Act (SDWA) places an emphasis on protection of sources of drinking water. As a result of the 1996 amendments to the SDWA, source water protection has become a national priority. States are required to develop a plan for assessment of source waters for all federally defined public groundwater and surface water systems.

The Source Water Assessment Program (SWAP) involves determining the boundaries of the areas that are the source of waters for public water systems. For groundwater systems, these areas are defined using groundwater flow models. For surface water systems, a distance of 15 miles upstream from the surface water intake is the designated protection area (although certain areas within the basin will be segmented as being of greater vulnerability to contamination from overland flow, groundwater contributions to surface water, and direct spills into the surface water). Known and potential sources of contamination in the delineated area must be identified, and the inventoried sources evaluated to determine the susceptibility of public water systems to such contaminants. Assessments must be made available to the public.

Local involvement is a critical factor in the success of the SWAP, and local governments, citizen groups, environmental groups, water suppliers, and the Department must all work together to increase the general public's awareness of where drinking water comes from and how to better protect sources of drinking water. Implementation of source water protection activities largely occur at the local level and local authorities may wish to base zoning and land-use planning on the source water assessments. The SWAP is a key part of the Department's watershed management approach. To avoid duplication, information gathered from existing regulatory programs and/or watershed protection efforts is utilized (e.g., ambient monitoring programs, TMDLs, etc.).

Consumer Confidence Reports

The Consumer Confidence Report (CCR) is an annual water quality report required of all community water systems. The rationale behind the CCR is that consumers have a right to know what is in their drinking water and where it comes from. These reports are to educate consumers and help them make informed choices that affect the health of themselves and their families. All CCRs are to include the following basic components:

- the water source, its location, and the availability of source water assessment plan;
- information about the water system (name and telephone number of a contact person, opportunities for public participation, and information for non-English speaking populations if applicable);
- definitions of terms and abbreviations used in the report;
- table of detected contaminants including the known or likely source of the contaminants;
- the health effects language for Maximum Contaminant Level violations and an explanation of the violation;
- information on cryptosporidium, radon, and other contaminants if applicable; and
- educational information that includes an explanation of contaminants and their presence in drinking water, an advisory for immuno-compromised people, the Safe Drinking Water Hotline telephone number, and other statements about lead, arsenic, and nitrate if applicable.

Nonpoint Source Outreach Assistance

The Bureau's Nonpoint Source (NPS) Outreach program is an integral component of the State's NPS management program. The NPS Outreach program supports South Carolina's NPS water quality improvement goals through a capacity building approach. The NPS Outreach program provides outreach resources and materials to communities, organizations and municipalities as they develop their NPS outreach plans. Available resources include a Web-based NPS outreach toolbox tailored for South Carolina specific NPS issues, and consultation in best outreach practices. For more information please call 803-898-4300 or go to www.scdhec.gov/environment/water/or.htm.

Swimming Advisory Outreach

SCDHEC tests rivers, lakes and streams all over the State. Sometimes these tests show high amounts of bacteria for some streams and rivers. DHEC puts up a swimming advisory sign where high amounts of bacteria have been found and people commonly swim. The NPS Outreach program uses this as a springboard for awareness of NPS issues and steps citizens can take to reduce their contributions to runoff pollution. For more information on the swimming advisories call the hotline at 1-800-360-5655. Information and tips on reducing NPS can be found on the swimming advisory website at www.scdhec.gov/environment/water/swim.htm.

Fish Advisory Outreach

Based on fish tissue monitoring results assessing mercury levels, SCDHEC and the Department of Natural Resources work together to provide annual fish consumption advisories that tell you the right amounts and types of fish to eat in South Carolina. The advisories particularly focus on providing statewide advice for at-risk women and children. For more information and the most current advisories, please visit http://www.scdhec.gov/fish . If you have further questions or would like a hard copy of the advisories, call SCDHEC's toll-free Fish Consumption Advisory hotline at (888) 849-7241.

Champions of the Environment

Champions of the Environment encourages, enables and recognizes youth environmental education projects that develop awareness, promote behavior change or improve and protect our water, air, and land. Champions has been rewarding South Carolina's kindergarten through twelfth-grade students and teachers since 1993. Grants and cash awards enabled schools and communities to participate in activities such as protecting nesting sea turtles, reducing a school's carbon footprint, and protecting water quality; all positively impacting the environment and developing young, environmental stewards. Champions is a unique public-private partnership between DHEC, industry partners, and the media. For more information contact the Champions of the Environment coordinator at 803-898-4300 or visit www.scdhec.gov/environment/water/champion.htm.

Clean Water State Revolving Fund

Congress created the Clean Water State Revolving Fund (SRF) in 1987, to replace the §201 Construction Grants program. In doing so, 'state banks' were created to lend money for virtually any type of water pollution control infrastructure project. Project types include construction of wastewater treatment systems and nonpoint source pollution control. The interest rate on the loans is always below the current market rate. As repayments are made on the loans, funds are recycled to fund additional water protection projects. The vast majority of the SRF funds have been used for the construction of traditional municipal wastewater treatment systems. Because of its inherent flexibility, the SRF program is well suited to accommodate the watershed approach.

SRF loans are available to units of state, local, and regional government, and special purpose districts. South Carolina law prevents loans from being made directly to private organizations and individuals. Local governments such as cities and counties and other units of government such as Soil and Water Conservation Districts, Councils of Government, and Water and Sewer Districts are encouraged to apply for SRF loans for nonpoint source projects. Nonpoint source projects may include construction and maintenance of stormwater management facilities, establishment of a stormwater utility, purchase of land for wetlands and riparian zones, and implementation of source

water protection assessments. For more information, view the State Revolving Fund web site www.scdhec.gov/srf .

Clean Marina Program

South Carolina's Clean Marine Program is part of an international effort, along with 24 other states and territories, to use best management practices to protect and improve water quality at marinas.

By meeting prescribed environmental performance criteria, marinas can qualify to fly the Clean Marina flag to attract recreational and transient boaters to their facility. Water quality issues covered by the program include proper cleaning and painting, fuel and used oil management, sewage collection and removal, and emergency preparedness. The program is administered by the South Carolina Marine Association, which is governed by the Clean Marina Committee. The Clean Marina Committee consists of representatives from SCDHEC-OCRM, SCDNR, Palmetto Pride, and the commercial marine industry.

Citizen-Based Watershed Stewardship Programs

Throughout the Edisto River Basin, water quality is a common interest among citizen groups. The issues and membership of these groups vary widely. Some of the citizen groups interested in water quality in the Edisto River Basin are described below. To view the most current listing, visit our webpage at http://www.scdhec.gov/environment/water/shed/org.htm.

Friends of the Edisto (FRED)

FRED is a non-profit organization established in 1998 to protect and enhance the natural and cultural character and resources of the Edisto River Basin through conservation and responsible use. The 200 plus member organization uses a variety of education, advocacy and research tools to support the implementation of the recommendations from the Edisto River Basin Task Force. Learn more about FRED at www.edistofriends.org.

Ace Basin National Estuarine Research Reserve (NERR)

Located 45 minutes south of Charleston, SC, the Ace Basin (Ashepoo River/Combahee River/Edisto River) is one of the largest undeveloped estuaries on the east coast of the United States. The ACE Basin National Estuarine Research Reserve (NERR) was designated in 1992 as a partnership program between the National Oceanic and Atmospheric Administration (NOAA) and the South Carolina Department of Natural Resources (SCDNR). The ACE Basin NERR aims to protect the natural beauty, abundant wildlife and unique cultural heritage of the area through long-term research, water-quality monitoring, education and coastal stewardship. For more information, visit http://www.dnr.sc.gov/marine/NERR/.

Edisto Island Preservation Alliance (EIPA)

The Edisto Island Preservation Alliance is a consortium of 9 local non- profit organizations that are working together to preserve Edisto's unique non-commercial, undeveloped, rural agricultural character. EIPA today is self- supporting and self governed with a Board of Directors and membership numbering over 200 people. Learn how you can get involved by visiting http://www.preserveedisto.org/ or by e-mailing PreserveEdisto@bellsouth.net.

Edisto Island Community Association

EICA is the oldest community group on Edisto Island. Carefully organized to ensure diverse leadership, it is a strong voice for the African American community on the island. Environmental concerns are among its broad interests. EICA is one of the founding members of the Edisto Island Preservation Alliance. Learn more at http://www.preserveedisto.org/EICA.html.

Edisto River Canoe and Kayak Trail Commission (ERCK)

ERCK is a group of volunteers committed to the preservation, wise use, and enjoyment of the Edisto River. The group educates citizens on safe paddling techniques through courses and fieldtrips and hosts an annual Edisto Riverfest. Visit www.edistoriver.org for more information.

Coastal Conservation League (CCL)

Since 1989, the CCL has been working with communities, businesses and citizen groups to protect the South Carolina coastal plain and to enhance the quality of life of its communities. CCL actively promotes the protection of coastal habitats and water quality, among other issues, through legislative action and grassroots citizen involvement. Learn more at http://coastalconservationleague.org.

Adopt a Beach

The Adopt a Beach program is part of the Marine Debris Program within SCDHEC's Office of Oceans and Coastal Resource Management. A variety of organizations have the opportunity to volunteer to keep a portion of beach area free of trash and litter. A sign is posted at the location recognizing those who have committed their time and effort. At present, over 40 beach sections have been adopted by churches, civic organizations, scout troops, conservation groups, private businesses, and even individual families. Boy Scout Troop 63 has adopted a five block section of Edisto Beach. Learn more at www.scdhec.gov/environment/ocrm/adopt-a-beach

Edisto River Basin Description

The ***Edisto River Basin (hydrologic units 03050203, 03050204, 03050205, 03050206)*** is located in Lexington, Aiken, Orangeburg, Calhoun, Edgefield, Saluda, Barnwell, Bamberg, Dorchester, Colleton, and Charleston Counties, and encompasses 3,151 square miles that extend across the Sandhills, Upper and Lower Coastal Plains and Coastal Zone regions of South Carolina. The Edisto River Basin encompasses 13 watersheds and some 2 million acres of which 37.5% is forested land, 34.3% is agricultural land, 17.9% is forested wetland, 5.5% is urban land, 2.8% is nonforested wetland, 1.8% is water, and 0.2% is barren land. The urban land percentage is comprised chiefly of the City of Orangeburg and a portion of the City of Aiken. There are a total of 5,177.3 stream miles, 11,488.8 acres of lake waters, and 20,614.9 acres of estuarine areas in the Edisto River Basin.

The confluence of Chinquapin Creek and Lightwood Knot Creek form the North Fork Edisto River, which is joined downstream by Black Creek, Bull Swamp Creek, and Caw Caw Swamp. The South Fork Edisto River accepts drainage from Shaw Creek, Dean Swamp Creek, Goodland Creek, and Roberts Swamp before merging with the North Fork Edisto River to form the Edisto River. Downstream from the confluence, the Edisto River is joined by Cattle Creek, Indian Field Swamp, and Four Hole Swamp. Prior to joining the Edisto River, Four Hole Swamp accepts drainage from Cow Castle Creek, Providence Swamp, Horse Range Swamp, and Dean Swamp. Downstream from Four Hole Swamp, the Dawho River enters the Edisto River, and their confluence forms the South Edisto River. The Dawho River also merges with the Wadmalaw River to form the North Edisto River. Both the South Edisto and North Edisto Rivers drain to the Atlantic Ocean.

Physiographic Regions

The State of South Carolina has been divided into six Major Land Resource Areas (MLRAs) by the USDA Soil Conservation Service. The MLRAs are physiographic regions that have soils, climate, water resources and land uses in common. The physiographic regions that define the Edisto Basin are as follows:

The **Sand Hills** are an area of gently sloping to strongly sloping uplands with a predominance of sandy areas and scrub vegetation; elevations range from 250 to 450 feet.

The **Upper Coastal Plain** is an area of gentle slopes with increased dissection and moderate slopes in the northwestern section that contain the state's major farming areas; elevations range from 100 to 450 feet.

The **Lower Coastal Plain** is an area that is mostly nearly level and is dissected by many broad, shallow valleys with meandering stream channels; elevations range from 25 to 125 feet.

The **Coastal Zone** is a mostly tidally-influenced area that is nearly level and dissected by many broad, shallow valleys with meandering stream channels; most of the valleys terminate in tidal estuaries along the coast; elevations range from sea level to about 25 feet.

Land Use/Land Cover

General land use/land cover mapping for South Carolina was derived from the National Land Cover Data (NLCD). The dataset is based on nationwide Landsat Thematic Mapper (TM) multispectral satellite images (furnished through the Multi-Resolution Land Characteristics (MRLC) consortium, coordinated by USEPA) using image analysis software to inventory the Nation's land classes. The NLCD are developed by the USGS (EROS Data Center) using TM image interpretation, air photo interpretation, National Wetland Inventory data analysis, and ancillary data analysis.

Urban land is characterized by man-made structures and artificial surfaces related to industrial, commercial, and residential uses, and vegetated portions of urban areas such as recreational grass lands and industrial facility lawns.

Agricultural/Grass land is characterized by row crops, pastures, orchards, vineyards, and hay land, and includes grass cover in fallow, scrub/shrub, forest clearcut and urban areas.

Forest land is characterized by deciduous and evergreen trees (or a mix of these), not including forests in wetland settings, generally greater than 6 meters (approximately 20 feet) in height, with tree canopy of 25-100% cover.

Forested Wetland is saturated bottomland, mostly hardwood, forests primarily composed of wooded swamps occupying river floodplains, moist marginal forests, and isolated low-lying wet areas, located predominantly in the Coastal Plain.

Nonforested Wetland is saturated marshland, most commonly located in coastal tidelands and in isolated freshwater inland areas, found predominantly in the Coastal Plain.

Barren land is characterized by a nonvegetated condition of the land, both natural (rock, beaches, nonvegetated flats) and man-induced (rock quarries, mines, and areas cleared for construction in urban areas or clearcut forest areas).

Water (non-land) includes both fresh (inland) and saline (tidal) waters.

Soil Types

The individual soil series for the Edisto River Basin are described as follows.

Ailey soils are well drained loamy and sandy soils with clayey or loamy subsoil.

Albany soils are deep, somewhat poorly drained soils with sandy to loamy subsoil on nearly level terrain.

Blaney soils are nearly level to strongly sloping, excessively drained and well drained soils, some sandy throughout and some with a loamy subsoil and a fragipan on coastal plains.

Bohicket soils are very poorly drained soils, clayey throughout or mucky and underlain with clayey layers, frequently flooded.

Chipley soils are moderately to excessively well drained soils, sandy throughout, on high ridges.

Chisolm soils are deep, well to moderately drained soils with sandy to loamy subsoil on nearly level to gently sloping terrain.

Daleville soils are nearly level, poorly drained soils, with silty loam in slight depressions and drainageways on upland terraces.

Dorovan soils are deep, level, very poorly drained, organic soils on floodplains adjacent to upland.

Foxworth soils are well drained, sandy marine sediment derived, with acidic soils.

Fuquay soils are well drained, loamy and sandy soils with clayey or loamy subsoil.

Goldsboro soils are moderately well to poorly drained soils with loamy subsoil on nearly level ridges and in shallow depressions.

Hobcaw soils are nearly level, very poorly drained soils in depressions.

Johnston soils are nearly level, moderately well drained to very poorly drained soils, loamy throughout with a sandy surface layer on floodplains.

Kiawah soils are deep, somewhat poorly drained to poorly drained, acidic soils, sandy throughout, with a surface soil and subsoil of loamy fine sand.

Lakeland soils are well drained, sandy soils with a loamy subsoil and excessively drained soils.

Leon soils are somewhat poorly drained to poorly drained, level to nearly level, sandy soils with weakly cemented layers stained by organic matter.

Lumbee soils are poorly drained and very poorly drained, sandy and loamy soils with a loamy subsoil.

Lynchburg soils are moderately well to poorly drained soils, with loamy subsoil, on nearly level ridges and in shallow depressions.

Meggett soils are poorly drained to very poorly drained, level to nearly level soils with a loamy to sandy surface layer and a loamy to clayey subsoil.

Mouzon soils are poorly drained, loamy and sandy soils with a loamy subsoil.

Noboco soils are well drained, sandy soils with a loamy or clayey subsoil.

Ogeechee soils are poorly drained and moderately well drained, loamy soils with clayey or loamy subsoil, on terraces.

Orangeburg soils are well drained soils that have a sandy or loamy surface layer and a loamy or clayey subsoil.

Rains soils are moderately well to poorly drained soils, with a loamy subsoil, on nearly level ridges and in shallow depressions.

Troup soils are well drained, sandy soils with loamy subsoil and excessively drained soils.

Varina soils are nearly level to sloping, well drained soils, with a sandy surface layer and a clayey or loamy subsoil.

Vaucluse soils are well drained, loamy and sandy soils with clayey or loamy subsoil.

Wadmalaw soils are poorly drained to very poorly drained, level to nearly level soils with a loamy to sandy surface layer and a loamy to clayey subsoil.

Wagram soils are well drained to very poorly drained, depressional to nearly level and gently sloping soils with a loamy to sandy surface layer and a clayey to loamy subsoil.

Yauhannah soils are poorly drained to moderately well drained soils with a loamy subsoil, on nearly level ridges and in shallow depressions.

Yonges soils are moderately well drained to poorly drained, nearly level soils with a sandy surface layer and a predominantly loamy subsoil.

Slope and Erodibility

The definition of soil erodibility differs from that of soil erosion. Soil erosion may be more influenced by slope, rainstorm characteristics, cover, and land management than by soil properties. Soil erodibility refers to the properties of the soil itself, which cause it to erode more or less easily than others when all other factors are constant.

The soil erodibility factor, K, is the rate of soil loss per erosion index unit as measured on a unit plot, and represents an average value for a given soil reflecting the combined effects of all the soil properties that significantly influence the ease of soil erosion by rainfall and runoff if not protected. The K values closer to 1.0 represent higher soil erodibility and a greater need for best management practices to minimize erosion and contain those sediments that do erode. The range of K-factor values in the Edisto River Basin is from 0.14 to 0.16.

Fish Consumption Advisory

At the time of publication, a fish consumption advisory issued by SCDHEC is in effect for portions of the North Fork Edisto River, the South Fork Edisto River, Four Hole Swamp, the Edisto River, and the Atlantic Ocean advising people to limit the amount of some types of fish consumed from these waters. Fish consumption advisories are updated annually in the spring. For background information and the most current advisories please visit the Bureau of Water homepage at http://www.scdhec.gov/water and click on "Advisories." For more information or a hard copy of the advisories, call SCDHEC's Fish Consumption Advisory toll-free hotline at (888) 849-7241.

Ocean Swimming Advisory

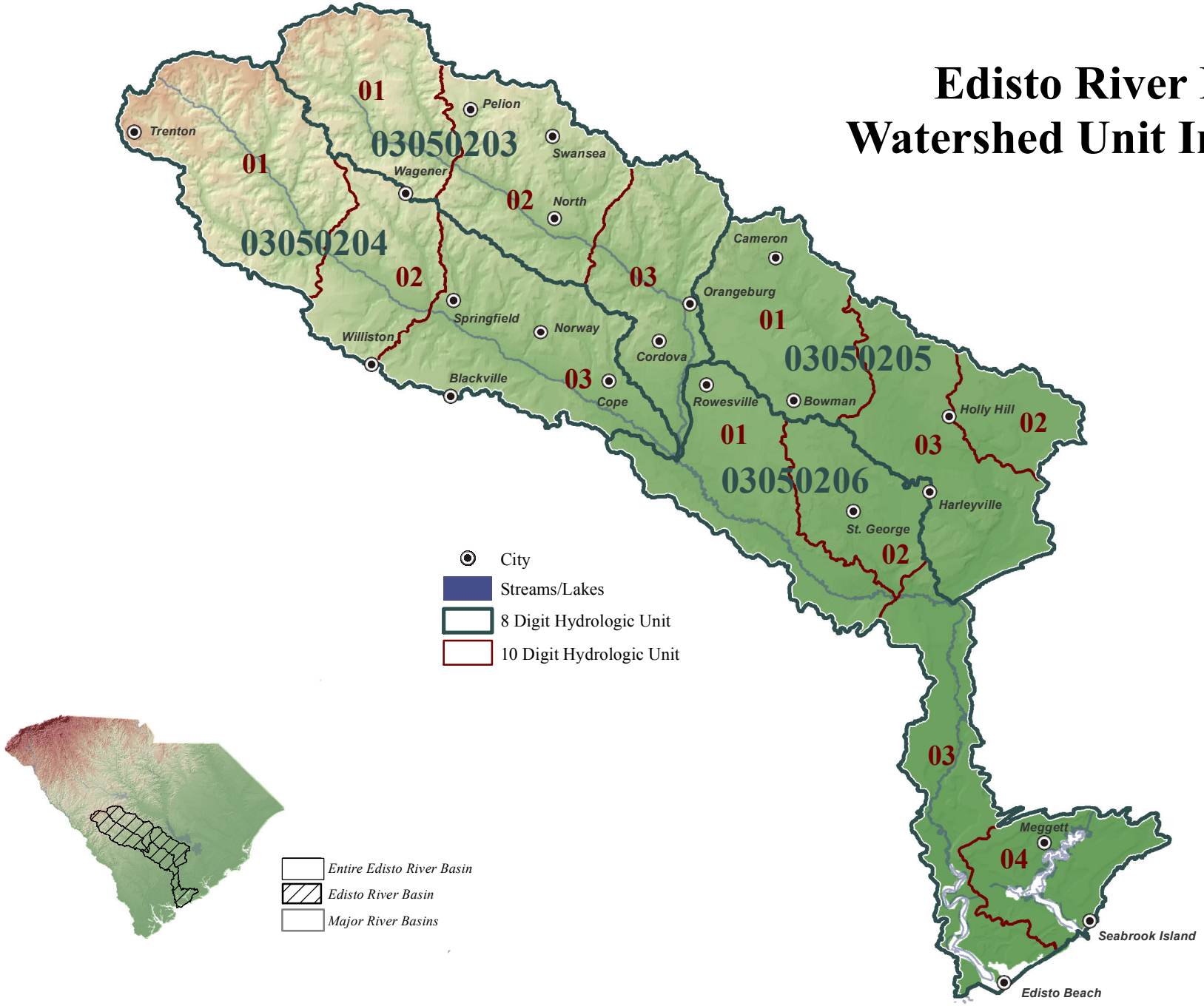
S.C. DHEC routinely collects water samples along South Carolina's beaches. If high numbers of bacteria (enterococcus) are found, an advisory is issued for that portion of beach. An advisory means that DHEC advises you NOT to swim in that areas while signs are posted. This is especially true for young children, those with comprised immune systems, and the elderly. Advisories do not mean that the beach is closed. Wading, fishing, and shell collecting do not pose a risk. Advisories may be issued due to high sample results or because of rainfall causing stormwater to runoff on the beach. Advisories are lifted when sample results fall below the limit of 104CFU/100mL. Check local newspapers,

television stations, posted advisory signs on beaches, and this website www.scdhec.gov/environment/water/ow_advisory for up-to-date information.

Climate

Normal yearly rainfall in the Edisto River area during the period of 1971 to 2000 was 48.52 inches, according to South Carolina's **30-year** climatological record. Data compiled from National Weather Service stations in Aiken, Blackville, Bamberg, Orangeburg, Branchville, Walterboro, Pelion, and Springfield were used to determine the general climate information for the Edisto River area. The highest seasonal rainfall occurred in the summer with 15.75 inches; 9.88, 11.94, and 10.95 inches of rain fell in the fall, winter, and spring, respectively. The average annual daily temperature was 63.9°F. Summer temperatures averaged 79.4 °F, and fall, winter, and spring mean temperatures were 64.8 °F, 47.8 °F, and 63.7 °F, respectively.

Edisto River Basin
Watershed Unit Index Map



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South Carolina Department of Health and Environmental Control

Watershed Evaluations

03050203-01

(North Fork Edisto River - Headwaters)

General Description

Watershed 03050203-01 (formerly 03050203-010, 020, 030) is located in Aiken and Lexington Counties and consists primarily of the ***North Fork Edisto River*** and its tributaries from its origin to Black Creek. The watershed occupies 153,833 acres of the Sandhills and Upper Coastal Plain regions of South Carolina. Land use/land cover in the watershed includes: 45.2% forested land, 40.2% agricultural land, 7.0% forested wetland (swamp), 6.5% urban land, 0.9% water, and 0.2% nonforested wetland (marsh).

Chinquapin Creek and Lightwood Knot Creek join to form the North Fork Edisto River. Chinquapin Creek originates near the Town of Monetta and accepts drainage from Duncan Creek, Horsepen Creek, Mare Creek, Rock Creek, and Shirley Branch before merging with Lightwood Knot Creek. Lightwood Knot Creek flows through several ponds including Abells Millpond and Brodie Millpond, before accepting drainage from Hellhole Creek (Mill Creek, Rocky Ford Creek, Tanker Branch), Marlowe Creek, Thasher Branch, Mill Creek, and Long Branch.

The North Fork Edisto River then accepts drainage from Carneys Creek (Steedman Pond), Crooker Branch, Goose Platter Creek, Chalk Hill Creek (Tom Branch, Chalk Hill Millpond), and Juniper Creek (Marrow Bone Swamp Creek). Wolf Pit Branch enters the river further downstream followed by Big Branch, Hood Branch (Church Branch), Rambo Branch, Giddy Swamp Creek (Collums Millpond), and Black Creek. Black Creek originates near the Town of Gilbert and flows through Taylor Pond before accepting the drainage of Pond Branch and flowing into Paxton Millpond. Black Creek then accepts drainage from Little Black Creek, Clarks Millpond, Cedar Pond Branch, Spring Branch, Big Branch, McCartha Branch, and Coney Branch before draining into the North Fork Edisto River. There are a total of 276.9 stream miles and 1,778.2 acres of lake waters in this watershed, all classified FW.

Surface Water Quality

Station	Type	Class	Description
E-091	W	FW	CHINQUAPIN CREEK AT SC 391, 5.5 MI S BATESBURG
E-606	BIO	FW	CHINQUAPIN CREEK AT SR 210
E-101	W	FW	LIGHTWOOD KNOT CREEK OFF S-32-77, AT BATESBURG WATER INTAKE
E-605	BIO	FW	LIGHTWOOD KNOT CREEK AT UNNAMED ROAD W OF SR 60
E-084	INT	FW	NORTH FORK EDISTO RIVER AT S-02-74
E-102	INT	FW	NORTH FORK EDISTO RIVER AT S-02-110
E-604	BIO	FW	BLACK CREEK AT SR 278
E-103	INT	FW	BLACK CREEK AT S-32-53 (RAMBO BRIDGE), 3.5 MI SE OF PELION

Chinquapin Creek - There are two SCDHEC monitoring stations along Chinquapin Creek. Aquatic life uses are fully supported at the upstream site ***(E-091)***; however, there is a significant decreasing trend in dissolved oxygen concentration. A significant decreasing trend in turbidity suggests improving conditions for this parameter. Recreational uses are not supported due to fecal coliform bacteria excursions. Aquatic life uses are partially supported at the downstream site ***(E-606)*** based on macroinvertebrate community data.

Lightwood Knot Creek – There are two SCDHEC monitoring stations along Lightwood Knot Creek. This is a blackwater system, characterized by naturally low pH conditions. At the upstream site ***(E-101)***, aquatic life uses are fully supported; however, there is a significant decreasing trend in dissolved oxygen concentration. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. There is a significant increasing trend in pH. A significant decreasing trend in turbidity suggests improving conditions for this parameter. Recreational uses are not supported due to fecal coliform bacteria excursions. Aquatic life uses are fully supported at the downstream site ***(E-605)*** based on macroinvertebrate community data.

North Fork Edisto River – There are two SCDHEC monitoring stations along this portion of the North Fork Edisto River. This is a blackwater system, characterized by naturally low pH conditions. Although pH excursions occurred at both sites, they were typical of values seen in blackwater systems and were considered natural, not standards violations. At the upstream site ***(E-084)***, aquatic life uses are partially supported due to ammonia excursions. In addition, there is a significant increasing trend in five-day biochemical oxygen demand. Significant decreasing trends in turbidity and total phosphorus concentration suggest improving conditions for these parameters. Recreational uses are fully supported. At the downstream site ***(E-102)***, aquatic life uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. There is a significant decreasing trend in pH. Recreational uses are partially supported due to fecal coliform bacteria excursions.

Black Creek – There are two SCDHEC monitoring stations along Black Creek. This is a blackwater system, characterized by naturally low pH conditions. At the upstream site ***(E-604)***, aquatic life uses are fully supported based on macroinvertebrate community data. At the downstream site ***(E-103)***, aquatic life uses are fully supported; however, there are significant increasing trends in five-day biochemical oxygen demand and total nitrogen concentration. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. There is a significant decreasing trend in pH. A significant decreasing trend in turbidity suggests improving conditions for this parameter. Recreational uses are fully supported.

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-026	GB	MIDDENDORF	WAGENER
AMB-063	GB	PIEDMONT BEDROCK	GILBERT

All water samples collected from ambient monitoring wells ***AMB-026*** and ***AMB-063*** met standards for Class GB groundwater.

NPDES Permitted Activities

Active NPDES Facilities

RECEIVING STREAM *FACILITY NAME*	*NPDES#* *TYPE*
DUNCAN CREEK TOWN OF BATESBURG-LEESVILLE WWTP	SC0024465 MAJOR DOMESTIC
BLACK CREEK BOWERS LEASING CO./BOWERS MINE	SCG730137 MINOR INDUSTRIAL
BLACK CREEK TRIBUTARY B&T SAND CO., INC../OLD CHARLESTON MINE	SCG730585 MINOR INDUSTRIAL
LIGHTWOOD KNOT CREEK TRIBUTARY B&T SAND CO., INC../SUMMIT MINE	SCG730586 MINOR INDUSTRIAL

Nonpoint Source Permitted Activities

Land Disposal Activities

Landfill Facilities

LANDFILL NAME *FACILITY TYPE*	*PERMIT #* *STATUS*
LEXINGTON COUNTY LANDFILL #2 DOMESTIC	---------- CLOSED
OSWALD LUMBER C&D & LCD LF C&D	322601-1201 ACTIVE
CMC LEXINGTON CLASS III LANDFILL INDUSTRIAL	323328-1601 ACTIVE
CMC LEXINGTON CLASS III LANDFILL INDUSTRIAL	323328-1602 ACTIVE
SMI OWEN INDUSTRIAL PRODUCTS INDUSTRIAL	---------- INACTIVE
SMI OWEN INDUSTRIAL PRODUCTS INDUSTRIAL	---------- INACTIVE
SMI OWEN INDUSTRIAL PRODUCTS INDUSTRIAL	---------- INACTIVE

Land Application Sites

LAND APPLICATION SYSTEM FACILITY NAME	*ND# TYPE*
SPRAY IRRIGATION GILBERT ELEMENTARY SCHOOL	ND0013587 DOMESTIC

Mining Activities

MINING COMPANY MINE NAME	*PERMIT # MINERAL*
B&T SAND COMPANY, INC. SUMMIT MINE	1215-63 SAND; SAND/CLAY
WILSON BROTHERS SAND CO., INC. FRICK MINE	0718-63 SAND
WILSON BROTHERS SAND CO., INC. AIKEN MINE	1006-03 SAND
B & T SAND COMPANY, INC. OLD CHARLESTON HWY/I-20	1311-63 SAND, SAND/CLAY
BOWERS LEASING COMPANY HUGHES MINE	0637-63 SAND

Water Quantity

WATER USER WATERBODY	*REGULATED CAPACITY (MGD) PUMPING CAPACITY (MGD)*
TOWN OF BATESBURG-LEESVILLE LIGHTWOOD KNOT CREEK	4.32 2.16
TOWN OF BATESBURG -LEESVILLE DUNCAN CREEK	4.8 2.4

Growth Potential

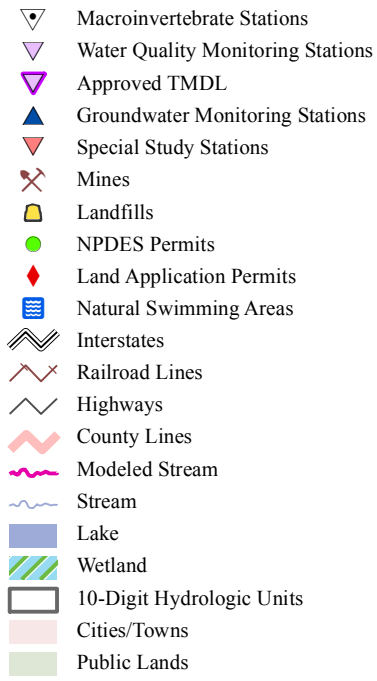
There is a low potential for growth in this rural watershed containing portions of the Towns of Batesburg/Leesville, Summit, Wagener, and Gilbert. The Town of Batesburg/Leesville has the only sewer service in the area. Water is provided by Batesburg-Leesville and the Gilbert-Summit Rural Water District. Batesburg-Leesville is currently in discussions with neighboring jurisdictions, including the Gilbert-Summit Rural Water District, to partner on developing a regional water supply from Lake Murray. This could have an impact on growth and development trends in coming years, especially if current trends of development in the unincorporated portions of Lexington County continue.

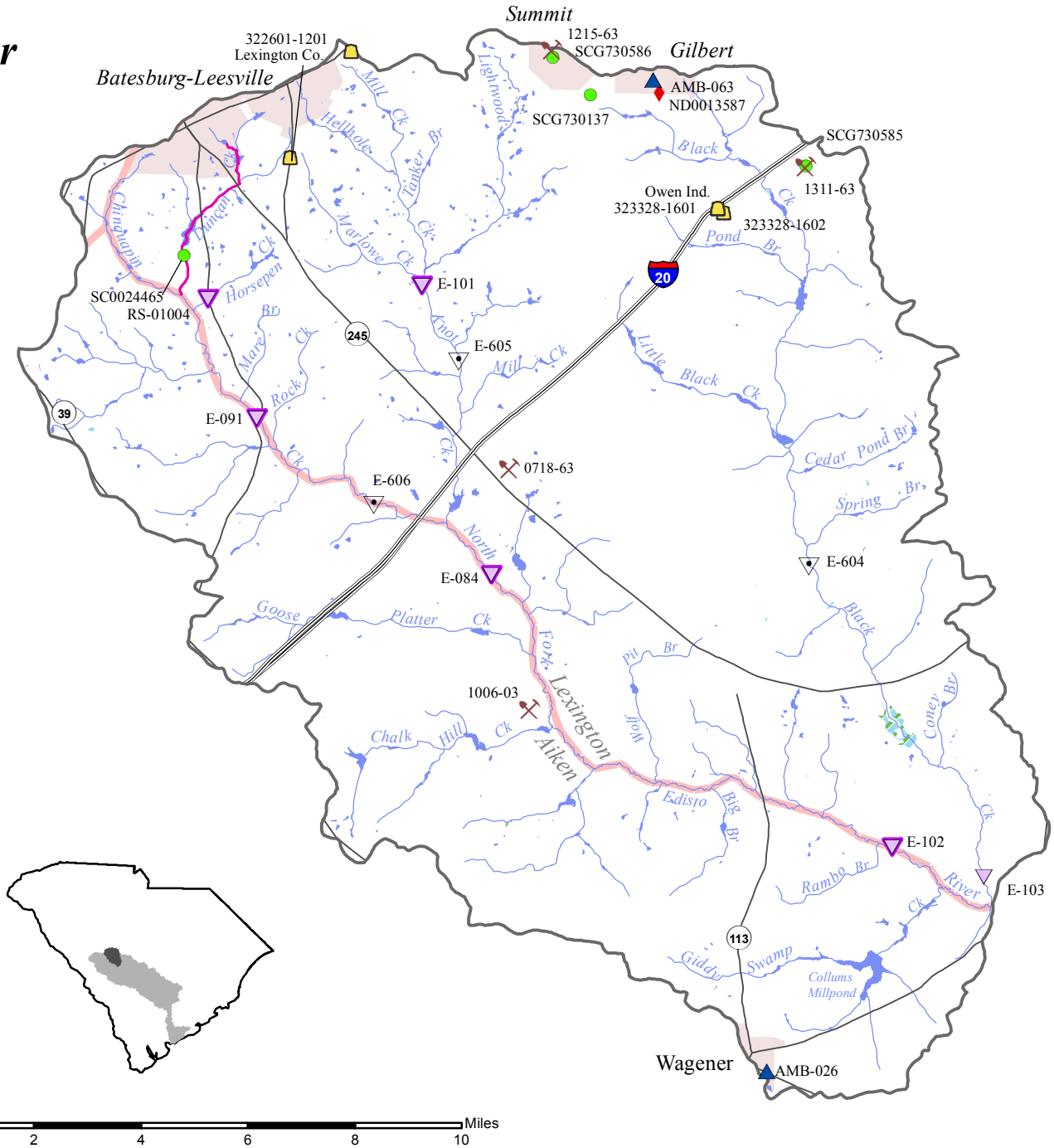
Watershed Protection and Restoration Strategies

Total Maximum Daily Loads (TMDLs)

TMDLs were developed by SCDHEC and approved by EPA for the **North Fork Edisto River** and tributaries **Chinquapin Creek** and **Horse Pen Creek** at water quality monitoring sites E-084, E-102, E-091, and RS-01004. TMDLs determine the maximum amount of fecal coliform bacteria waterbodies can receive from pollution sources and still meet water quality standards. There is one major permitted wastewater treatment facilities in the watershed. There are no designated MS4s in the watershed; however there may be construction or industrial activities covered by general permits. Probable sources of fecal coliform bacteria that were identified in the watershed are grazing animals, especially cattle with access to streams, failing septic systems, urban runoff, and wildlife. The TMDLs state that reductions of 7% to 78% in fecal coliform loading are necessary for the streams to meet the recreational use standard.

(Upper)
North Fork Edisto River Watershed
(03050203-01)





03050203-02

(North Fork Edisto River - Middle Reach)

General Description

Watershed 03050203-02 (formerly 03050203-040, 050) is located in Lexington, Aiken, Orangeburg, and Calhoun Counties and consists primarily of the ***North Fork Edisto River*** and its tributaries from Black Creek to Bull Swamp Creek. The watershed occupies 177,721 acres of the Sandhills and Upper Coastal Plain regions of South Carolina. Land use/land cover in the watershed includes: 42.0% agricultural land, 41.0% forested land, 9.9% forested wetland (swamp), 6.4% urban land, 0.5% water, and 0.2% nonforested wetland (marsh).

This section of the North Fork Edisto River accepts drainage from Cedar Creek (Fort Pond, Lynch Branch, Rast Pond, Thrasher Branch, Crawford Branch), Jackson Branch, Hollow Creek (Ritter Branch, Little Hollow Creek), Pond Branch (Hunter Branch), and Salem Creek. Further downstream, Penn Branch enters the river followed by Big Beaver Creek (Little Beaver Creek), Turkey Branch (Gibson Branch, Hutto Mill Pond), and Bull Swamp Creek. Bull Swamp Creek originates near Gaston and accepts drainage from Spires Pond, Boggy Branch, Fourth Creek, Third Creek (Redmond Pond), Cow Branch, Gardner Branch, Little Bull Swamp Creek (Cowpen Swamp, Turkey Branch) and Etheridge Mill Pond before flowing into the North Fork Edisto River. There are a total of 352.5 stream miles and 1,264.8 acres of lake waters in this watershed, all classified FW.

Surface Water Quality

Station #	Type	Class	Description
E-092	W	FW	NORTH FORK EDISTO RIVER AT SC 3, 5.5 MI NW OF NORTH
E-034	W	FW	BULL SWAMP CREEK AT CULVERT, 1.1 MI NW OF SWANSEA
E-035	W	FW	BULL SWAMP CREEK AT US 321, 0.9 MI S OF SWANSEA
E-042	INT/BIO	FW	BULL SWAMP CREEK AT S-38-189
E-104	INT	FW	NORTH FORK EDISTO RIVER AT S-38-73

North Fork Edisto River – There are two SCDHEC monitoring stations along this portion of the North Fork Edisto River. This is a blackwater system, characterized by naturally low pH conditions. Although pH excursions occurred at both sites, they were typical of values seen in blackwater systems and were considered natural, not standards violations. At the upstream site ***(E-092)***, aquatic life uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. There is a significant decreasing trend in pH. A significant decreasing trend in turbidity suggests improving conditions for this parameter. Recreational uses are partially supported due to fecal coliform bacteria excursions. At the downstream site ***(E-104)***, aquatic life and recreational uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. There is a significant decreasing trend in pH. A significant decreasing trend in turbidity suggests improving conditions for this parameter.

Bull Swamp Creek – There are three SCDHEC monitoring stations along Bull Swamp Creek. This is a blackwater system, characterized by naturally low pH conditions. Although pH excursions occurred at all sites, they were typical of values seen in blackwater systems and were considered natural, not standards violations. At the upstream site ***(E-034)***, aquatic life uses are not supported due to dissolved oxygen excursions. In addition, there is a significant increasing trend in five-day biochemical oxygen demand. There is a significant decreasing trend in pH. Recreational uses are fully supported. At the midstream site ***(E-035),*** aquatic life uses are fully supported. Significant decreasing trends in turbidity and total phosphorus concentration suggest improving conditions for these parameters. Recreational uses are partially supported due to fecal coliform bacteria excursions. At the downstream site ***(E-042),*** aquatic life uses are fully supported based on macroinvertebrate community data; however, there is a significant increasing trend in five-day biochemical oxygen demand. There is a significant decreasing trend in pH. A significant decreasing trend in turbidity suggests improving conditions for this parameter. Recreational uses are fully supported.

A fish consumption advisory has been issued by the Department for mercury and includes portions of the North Fork Edisto River within this watershed (see advisory p.41).

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-104	GB	TERTIARY SANDS	NORTH
AMB-040	GB	MIDDENDORF	SWANSEA

All water samples collected from ambient monitoring wells ***AMB-104*** and ***AMB-040*** met standards for Class GB groundwater.

NPDES Permitted Activities

Active NPDES Facilities

RECEIVING STREAM / ***FACILITY NAME***	***NPDES#*** / ***TYPE***
NORTH FORK EDISTO RIVER TOWN OF NORTH	SC0047821 MINOR DOMESTIC
BOGGY BRANCH GASTON COPPER RECYCLING CORP.	SC0034541 MINOR INDUSTRIAL
BULL SWAMP CREEK CHEROKEE INC./HOFFMAN PIT	SCG730731 MINOR INDUSTRIAL

Nonpoint Source Permitted Activities

Land Disposal Activities

Landfill Facilities

LANDFILL NAME *FACILITY TYPE*	*PERMIT #* *STATUS*
WASTE TIRE MANAGEMENT WTP	322475-5201 INACTIVE

Land Application Sites

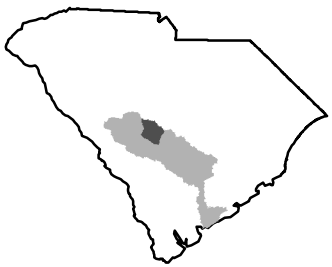
LAND APPLICATION SYSTEM *FACILITY NAME*	*ND#* *TYPE*
SPRAY IRRIGATION PELION ELEM. SCHOOL	ND0013561 DOMESTIC
SEPTAGE INJECTION CE TAYLOR PUMPING, INC.	ND0070149 DOMESTIC

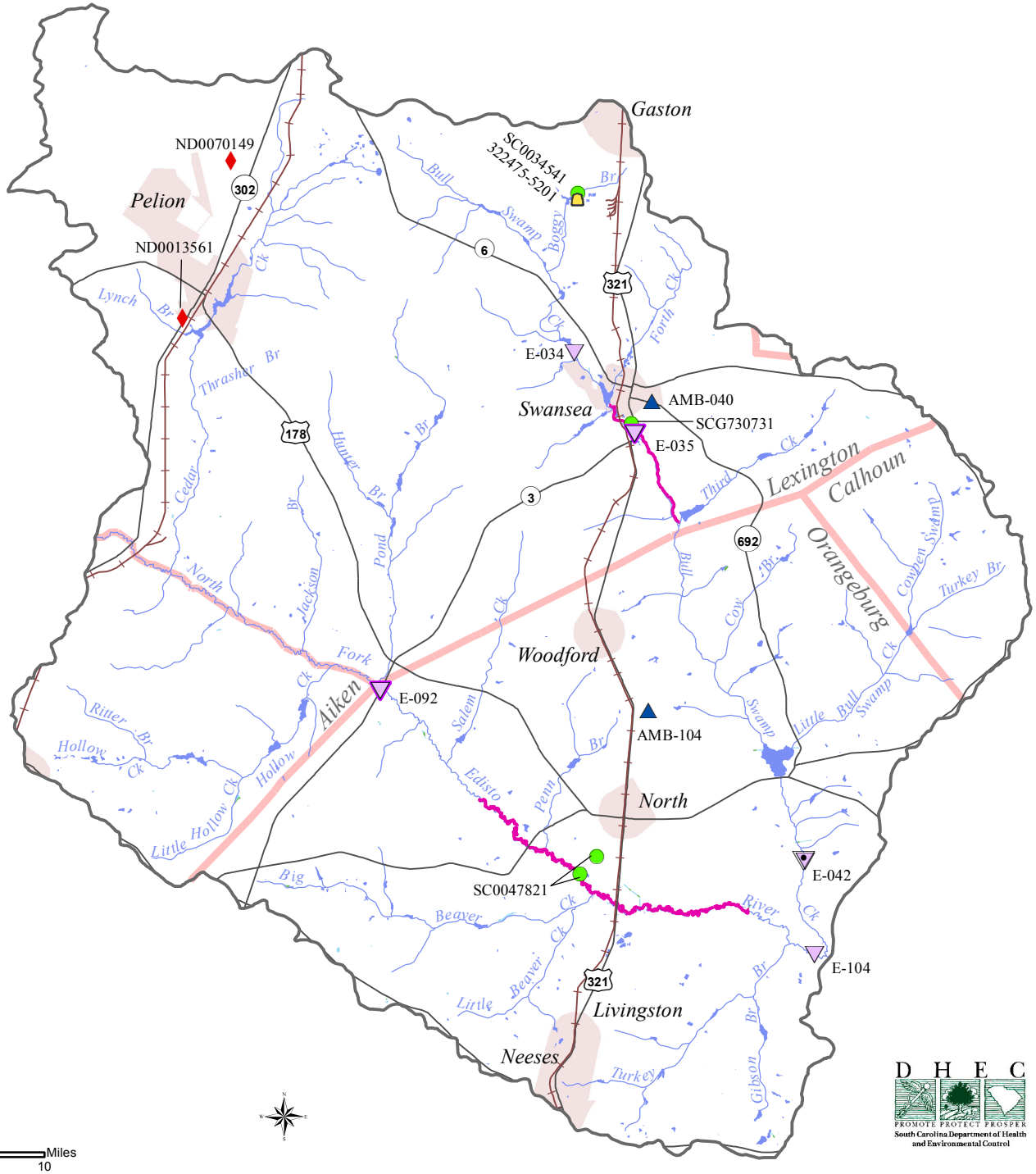
Growth Potential

Since 2000, there has been a steady amount of growth in this watershed, which contains the Towns of Pelion, North, Livingston, Swansea, and Woodford and portions of the Towns of Neeses and Gaston. There is a small industrial park north of the Town of Pelion that may attract future industrial prospects. A sewer line from the Town of Swansea to the City of Cayce WWTP has been constructed, which may be an impetus for continued growth. Calhoun County is experiencing primarily residential growth in the northwestern "horse's neck" area of the county, adjacent to Lexington County, and along the northeastern part of the county near Lake Marion.

(Middle) North Fork Edisto River Watershed

(03050203-02)





03050203-03

(North Fork Edisto River - Lower Reach)

General Description

Watershed 03050203-03 (formerly 03050203-060, 070, 080) is located in Orangeburg and Calhoun Counties and consists primarily of the ***North Fork Edisto River*** and its tributaries from Bull Swamp Creek to its confluence with the South Fork Edisto River. The watershed occupies 154,502 acres of the Upper and Lower Coastal Plain regions of South Carolina. Land use/land cover in the watershed includes: 36.4% agricultural land, 34.4% forested land, 18.4% forested wetland (swamp), 9.7% urban land, 0.8% water, and 0.3% nonforested wetland (marsh).

This lowest section of the North Fork Edisto River accepts drainage from Long Branch, Double Branch, Limestone Creek (Little Limestone Creek), Great Branch (Grape Branch, Moss Pond), Mill Branch, Fourmile Creek, and Caw Caw Swamp. Caw Caw Swamp flows through Redmond Pond and is joined by Murph Mill Creek (Mack Branch, Crim Creek), Sweetwater Lake, Burke Creek, Saddler Swamp, Early Branch, Cooner Branch, and Turkey Hill Branch before draining into the North Fork Edisto River. The river then accepts drainage from Pen Branch, Anderson Branch, Whirlwind Creek, Dry Swamp, and Cooper Swamp before merging with the South Fork Edisto River. There are a total of 390.0 stream miles and 1,348.1 acres of lake waters in this watershed, all classified FW.

Surface Water Quality

Station #	Type	Class	Description
E-099	INT	FW	NORTH FORK EDISTO RIVER AT S-38-74 NW ORANGEBURG
E-105	INT	FW	CAW CAW SWAMP AT S-38-1032
E-007	W	FW	NORTH FORK EDISTO RIVER AT US 601 AT ORANGEBURG
E-007A	S/W	FW	NORTH FORK EDISTO RIVER AT POWER LINE CROSSING, 2 MI BELOW E-007
E-007B	S/W	FW	NORTH FORK EDISTO RIVER, 4 MILES BELOW E-007 AT A CABIN
E-007C	P/W	FW	NORTH FORK EDISTO RIVER AT POLICEMAN CAMP, 6 MILES BELOW E-007
E-008	P/W/BIO	FW	NORTH FORK EDISTO RIVER AT S-38-39, WSW OF ROWESVILLE
E-008A	W/INT	FW	NORTH FORK EDISTO RIVER AT S-38-63

North Fork Edisto River – There are seven SCDHEC monitoring stations along this portion of the North Fork Edisto River. This is a blackwater system, characterized by naturally low pH conditions. Although pH excursions occurred at E-099 and E-008A, they were typical of values seen in blackwater systems and were considered natural, not standards violations. A significant decreasing trend in pH occurred at all sites. At the furthest upstream site ***(E-099)***, aquatic life uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. Significant decreasing trends in turbidity and total phosphorus concentration suggest improving conditions for these parameters. Recreational uses are partially supported due to fecal coliform bacteria excursions; however, a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter.

At the next site downstream ***(E-007)***, aquatic life uses are not supported due to pH excursions. In addition, there is a significant increasing trend in five-day biochemical oxygen demand. Significant decreasing trends in turbidity and total nitrogen concentration suggest improving conditions for these parameters. Recreational uses are fully supported. Further downstream ***(E-007A)***, aquatic life and recreational uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. Significant decreasing trends in turbidity and total phosphorus concentration suggest improving conditions for these parameters. At the next site downstream ***(E-007B)***, aquatic life uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. Significant decreasing trends in turbidity and total phosphorus concentration suggest improving conditions for these parameters. Recreational uses are partially supported due to fecal coliform bacteria excursions. Further downstream ***(E-007C)***, aquatic life and recreational uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. A significant decreasing trend in turbidity suggests improving conditions for this parameter.

At the next site downstream ***(E-008)***, aquatic life uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. Significant decreasing trends in turbidity and total phosphorus concentration suggest improving conditions for these parameters. Recreational uses are partially supported due to fecal coliform bacteria excursions. At the furthest downstream site ***(E-008A)***, aquatic life and recreational uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Significant decreasing trends in turbidity, total phosphorus concentration, and fecal coliform bacteria concentration suggest improving conditions for these parameters.

Caw Caw Swamp (E-105) - Aquatic life uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. A significant decreasing trend in turbidity suggests improving conditions for this parameter. Recreational uses are partially supported due to fecal coliform bacteria excursions.

A fish consumption advisory has been issued by the Department for mercury and includes portions of the North Fork Edisto River within this watershed (see advisory p.41).

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-044	GB	MIDDENDORF	ORANGEBURG FISH HATCHERY (1)
AMB-101	GB	TERTIARY LIMESTONE	ORANGEBURG FISH HATCHERY (2)

All water samples collected from ambient monitoring well ***AMB-044*** and ***AMB-101*** met standards for Class GB groundwater.

NPDES Permitted Activities

Active NPDES Facilities

RECEIVING STREAM / ***FACILITY NAME***	***NPDES#*** / ***TYPE***
NORTH FORK EDISTO RIVER ALBERMARLE CORP./ORANGEBURG	SC0001180 MAJOR INDUSTRIAL
NORTH FORK EDISTO RIVER CITY OF ORANGEBURG WWTP	SC0024481 MAJOR DOMESTIC
NORTH FORK EDISTO RIVER CITY OF ORANGEBURG/PEARSON WTP	SCG641002 MINOR DOMESTIC
WHIRLWIND CREEK TRIBUTARY ORANGEBURG SCHOOL DIST. 4	SC0040185 MINOR DOMESTIC
NORTH FORK EDISTO RIVER VELCOREX INC.	SC0043419 MAJOR INDUSTRIAL
NORTH FORK EDISTO RIVER TRIBUTARY US FISH & WILDLIFE SERVICE	SC0047023 MINOR INDUSTRIAL
NORTH FORK EDISTO RIVER TRIBUTARY COUNCIL ENERGY INC.	SCG250217 MINOR INDUSTRIAL
NORTH FORK EDISTO RIVER TRIBUTARY ENGINEERED POLYMER SOLUTIONS INC./VALSPAR CORP.	SCG250251 MINOR INDUSTRIAL
CAW CAW SWAMP TRIBUTARY LIMESTONE EARTH PRODUCTS LLC	SCG730636 MINOR INDUSTRIAL
CAW CAW SWAMP TRIBUTARY REA CONTRACTING LLC	SCG730654 MINOR INDUSTRIAL
NORTH FORK EDISTO RIVER TRIBUTARY TILLS LANDSCAPING & CONSTR./TILLS MINE 2	SCG731012 MINOR INDUSTRIAL

Municipal Separate Storm Sewer Systems (MS4)

RECEIVING STREAM / ***MUNICIPALITY*** / ***RESPONSIBLE PARTY*** / ***IMPLEMENTING PARTY***	***NPDES#*** / ***MS4 PHASE*** / ***MS4 SIZE*** / ***COUNTY***
LOWER NORTH FORK EDISTO RIVER CITY OF ORANGEBURG CITY OF ORANGEBURG CITY OF ORANGEBURG	---------- PHASE II SMALL MS4

Nonpoint Source Permitted Activities

Land Disposal Activities

Landfill Facilities

LANDFILL NAME *FACILITY TYPE*	*PERMIT #* *STATUS*
SPIRES LAC & YT LANDFILL C&D	382480-1701 ACTIVE
ALBERMARLE CORP. INDUSTRIAL	383345-1601 ACTIVE
CITY OF ORANGEBURG LANDFILL C&D	381002-1201 ACTIVE
COUNCIL OF ENERGY LAND APPLICATION OF WOOD ASH	382633-8001 ACTIVE
JAMES TRAYWICK (SCE&G) LAND APPLICATION	383320-8001 ACTIVE
JF CLECKLEY & CO. PLANT 2 INDUSTRIAL	---------- INACTIVE
RINGNECK TRAIL C&D LANDFILL C&D	---------- PROPOSED

Land Application Sites

LAND APPLICATION SYSTEM *FACILITY NAME*	*ND#* *TYPE*
APPLICATION TO POND ORANGEBURG SAUSAGE CO.	ND0080730 INDUSTRIAL

Mining Activities

MINING COMPANY *MINE NAME*	*PERMIT #* *MINERAL*
REA CONSTRUCTION CO. MINE #8	0536-75 SAND
LIMESTONE PRODUCTS TOLLY JACK MINE	1246-75 SAND; SAND/CLAY
CONSTRUCTIVE LOGIX INC. RINGNECK MINE	1730-75 SAND; TOPSOIL

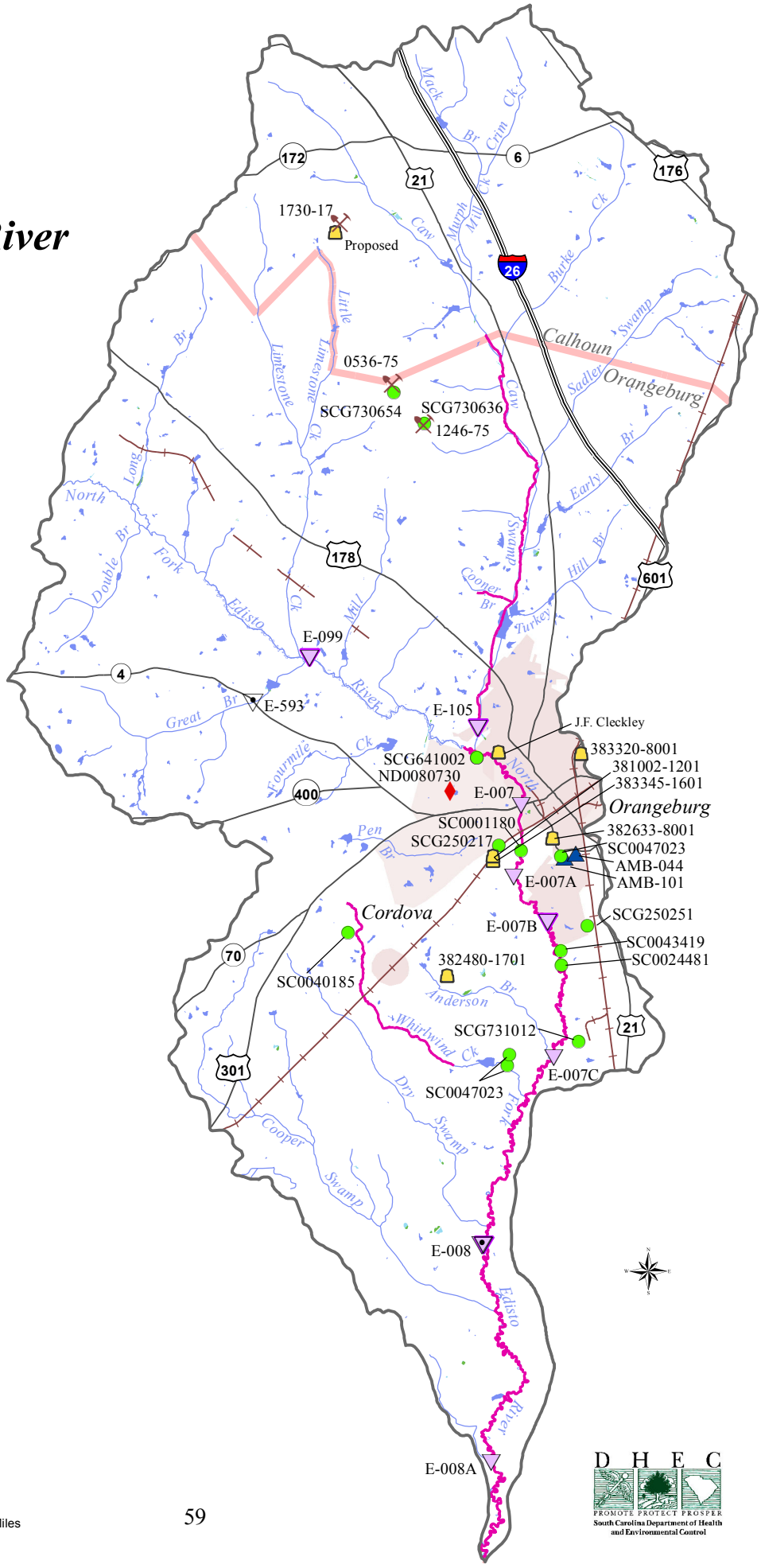
Water Quantity

WATER USER *WATERBODY*	*REGULATED CAPACITY (MGD)* *PUMPING CAPACITY (MGD)*
ORANGEBURG DPU NORTH FORK EDISTO RIVER	56.5 44.5

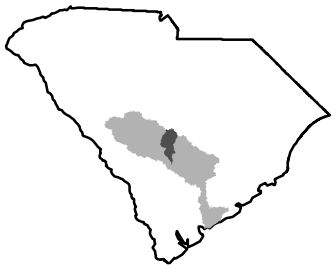
Growth Potential

There is a low to moderate potential for growth in this watershed, which contains the Towns of Edisto and Cordova and the City of Orangeburg. The existing infrastructure of the US 178 out of Orangeburg may encourage some growth. US 601 connects Orangeburg to the Towns of Bamberg and St. Matthews. The US 21 corridor runs from Orangeburg to Rowesville and is paralleled by a rail line. I-26 bisects the watershed and includes four interchanges near St. Matthews.

(Lower) North Fork Edisto River Watershed
(03050203-03)



- Macroinvertebrate Stations
- Water Quality Monitoring Stations
- Approved TMDL
- Groundwater Monitoring Stations
- Special Study Stations
- Mines
- Landfills
- NPDES Permits
- Land Application Permits
- Natural Swimming Areas
- Interstates
- Railroad Lines
- Highways
- County Lines
- Modeled Stream
- Stream
- Lake
- Wetland
- 10-Digit Hydrologic Units
- Cities/Towns
- Public Lands



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PROMOTE PROTECT PROSPER
South Carolina Department of Health and Environmental Control

03050204-01

(South Fork Edisto River - Headwaters)

General Description

Watershed 03050204-01 (formerly 03050204-010, 020) is located in Aiken, Edgefield, and Saluda Counties and consists primarily of the ***South Fork Edisto River*** and its tributaries from its origin to Shaw Creek. The watershed occupies 223,559 acres of the Sandhills and Upper Coastal Plain regions of South Carolina. Land use/land cover in the watershed includes: 44.2% agricultural land, 40.2% forested land, 8.1% forested wetland (swamp), 6.1% urban land, 1.0% water, 0.2% barren land, and 0.2% nonforested wetland (marsh).

The South Fork Edisto River originates near the Town of Johnston and incorporates the drainage of First Branch, Hall Branch, Temples Creek (Flat Rock Branch), Holmes Pond, Satcher Branch, Long Branch, and Beech Creek (Spann Branch, Bog Branch). The river then accepts drainage from Mill Creek (Flat Rock Creek, Pitts Branch, Lotts Creek), Easter Branch, Bulls Branch, Long Branch, Jumping Gut Creek, Mile Branch, and Kalop Branch. Further downstream, the river accepts drainage from Bridge Creek (Reedy Fork, Mill Branch), McTier Creek (Gully Creek, Harrison High Pond, Sawyer Pond, Boggy Branch, Holston Branch), Little Branch, Sandy Branch, Big Branch, Beaverdam Branch (Smith Branch). and Muddy Branch. Rocky Springs Creek (Wildcat Branch, Long Branch, Huttos Pond, Pitman Branch, Poplar Branch) enters the river next followed by Purvis Branch, Clarks Mill Creek, Cedar Creek (Neeses Lake), and Shaw Creek. Shaw Creek originates near the Town of Trenton and receives drainage from Buck Branch, Tiger Creek, Lone Pond, Hillyer Branch, Paces Branch, Beaverdam Branch, Hall Branch, Melton Branch, Curry Branch, Mason Branch, and Boggy Branch. Further downstream, Shaw Creek accepts drainage from Brogdon Branch, Dairy Branch, Long Branch, Reynolds Pond, Bradley Mill Branch, Joyce Branch, Redds Branch, Clearwater Branch, Chavous Branch, and Cedar Branch (Cedar Lake) before flowing into the river. There are a total of 608.0 stream miles and 2,422.6 acres of lake waters in this watershed, all classified FW.

Surface Water Quality

Station #	Type	Class	Description
E-001	W	FW	First Branch at S-19-41, beside water plant at Johnston
E-002	W	FW	South Fork Edisto River at S-19-57, below Johnston WWTP
E-090	W/BIO	FW	South Fork Edisto River at US 1, 12 mi NE of Aiken
RS-03518	RS03/BIO	FW	First McTier Creek Trib on Alberta Peach Rd off S-02-25
E-578	BIO	FW	McTier Creek at S-02-209
E-113	INT	FW	South Fork Edisto River at S-02-152
E-021	W	FW	South Fork Edisto River at SC 302
RS-03344	RS03/BIO	FW	Hillyer Branch at unnamed Rd off S-19-75, 3.5 mi NE of Trenton
RS-02480	RS02/BIO	FW	Shaw Creek at SC191
E-579	BIO	FW	Shaw Creek at S-02-153
E-094	W	FW	Shaw Creek at S-02-26, 4.2 miles NE of Aiken
E-106	INT	FW	Shaw Creek at S-02-576

First Branch (E-001) – Aquatic life and recreational uses are fully supported. This is a blackwater system, characterized by naturally low pH conditions. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Significant decreasing trends in turbidity and total phosphorus concentration suggest improving conditions for these parameters.

South Fork Edisto River – There are four SCDHEC monitoring stations along this section of the South Fork Edisto River. This is a blackwater system, characterized by naturally low pH conditions. Although pH excursions occurred at all except the upstream site ***(E-002)***, they were typical of values seen in blackwater systems and were considered natural, not standards violations. At the furthest upstream site ***(E-002)***, aquatic life uses are fully supported and a significant decreasing trend in turbidity suggests improving conditions for this parameter. Recreational uses are not supported due to fecal coliform bacteria excursions, which are compounded by a significant increasing trend in fecal coliform bacteria concentration.

At the next site downstream ***(E-090)***, aquatic life uses are fully supported based on macroinvertebrate community data; however, there is a significant increasing trend in five-day biochemical oxygen demand. There is a significant decreasing trend in pH. Significant decreasing trends in turbidity, total phosphorus concentration, and total nitrogen concentration suggest improving conditions for these parameters. Recreational uses are fully supported.

Further downstream ***(E-113)***, aquatic life uses are fully supported, but recreational uses are partially supported due to fecal coliform bacteria excursions. At the furthest downstream site ***(E-021)***, aquatic life and recreational uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. There is a significant decreasing trend in pH. Significant decreasing trends in turbidity and fecal coliform bacteria concentration suggest improving conditions for these parameters.

McTier Creek Tributary (RS-03518) – Aquatic life uses are fully supported based on macroinvertebrate community data. This is a blackwater system, characterized by naturally low pH conditions. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Recreational uses are fully supported.

McTier Creek (E-578) – Aquatic life uses are fully supported based on macroinvertebrate community data.

Hillyer Branch (RS-03344) – Aquatic life uses are not supported based on macroinvertebrate community data and pH excursions. Recreational uses are fully supported.

Shaw Creek – There are four SCDHEC monitoring stations along Shaw Creek. This is a blackwater system, characterized by naturally low pH conditions. Although pH excursions occurred at the furthest

upstream and downstream sites, they were typical of values seen in blackwater systems and were considered natural, not standards violations. At the furthest upstream site ***(RS-02480)***, aquatic life uses are fully supported based on macroinvertebrate community data. Recreational uses are fully supported. At the next site downstream ***(E-579)***, aquatic life uses are fully supported based on macroinvertebrate community data. Further downstream ***(E-094)***, aquatic life uses are not supported due to pH excursions. In addition, there is a significant increasing trend in five-day biochemical oxygen demand. There is a significant decreasing trend in pH. A significant decreasing trend in turbidity suggests improving conditions for this parameter. Recreational uses are fully supported. At the furthest downstream site ***(E-106)***, aquatic life and recreational uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. There is a significant decreasing trend in pH. A significant decreasing trend in turbidity suggests improving conditions for this parameter.

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-028	GB	MIDDENDORF	MONTMORENCI COUCHTON

All water samples collected from ambient monitoring well ***AMB-028*** met standards for Class GB groundwater.

Natural Swimming Areas

FACILITY NAME *RECEIVING STREAM*	*PERMIT #* *STATUS*
CAMP GRAVATT MCTIER CREEK	02-N06 ACTIVE
BISHOP GRAVATT CENTER MCTIER CREEK	02-N15 ACTIVE
LONG 4-H CENTER BIG BRANCH	02-N03 ACTIVE

NPDES Permitted Activities

Active NPDES Facilities

RECEIVING STREAM *FACILITY NAME*	*NPDES#* *TYPE*
SOUTH FORK EDISTO RIVER ECW&SA/JOHNSTON #1 PLT	SC0025691 MINOR DOMESTIC
BEAVERDAM BRANCH KENTUCKY-TENNESSEE CLAY CO./GENTRY PIT	SC0046388 MINOR INDUSTRIAL
SHAW CREEK KENTUCKY-TENNESSEE CLAY CO.	SCG730046 MINOR INDUSTRIAL

PACES BRANCH	SC0025682
ECW&SA/TRENTON WWTP	MINOR DOMESTIC
SHAW CREEK	SCG641003
CITY OF AIKEN/SHAW CREEK WTP	MINOR DOMESTIC
SHAW CREEK TRIBUTARY	SCG730375
HILLS CONSTRUCTION LLC/SHILOH HEIGHTS MINE	MINOR INDUSTRIAL
SHAW CREEK	SCG730485
GL WILLIAMS LANDSCAPING INC./EUREKA MINE	MINOR INDUSTRIAL
HOLSTON BRANCH	SCG730489
GL WILLIAMS LANDSCAPING INC./HWY 49 MINE	MINOR INDUSTRIAL
SHAW CREEK TRIBUTARY	SCG730490
GL WILLIAMS LANDSCAPING INC./APAC MINE	MINOR INDUSTRIAL
SMITH BRANCH	SCG730554
PIEDMONT INDUSTRIAL MINERALS LLC/SHADE MINE	MINOR INDUSTRIAL

Municipal Separate Storm Sewer Systems (MS4)

RECEIVING STREAM	***NPDES#***
MUNICIPALITY	***MS4 PHASE***
RESPONSIBLE PARTY	***MS4 SIZE***
IMPLEMENTING PARTY	***COUNTY***
UPPER SOUTH FORK EDISTO RIVER	SCR030301
CITY OF AIKEN	PHASE II
CITY OF AIKEN	SMALL MS4
CITY OF AIKEN	
UPPER SOUTH FORK EDISTO RIVER	SCR030302
UNINCORPORATED AREAS	PHASE II
AIKEN COUNTY	SMALL MS4
AIKEN COUNTY	

Nonpoint Source Permitted Activities

Land Disposal Activities

Landfill Facilities

LANDFILL NAME	***PERMIT #***
FACILITY TYPE	***STATUS***
CITY OF AIKEN LANDFILL	----------
MUNICIPAL	CLOSED
CITY OF AIKEN COMPOSTING FACILITY	021002-3001
COMPOSTING	ACTIVE
AIKEN COUNTY DUMP	----------
MUNICIPAL	CLOSED
OWENS CORNING FIBERGLASS CORP.	022431-1601
INDUSTRIAL	ACTIVE

OWENS CORNING FIBERGLASS CORP.	----------
INDUSTRIAL	INACTIVE
WR GRACE & CO.	----------
INDUSTRIAL	INACTIVE
WR GRACE & CO.	023308-1601
INDUSTRIAL	INACTIVE
RANDY HILL LCD LANDFILL	022720-1701
C&D	ACTIVE
PIEDMONT INDUSTRIAL MINERALS	023336-1601
INDUSTRIAL	ACTIVE
PIEDMONT INDUSTRIAL MINERALS	----------
INDUSTRIAL	INACTIVE
CAROLINA COUNTRY CONSTR. WOOD PROCESSING FAC.	022761-3001
COMPOSTING	ACTIVE
EDGEFIELD DUMP	----------
MUNICIPAL	CLOSED
RIDGE RECYCLERS WASTE TIRE PROCESSING	192653-5201
WTP	ACTIVE
TOWN OF RIDGE SPRING DUMP	----------
MUNICIPAL	CLOSED

Land Application Sites

LAND APPLICATION FACILITY NAME	***PERMIT # TYPE***
SPRAYFIELD	ND0065871
SHREE OF AIKEN/INN OF AIKEN	DOMESTIC
SPRAYFIELD	ND0076830
SC FORESTRY/TAYLOR TREE NURSERY	INDUSTRIAL
SPRAYFIELD	ND0070963
OWENS CORNING/AIKEN PLANT	INDUSTRIAL

Mining Activities

MINING COMPANY MINE NAME	***PERMIT # MINERAL***
JAMES HENRY BLEDSOE CONSTRUCTION CO.	0956-03
MONETTA CLAYPIT	SAND; SAND/CLAY
HOLMES TIMBER, INC.	0954-03
ABNEY MINE	SAND; SAND/CLAY
GL WILLIAMS & SON TRUCKING	0978-03
PIT 49	SAND

JM HUBER CORP. CORDER MINE	0406-03 KAOLIN
SOUTHEASTERN CLAY COMPANY SHADE MINE	0071-03 KAOLIN
WR GRACE & CO. SCOTT MINE	0072-03 KAOLIN
KENTUCKY-TENNESSEE CLAY CO. GENTRY MINE	0594-03 KAOLIN
JM HUBER CORP. BRODIE MINE	0038-03 KAOLIN
JM HUBER CORP. LAUGHLIN WEST MINE	1136-03 KAOLIN
EC CULBREATH & SON, INC. CULBREATH ASPHALT PLANT	0152-03 SAND
GL WILLIAMS & SON TRUCKING, INC. APAC MINE	1142-03 SAND; SAND/CLAY
HILLS CONSTRUCTION LLC SHILOH HEIGHTS MINE	1366-03 SAND; SAND/CLAY
TED M. PARKER PARKER PIT	1565-03 SAND; TOPSOIL

Water Quantity

WATER USER ***WATERBODY***	***REGULATED CAPACITY (MGD)*** ***PUMPING CAPACITY (MGD)***
CITY OF AIKEN SHAW CREEK	12.8 6.0

Growth Potential

There is a low to moderate potential for growth in this agricultural-based watershed, which contains the Town of Trenton, portions of the Towns of Johnston, Ward, and Ridge Spring, and a portion of the City of Aiken. There is a high potential for commercial growth surrounding the interchanges of I-20 and US 1 and SC 19; both Highways 1 and 19 have plans for widening to four lanes. SC 19 runs through the City of Aiken and intersects with several rail lines that would increase industrial potential. A rail line runs between the Towns of Johnston and Monetta, both of which show slightly increasing populations. The Town of Trenton has tied into the Edgefield County Water and Sewer Authority's Regional Sewer Collection System, which should enhance industrial growth, and the Town of Johnston has the ability to connect into the Regional Sewer Collection System in the future. Other growth potentials for the area included the industrial park at the interchange of SC Hwys 23 and 121 in Johnston, and the addition of both a federal and a state prison in the area.

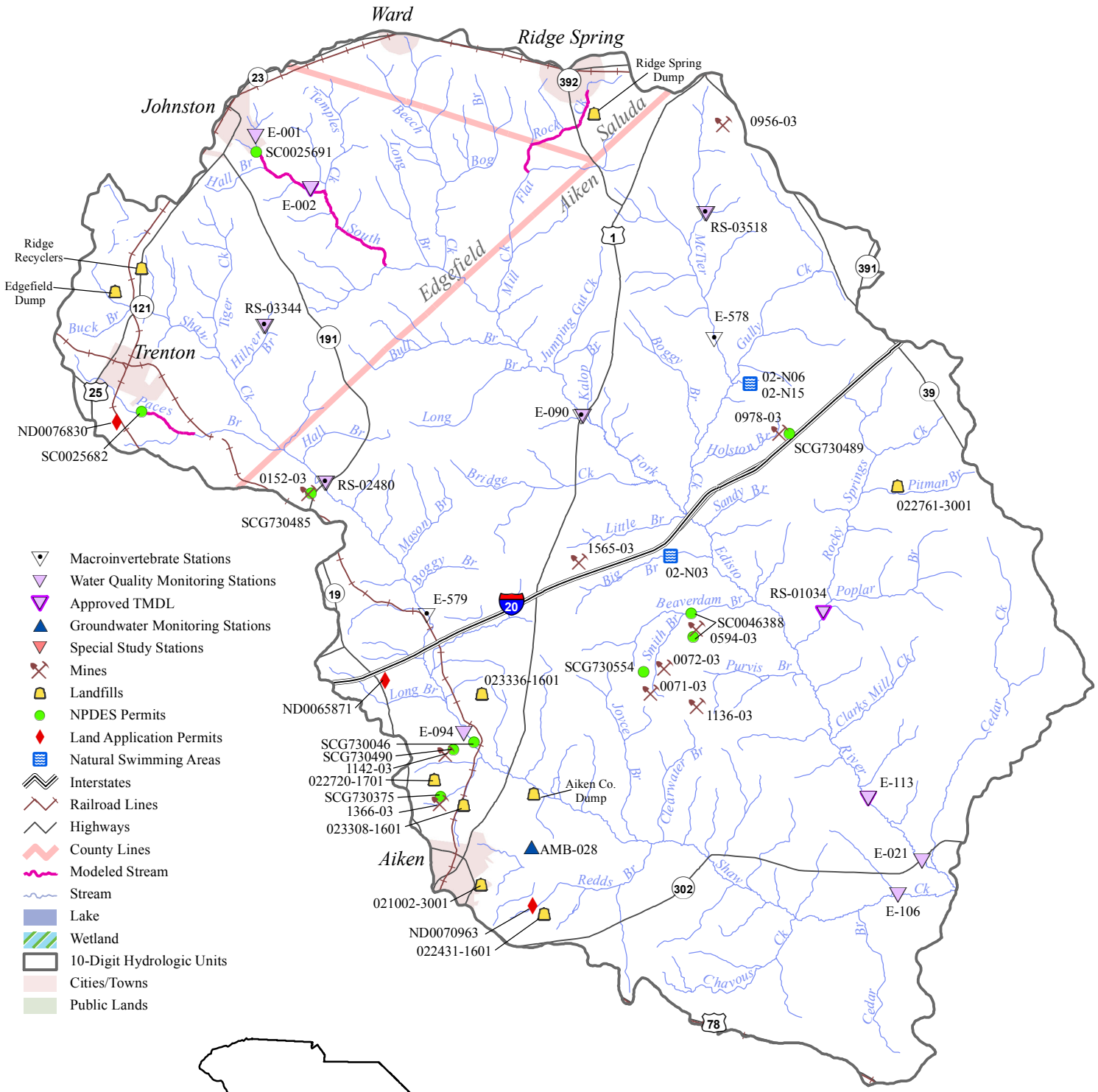
Watershed Protection and Restoration Strategies

Total Maximum Daily Loads (TMDLs)

A TMDL was developed for SCDHEC and approved by EPA for the **South Fork Edisto River** at water quality monitoring site E-002. TMDLs determine the maximum amount of fecal coliform bacteria waterbodies can receive and still meet water quality standards. There is one permitted wastewater treatment facility in this watershed. There are no designated MS4s in the watershed. Probable sources of fecal coliform bacteria that were identified in the watershed are cattle watering in the creeks, sanitary sewer overflows (SSOs), failing septic systems, urban runoff, and wildlife. The TMDL states that a reduction of 28% in fecal coliform loading is necessary for this stream to meet the recreational use standard.

A TMDL was developed for SCDHEC and approved by EPA for **Rocky Springs Creek** at water quality monitoring site RS-01034. There are no permitted wastewater treatment facilities in the watershed. There are no designated MS4s in the watershed. Probable sources of fecal coliform bacteria that were identified in the watershed are cattle watering in the creeks, failing septic systems, land application of poultry litter, and wildlife. The TMDL states that a reduction of 62% in fecal coliform loading is necessary for the stream to meet the recreational use standard.

(Upper)
South Fork Edisto River Watershed
(03050204-01)



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03050204-02

(South Fork Edisto River – Middle Reach)

General Description

Watershed 03050204-02 (formerly 03050204-030, 040) is located in Aiken, Barnwell, and Orangeburg Counties and consists primarily of the ***South Fork Edisto River*** and its tributaries from Shaw Creek to Dean Swamp Creek. The watershed occupies 118,563 acres of the Sandhills and Upper Coastal Plain regions of South Carolina. Land use/land cover in the watershed includes: 44.2% forested land, 41.1% agricultural land, 10.4% forested wetland (swamp), 4.0% urban land, 0.2% water, and 0.1% nonforested wetland (marsh).

This section of the South Fork Edisto River flows through Aiken State Park and accepts drainage from Burcalo Creek, Hunter Branch, Pond Branch (Buzzard Branch, Long Branch, Spring Branch), Yarrow Branch, and Dean Swamp Creek (Jordan Creek, Abrams Branch, Bratcher Branch, Dean Swamp Pond). There are a total of 205.6 stream miles and 358.0 acres of lake waters in this watershed, all classified FW.

Surface Water Quality

Station #	Type	Class	Description
E-107	INT	FW	DEAN SWAMP CREEK AT SC 4

Dean Swamp Creek (E-107) – This is a blackwater system, characterized by naturally low pH conditions. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Aquatic life uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. There is a significant decreasing trend in pH. A significant decreasing trend in turbidity suggests improving conditions for this parameter. Recreational uses are fully supported and a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter.

NPDES Permitted Activities

Active NPDES Facilities

RECEIVING STREAM *FACILITY NAME*	*NPDES#* *TYPE*
DEAN SWAMP CREEK TRIBUTARY TOWN OF WAGENER	SC0026204 MINOR DOMESTIC
SPRING BRANCH TRIBUTARY EAGLE CONSRUCTION/ALEJO MINE	SCG731113 MINOR INDUSTRIAL

Nonpoint Source Permitted Activities

Land Disposal Activities

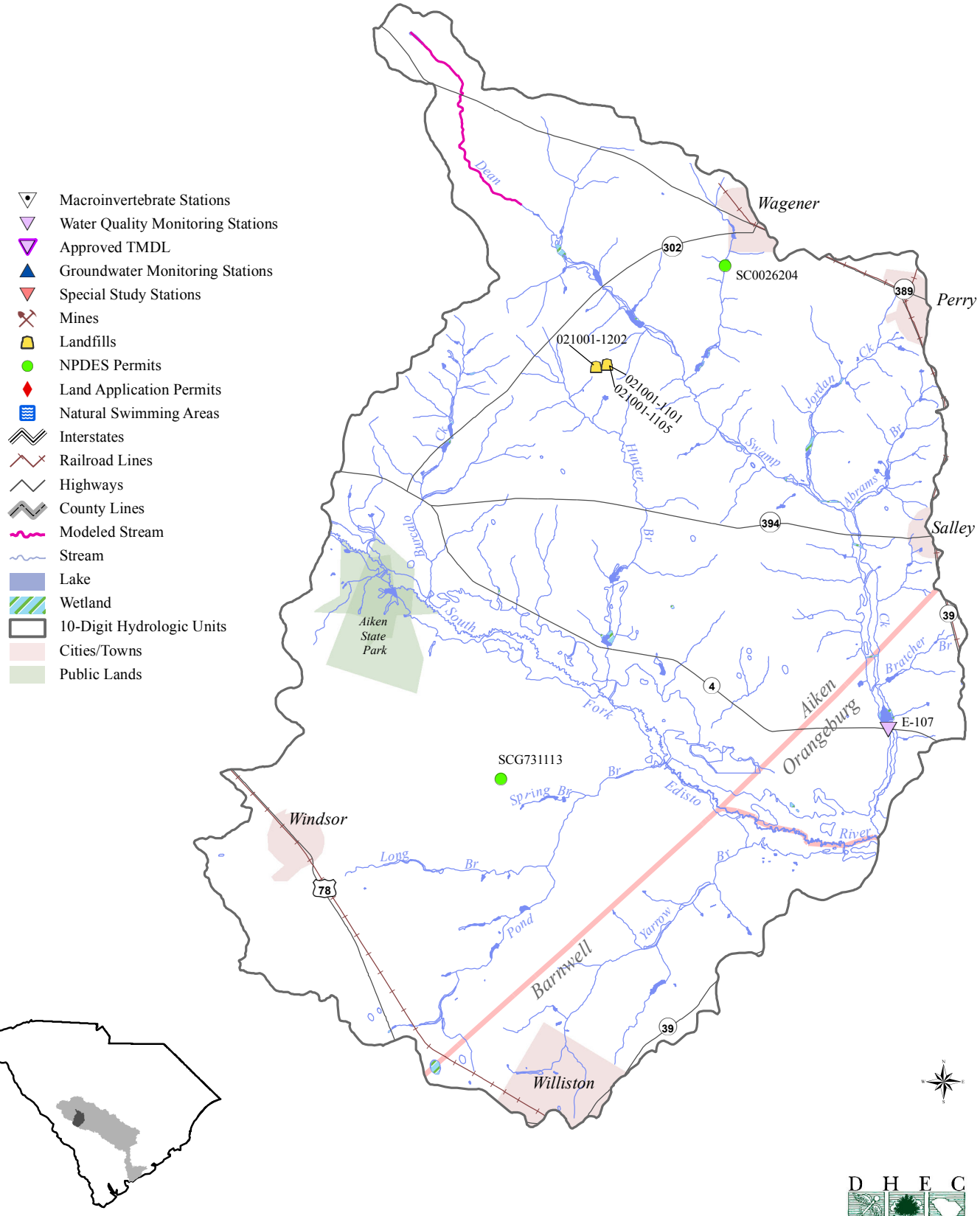
Landfill Facilities

LANDFILL NAME *FACILITY TYPE*	*PERMIT #* *STATUS*
AIKEN COUNTY LANDFILL/WAGNER SITE MUNICIPAL	021001-1101 INACTIVE
AIKEN COUNTY C&DLANDFILL/WAGNER SITE MUNICIPAL	021001-1202 ACTIVE
AIKEN COUNTY LANDFILL #3/WAGNER SITE MUNICIPAL	021001-1105 INACTIVE

Growth Potential

There is a low potential for growth in this watershed, which contains the Town of Windsor and portions of the Towns of Williston, Wagener, Perry, and Salley. Some industrial growth is possible due to the rail lines that run along the eastern edge of the watershed from the Town of Springfield to the Towns of Salley and Perry and along the western edge of the watershed through the Town of Windsor to the City of Aiken. However, there is a decreasing population trend in the towns located within this watershed.

(Middle)
South Fork Edisto River Watershed
(03050204-02)



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03050204-03

(South Fork Edisto River – Lower Reach)

General Description

Watershed 03050204-03 (formerly 03050204-050, 060, 070) is located in Barnwell, Orangeburg, and Bamberg Counties and consists primarily of the ***South Fork Edisto River*** and its tributaries from Dean Swamp Creek to its confluence with the North Fork Edisto River. The watershed occupies 212,608 acres of the Upper and Lower Coastal Plain regions of South Carolina. Land use/land cover in the watershed includes: 40.2% agricultural land, 32.7% forested land, 21.7% forested wetland (swamp), 4.6% urban land, 0.5% water, and 0.3% nonforested wetland (marsh).

This lowest reach of the South Fork Edisto River accepts the drainage from Spur Branch, Whaley Creek (Matthews Millpond), Dry Branch, Goodland Creek (Capers Mill Pond, Gin Branch, Tampa Creek), Windy Hill Creek (Sheepford Branch), Rocky Swamp Creek (Campbell Branch, Pleasant Branch), Rogers Branch, Snake Branch, and Little River (Willow Swamp) near the Town of Norway. Sykes Swamp enters the river next, followed by Hays Mill Creek (Stout Creek), Scratchnose Swamp (Reed Branch), Sucksand Branch, Roberts Swamp (Twin Lakes, Deadfall Swamp, Twomile Swamp), Snake Swamp (Sam Branch), and Isaac Jennings Canal. There are a total of 580.3 stream miles and 1,296.6 acres of lake waters in this watershed, all classified FW.

Surface Water Quality

Station #	Type	Class	Description
E-011	INT	FW	SOUTH FORK EDISTO RIVER AT SC 39
E-036	INT/BIO	FW	GOODLAND CREEK AT SC 4, 2.1 MILES E OF SPRINGFIELD
E-029	BIO	FW	WINDY HILL CREEK AT SR 38
E-039	INT	FW	ROBERTS SWAMP AT SC 332
E-012	INT	FW	SOUTH FORK EDISTO RIVER AT S-38-39 BRIDGE

South Fork Edisto River – There are two SCDHEC monitoring stations along this section of the South Fork Edisto River. This is a blackwater system, characterized by naturally low pH conditions. Although pH excursions occurred at both sites, they were typical of values seen in blackwater systems and were considered natural, not standards violations. At the upstream site ***(E-011)***, aquatic life uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. There is a significant decreasing trend in pH. A significant decreasing trend in turbidity suggests improving conditions for this parameter. Recreational uses are fully supported; however, there is a significant increasing trend in fecal coliform bacteria concentration. At the downstream site ***(E-012)***, aquatic life and recreational uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. There is a significant decreasing trend in pH. Significant decreasing trends in turbidity and total phosphorus concentration suggest improving conditions for these parameters.

Goodland Creek (E-036) – This is a blackwater system, characterized by naturally low pH conditions. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Although there were occurrences of copper in excess of the aquatic life chronic criterion, aquatic life uses are fully supported based on macroinvertebrate community data. However, there is a significant increasing trend in five-day biochemical oxygen demand. There is a significant decreasing trend in pH. Significant decreasing trends in turbidity and total phosphorus concentration suggest improving conditions for these parameters. Recreational uses are partially supported due to fecal coliform bacteria excursions, which are compounded by a significant increasing trend in fecal coliform bacteria concentration.

Windy Hill Creek (E-029) – Aquatic life uses are partially supported based on macroinvertebrate community data.

Roberts Swamp (E-039) - Aquatic life uses are fully supported and significant decreasing trends in total phosphorus and nitrogen concentration suggest improving conditions for these parameters. Recreational uses are not supported due to fecal coliform bacteria excursions.

A fish consumption advisory has been issued by the Department for mercury and includes the South Fork Edisto River within this watershed (see advisory p.41).

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-100	GB	TERTIARY LIMESTONE	COPE
AMB-002	GB	BLACK CREEK	WILLISTON
AMB-102	GB	TERTIARY SANDS	BLACKVILLE

All water samples collected from ambient monitoring wells ***AMB-100, AMB-002,*** and ***AMB-102*** met standards for Class GB groundwater.

NPDES Permitted Activities

Active NPDES Facilities

RECEIVING STREAM *FACILITY NAME*	*NPDES#* *TYPE*
SOUTH FORK EDISTO RIVER TOWN OF SPRINGFIELD/PLANT #1	SC0023272 MINOR DOMESTIC
SOUTH FORK EDISTO RIVER SCE&G/COPE POWER PLANT	SC0045772 MINOR INDUSTRIAL
WINDY HILL CREEK TOWN OF BLACKVILLE WWTP	SC0026417 MINOR DOMESTIC
WILLOW SWAMP TOWN OF NORWAY	SC0045993 MINOR DOMESTIC

GOODLAND CREEK TOWN OF SPRINGFIELD/PLANT #2	SC0023281 MINOR DOMESTIC
SCRATCHNOSE SWAMP RUTLAND FARMS/RUTLAND FARMS MINE	SCG731138 MINOR INDUSTRIAL

Nonpoint Source Permitted Activities

Land Disposal Activities

Landfill Facilities

LANDFILL NAME ***FACILITY TYPE***	***PERMIT #*** ***STATUS***
SCE&G COPE POWER PLANT INDUSTRIAL	383320-1601 ACTIVE
SALLEY TOWN DUMP MUNICIPAL	---------- INACTIVE

Land Application Sites

LAND APPLICATION ***FACILITY NAME***	***PERMIT #*** ***TYPE***
TILE FIELD LAUREL BAYE HEALTHCARE OF BLACKVILLE	ND0067024 DOMESTIC

Growth Potential

There is a low potential for growth in this watershed, which contains the Towns of Norway, Cope, and Springfield, and portions of the Towns of Blackville, Denmark, Bamberg, Neeses, Salley, and Perry. Slight increases in commercial growth would be possible with the proposed widening of US 78, which runs from the Town of Denmark to the Town of Bamberg. Industrial growth is possible due to the rail lines already in place. One rail line runs from the Town of Blackville to the Town of Springfield, and another from Denmark to the Town of Norway and on upstate to the City of Columbia. US 321 parallels the rail line that bisects the watershed. Denmark shows declining population trends, but Bamberg shows slightly increasing population growth. The SCE&G Cope Power Plant could boost residential and commercial growth in the area, primarily for Bamberg.

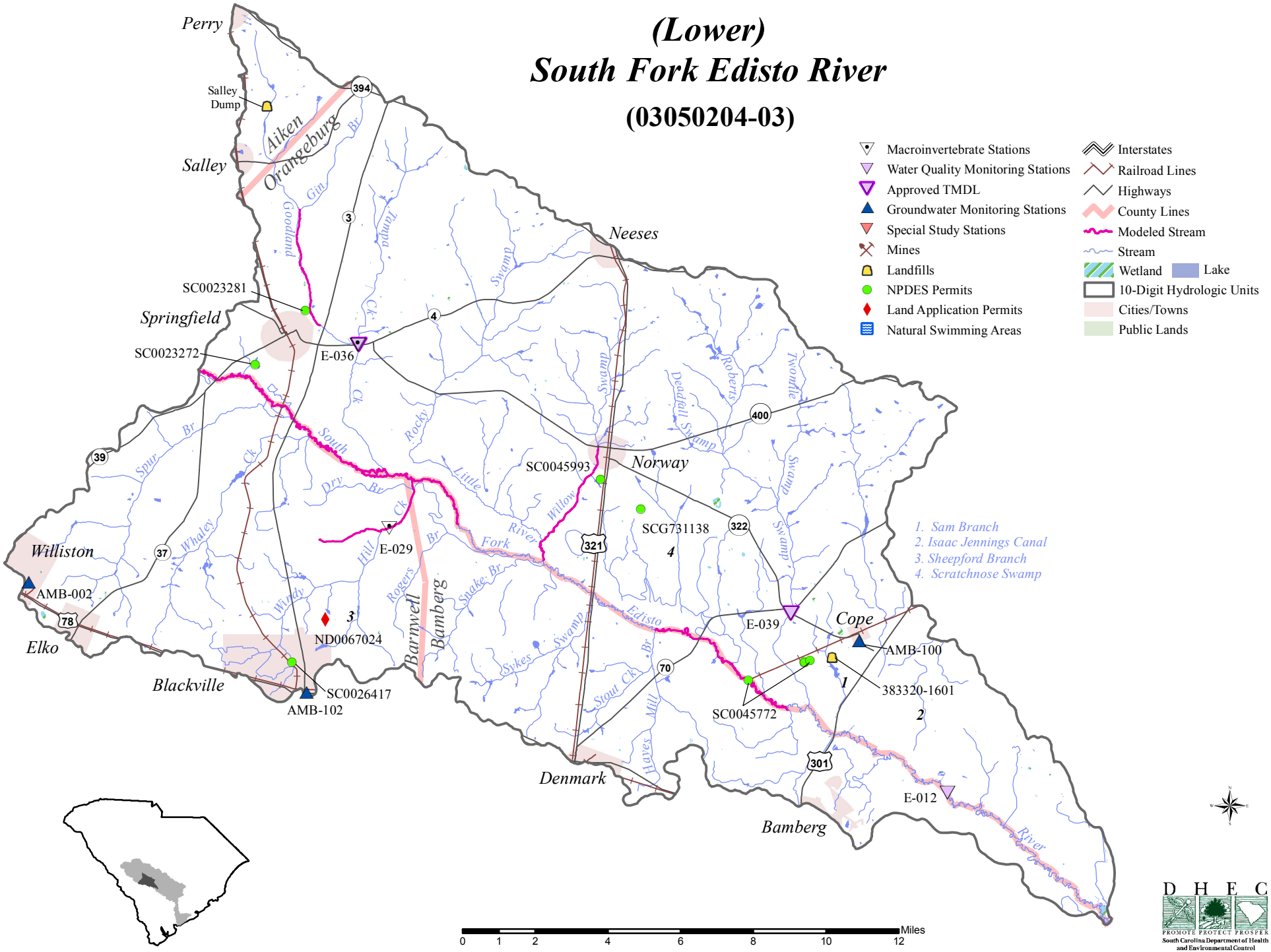
Watershed Protection and Restoration Strategies

Total Maximum Daily Loads (TMDLs)

A TMDL was developed for SCDHEC and approved by EPA for **Roberts Swamp** at water quality monitoring site E-039. TMDLs determine the maximum amount of fecal coliform bacteria a waterbody can receive from sources and still meet water quality standards. There is no permitted wastewater treatment facility in this watershed. This watershed has no designated or potential MS4s. Probable sources of fecal coliform bacteria that were identified in the watershed are runoff from agricultural lands and cattle with access to streams. The TMDL states that a reduction of 78% in fecal coliform loading is necessary for the stream to meet the recreational use standard.

A TMDL was developed for SCDHEC and approved by EPA for **Goodland Creek** at water quality monitoring site E-036. There is one minor permitted wastewater treatment facility in the watershed and no designated MS4s. Probable sources of fecal coliform bacteria are cattle watering in the creeks, failing septic systems, land application of poultry litter, and wildlife. The TMDL states that a reduction of 34% in fecal coliform loading is necessary for the stream to meet the recreational use standard.

(Lower)
South Fork Edisto River
(03050204-03)



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03050205-01

(Four Hole Swamp - Headwaters)

General Description

Watershed 03050205-01 (formerly 03050206-010, 020, 030) is located in Orangeburg and Calhoun Counties and consists primarily of ***Four Hole Swamp*** and its tributaries from its origin to Cow Castle Creek. The watershed occupies 167,561 acres of the Upper and Lower Coastal Plain regions of South Carolina. Land use/land cover in the watershed includes: 47.9% agricultural land, 28.1% forested land, 15.5% forested wetland (swamp), 8.1% urban land, 0.2% water, and 0.2% nonforested wetland (marsh).

Four Hole Swamp originates near the Town of Cameron and accepts drainage from Bull Pond, Bay Branch, Flea Bite Creek (Cook Branch), Gin Branch, Bull Swamp (Gramling Creek, Little Bull Creek, Little Bull Swamp), Polk Spring Creek, Middle Pen Swamp, Indian Camp Branch, Goodbys Swamp (Keller Branch), Mill Branch, Bush Branch, and Cow Castle Creek (Crum Branch, Buck Branch, Patrick Branch). There are a total of 694.8 stream miles and 641.5 acres of lake waters in this watershed. Four Hole Swamp, Bull Swamp, Gramling Creek, and Middle Pen Swamp are classified FW* (site specific classification requires DO not less than 4.0 mg/l and pH between 5.0-8.5), and the remaining streams are classified FW.

Surface Water Quality

Station #	Type	Class	Description
E-022	W	FW*	GRAMLING CREEK AT CULVERT ON SC 33, 2 MILES E OF ORANGEBURG
E-076	W	FW	LITTLE BULL CREEK AT SC 33 BELOW UTICA TOOL CO.
E-589	BIO	FW	LITTLE BULL SWAMP AT SR 154
E-059	INT	FW*	FOUR HOLE SWAMP AT S-38-50, 5.2 MILES SE OF CAMERON
RS-04537	RS04/BIO	FW	FOUR HOLE SWAMP TRIBUTARY AT S-38-92, 5.5 MI NE OF BOWMAN
E-111	INT	FW*	FOUR HOLE SWAMP AT SC 210
E-050	INT	FW	COW CASTLE CREEK AT S-38-170

Gramling Creek (E-022) – Aquatic life uses are fully supported; however, there is a significant decreasing trend in dissolved oxygen concentration. A significant decreasing trend in turbidity suggests improving conditions for this parameter. Recreational uses are not supported due to fecal coliform bacteria excursions.

Little Bull Creek (E-076) – Aquatic life uses are not supported due to pH excursions. In addition, there is a significant decreasing trend in dissolved oxygen concentration. There is a significant decreasing trend in pH. A significant decreasing trend in turbidity suggests improving conditions for this parameter. Recreational uses are not supported due to fecal coliform bacteria excursions.

Little Bull Swamp (E-589) –Aquatic life uses are partially supported based on macroinvertebrate community data.

Four Hole Swamp – There are two SCDHEC monitoring stations along this section of Four Hole Swamp. This is a blackwater system, characterized by naturally low dissolved oxygen concentrations. At the upstream site ***(E-059)***, aquatic life uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. Significant decreasing trends in turbidity and total nitrogen concentration suggest improving conditions for these parameters. Recreational uses are not supported due to fecal coliform bacteria excursions. At the downstream site ***(E-111)***, aquatic life uses are fully supported. Although dissolved oxygen excursions occurred at this site, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Significant decreasing trends in turbidity and total phosphorus concentration suggest improving conditions for these parameters. Recreational uses are partially supported due to fecal coliform bacteria excursions.

Four Hole Swamp Tributary (RS-04537) – Aquatic life uses are partially supported based on macroinvertebrate community data. Recreational uses are not supported due to fecal coliform excursions.

Cow Castle Creek (E-050) – This is a blackwater system, characterized by naturally low dissolved oxygen concentrations. Although dissolved oxygen excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Aquatic life uses are fully supported. There are significant increasing trends in pH. Recreational uses are not supported due to fecal coliform bacteria excursions.

A fish consumption advisory has been issued by the Department for mercury and includes the Four Hole Swamp within this watershed (see advisory p.41).

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-004	GB	BLACK CREEK	BOWMAN

All water samples collected from ambient monitoring well ***AMB-004*** met standards for Class GB groundwater.

NPDES Permitted Activities

Active NPDES Facilities

RECEIVING STREAM *FACILITY NAME*	*NPDES#* *TYPE*
GRAMBLING CREEK CWS/ROOSEVELT GARDEN APTS	SC0029645 MINOR DOMESTIC
MIDDLE PEN SWAMP CONNIE MAXWELL CHILDRENS HOME	SC0032671 MINOR DOMESTIC
COW CASTLE CREEK TOWN OF BOWMAN	SC0040037 MINOR DOMESTIC

GRAMBLING CREEK	SCG250073
KOYO CORP. OF USA	MINOR INDUSTRIAL
FOUR HOLE SWAMP	SCG730212
LAFARGE BUILDING MATERIALS/FELKEL MINE	MINOR INDUSTRIAL
BULL SWAMP TRIBUTARY	SCG730303
LAFARGE BUILDING MATERIALS/JAMISON PIT	MINOR INDUSTRIAL
GRAMBLING CREEK	SCG730634
T&N ENTERPRISES/ELLOREE MINE	MINOR INDUSTRIAL
LITTLE BULL SWAMP	SCG731013
TILLS LANDSCAPING/TILLS MINE #1	MINOR INDUSTRIAL

Municipal Separate Storm Sewer Systems (MS4)

RECEIVING STREAM	***NPDES#***
MUNICIPALITY	***MS4 PHASE***
RESPONSIBLE PARTY	***MS4 SIZE***
IMPLEMENTING PARTY	***COUNTY***
UPPER FOUR HOLE SWAMP	----------
CITY OF ORANGEBURG	PHASE II
CITY OF ORANGEBURG	SMALL MS4
CITY OF ORANGEBURG	

Nonpoint Source Permitted Activities

Land Disposal Activities

Landfill Facilities

LANDFILL NAME	***PERMIT #***
FACILITY TYPE	***STATUS***
EDISTO ASPHALT INC.	----------
INDUSTRIAL	INACTIVE
JF CLECKLEY & CO. PLANT #4	----------
INDUSTRIAL	INACTIVE
ORANGEBURG COUNTY C&D	381001-1201
C&D	ACTIVE
ORANGEBURG COUNTY COMPOSTING FACILITY	381001-3001
COMPOSTING	INACTIVE
ORANGEBURG COUNTY MUNICIPAL SW	381001-1101
MUNICIPAL	INACTIVE
ORANGEBURG COUNTY SANITARY LANDFILL #1	----------
MUNICIPAL	INACTIVE
ORANGEBURG COUNTY SW TRANSFER STATION	381001-6001
TRANSFER STATION	ACTIVE

ORANGEBURG COUNTY CC LANDFILL	----------
INDUSTRIAL	INACTIVE

Land Application Sites

LAND APPLICATION SYSTEM	***ND#***
FACILITY NAME	***TYPE***
TILE FIELD	ND0067288
EASTWOOD SD	DOMESTIC

Mining Activities

MINING COMPANY	***PERMIT #***
MINE NAME	***MINERAL***
LAFARGE MATERIALS, INC.	0206-75
JAMISON PIT	CLAY
T&N ENTERPRISES	0942-75
ELLOREE MINE	CLAY
LAFARGE MATERIALS, INC.	0939-75
FELKEL MINE	CLAY

Growth Potential

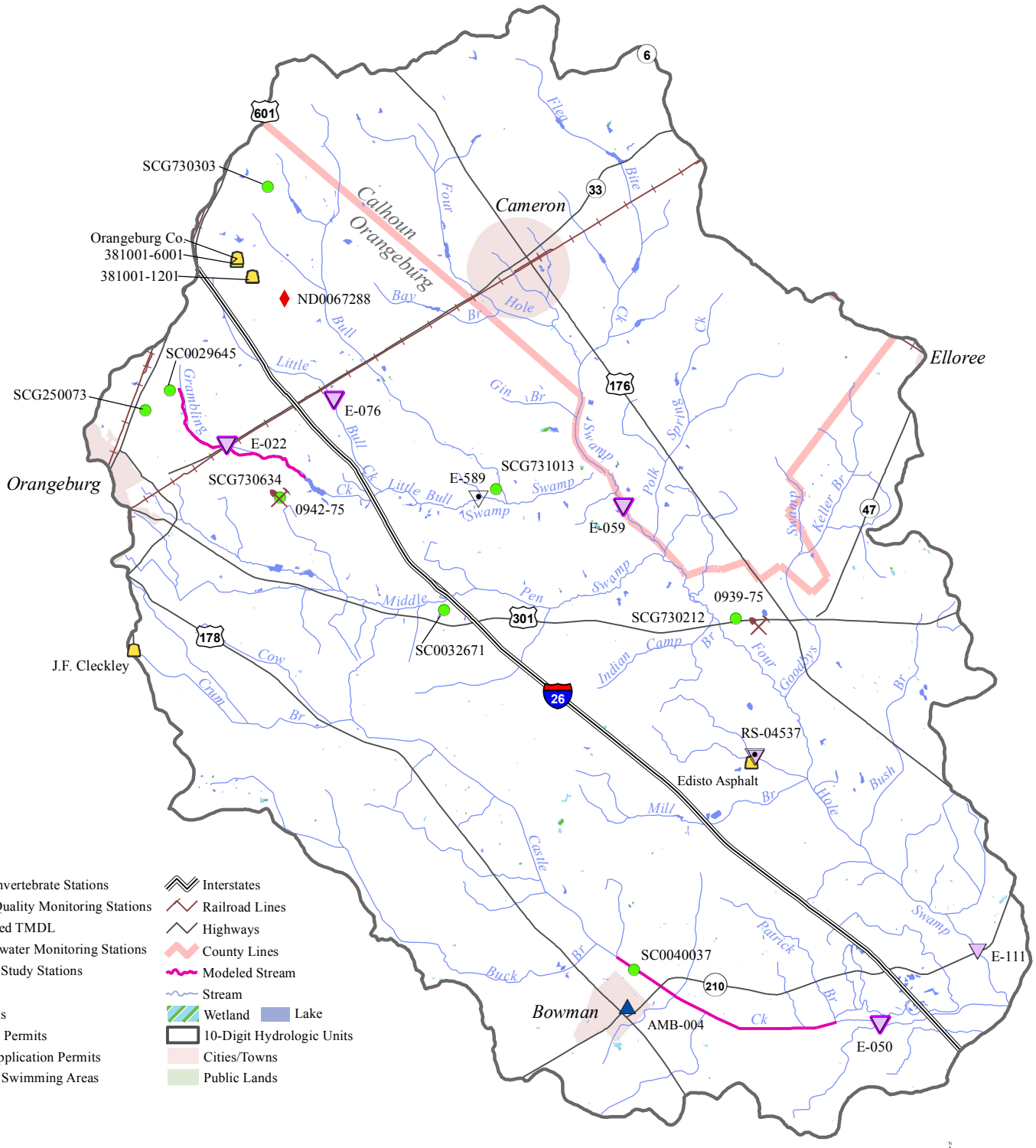
There is a low to moderate potential for growth in this watershed, which contains the Towns of Cameron and Bowman, and portions of the City of Orangeburg and the Town of Elloree. Interstate 26 bisects the watershed at US 601, US 301, SC 33, and SC 210 and should encourage some growth around the interchanges. Rail lines parallel US 601 and SC 33, which run out of the City of Orangeburg. US 176 parallels I-26 and runs through the Town of Cameron.

Watershed Protection and Restoration Strategies

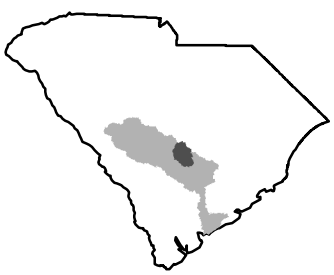
Total Maximum Daily Loads (TMDLs)

TMDLs were developed for SCDHEC and approved by EPA for **Four Hole Swamp** and tributaries **Gramling Creek, Cow Castle Creek**, Providence Swamp, Horse Range Swamp, and **Little Bull Creek** at water quality monitoring sites E-022, E-050, E-051, E-052, E-059, and E-076. TMDLs determine the maximum amount of fecal coliform bacteria waterbodies can receive from pollution sources and still meet water quality standards. There are two minor permitted wastewater treatment facilities in the watershed. Orangeburg, located in western part of the watershed is considered as a potential small MS4. Probable sources of fecal coliform bacteria that were identified in the watershed are grazing animals, especially cattle with access to streams, land application of litter, failing septic systems, urban runoff, and wildlife. The TMDLs state that reductions of 4% to 73% in fecal coliform loading are necessary for the streams to meet the recreational use standard.

(Upper) Four Hole Swamp Watershed
(03050205-01)



- Macroinvertebrate Stations
- Water Quality Monitoring Stations
- Approved TMDL
- Groundwater Monitoring Stations
- Special Study Stations
- Mines
- Landfills
- NPDES Permits
- Land Application Permits
- Natural Swimming Areas
- Interstates
- Railroad Lines
- Highways
- County Lines
- Modeled Stream
- Stream
- Wetland
- Lake
- 10-Digit Hydrologic Units
- Cities/Towns
- Public Lands



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03050205-02

(Dean Swamp)

General Description

Watershed 03050205-02 (formerly 03050206-060) is located in Orangeburg and Berkeley Counties and consists primarily of ***Dean Swamp*** and its tributaries. The watershed occupies 66,760 acres of the Upper and Lower Coastal Plain regions of South Carolina. Land use/land cover in the watershed includes: 48.9% forested land, 27.8% agricultural land, 18.9% forested wetland (swamp), 3.4% urban land, 0.6% barren land, 0.2% water, and 0.2% nonforested wetland (marsh).

Sandy Run (Moon Savanna, Cedar Swamp, Toney Bay) originates near the Town of Eutawville and merges with Black Creek (Little Black Creek) to form Dean Swamp (Briner Branch), which drains into Four Hole Swamp. There are a total of 158.2 stream miles and 397.5 acres of lake waters in this watershed, all classified FW.

Surface Water Quality

Station #	Type	Class	Description
RS-02473	RS02	FW	SANDY RUN TRIBUTARY AT HARVEST ROAD OFF SC 6, 2.4 MI NW OF EUTAWVILLE
E-596	BIO	FW	CEDAR SWAMP AT CEMENT BRIDGE ROAD OFF SR 640
E-030	INT	FW	DEAN SWAMP AT U.S. 176

Sandy Run Tributary (RS-02473) - This is a blackwater system, characterized by naturally low pH conditions. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Aquatic life and recreational uses are fully supported.

Cedar Swamp (E-596) - Aquatic life uses are fully supported based on macroinvertebrate community data.

Dean Swamp (E-030) - Aquatic life uses are fully supported. There is a significant increasing trend in pH. Significant decreasing trends in total phosphorus and total nitrogen concentration suggest improving conditions for these parameters. Recreational uses are partially supported due to fecal coliform bacteria excursions, which are compounded by a significant increasing trend in fecal coliform bacteria concentration.

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-052	GB	PEE DEE	EUTAW SPRINGS

All water samples collected from ambient monitoring well ***AMB-052*** met standards for Class GB groundwater.

NPDES Permitted Activities

Active NPDES Facilities

RECEIVING STREAM *FACILITY NAME*	*NPDES#* *TYPE*
SANDY RUN TRIBUTARY MARTIN MARIETTA/ORANGEBURG	SCG730268 MINOR INDUSTRIAL
SANDY RUN TRIBUTARY MARTIN MARIETTA/BERKELEY QUARRY	SCG730058 MINOR INDUSTRIAL

Nonpoint Source Permitted Activities

Mining Activities

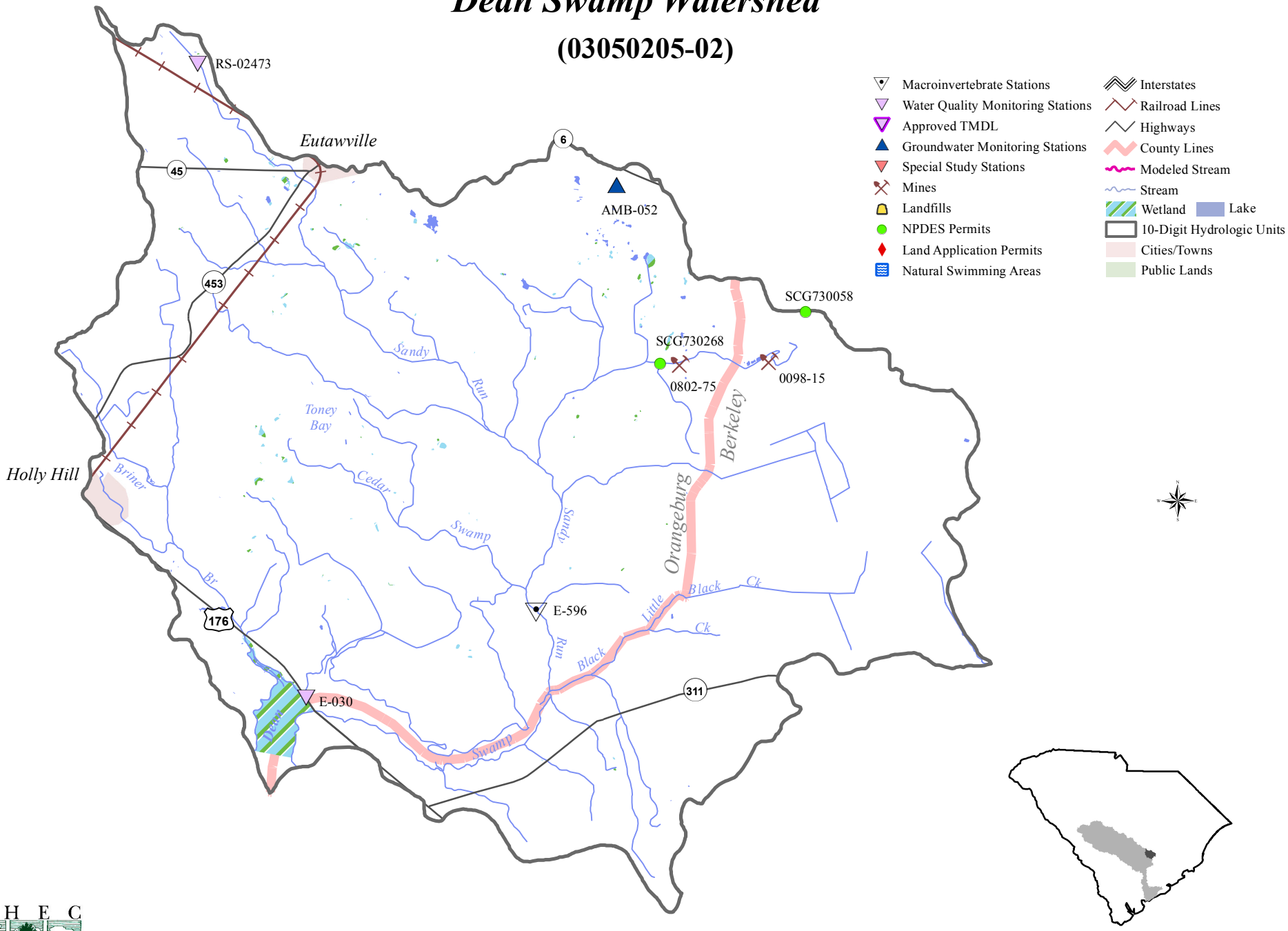
MINING COMPANY *MINE NAME*	*PERMIT #* *MINERAL*
MARTIN MARIETTA AGGREGATES BERKELEY QUARRY	0098-15 LIMESTONE
MARTIN MARIETTA AGGREGATES ORANGEBURG QUARRY	0802-75 LIMESTONE

Growth Potential

There is a low potential for growth in this watershed, which contains portions of the City of Holly Hill and the Town of Eutawville. A rail line and SC 453 run from Holly Hill to Eutawville. This road is bisected by US 176 in Holly Hill. This watershed lies mostly outside of BCD COG region. In the Berkeley County section, only about 200 residential units are estimated to be built between 2010 and 2035.

Dean Swamp Watershed

(03050205-02)



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South Carolina Department of Health and Environmental Control

03050205-03

(Four Hole Swamp – Lower Reach)

General Description

Watershed 03050205-03 (formerly 03050206-040, 050, 055, 070) is located in Orangeburg, Dorchester, and Berkeley Counties and consists primarily of ***Four Hole Swamp*** and its tributaries from Cow Castle Creek to its confluence with the Edisto River. The watershed occupies 183,907 acres of the Upper and Lower Coastal Plain regions of South Carolina. Land use/land cover in the watershed includes: 33.7% forested land, 30.8% forested wetland (swamp), 29.2% agricultural land, 5.0% urban land, 0.6% barren land, 0.4% nonforested wetland (marsh), and 0.3% water.

This lowest section of Four Hole Swamp receives drainage from Providence Swamp (White Cane Branch, Cantey Branch, Ball Branch, Buck Branch, Jack Branch, Horse Range Swamp, Kettle Branch, Bachelor Branch), Target Swamp, Spring Branch, and Mill Branch. Further downstream, Home Branch drains into the swamp followed by Mill Run, Dam Branch, the Dean Swamp Watershed, Merkel Branch (Lake Merkel), Santee Branch (Rock Branch), Walnut Branch (Coldwater Branch, Little Walnut Branch, Cane Branch, Crawford Branch, Lang Branch, Deep Branch, Marshall Branch), Halfway Gut Creek, Timothy Creek, and Powder Horn Creek. There are a total of 501.4 stream miles and 931.9 acres of lake waters in this watershed. Four Hole Swamp is classified FW* (site specific classification requires DO not less than 4.0 mg/l and pH between 5.0-8.5), and the remaining streams are classified FW. The Francis Beidler Forest, a nature preserve, is another natural resource in the watershed.

Surface Water Quality

Station #	Type	Class	Description
E-051	INT	FW	PROVIDENCE SWAMP AT EAST FRONTAGE ROAD TO I-95
RS-02303	RS02	FW	HORSE RANGE SWAMP AT S-38-1264
E-052	INT	FW	HORSE RANGE SWAMP AT U.S. 176
E-112	INT	FW*	FOUR HOLE SWAMP AT SC 453
E-100	W	FW*	FOUR HOLE SWAMP AT US 78, E. OF DORCHESTER
E-015A	INT	FW*	FOUR HOLE SWAMP AT S-18-19

Providence Swamp (E-051) – Aquatic life uses are not supported due to dissolved oxygen excursions and occurrences of copper in excess of the aquatic life chronic criterion. In addition, there is a significant increasing trend in five-day biochemical oxygen demand. Significant decreasing trends in turbidity and total phosphorus concentration suggest improving conditions for these parameters. Recreational uses are partially supported due to fecal coliform bacteria excursions.

Horse Range Swamp – There are two SCDHEC monitoring stations along Horse Range Swamp. This is a blackwater system, characterized by naturally low dissolved oxygen concentrations. At the upstream site ***(RS-02303)***, aquatic life uses are fully supported. Recreational uses are not supported due

to fecal coliform bacteria excursions. At the downstream site ***(E-052)***, aquatic life uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. Although dissolved oxygen excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Recreational uses are partially supported due to fecal coliform bacteria excursions.

Four Hole Swamp – There are three SCDHEC monitoring stations along this section of Four Hole Swamp. This is a blackwater system, characterized by naturally low dissolved oxygen concentrations. At the upstream site ***(E-112)***, aquatic life uses are not supported due to dissolved oxygen excursions. There is a significant increasing trend in pH. A significant decreasing trend in turbidity suggests improving conditions for this parameter. Recreational uses are fully supported. At the midstream site ***(E-100)***, aquatic life uses are fully supported. Although dissolved oxygen excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. There is a significant increasing trend in pH. Recreational uses are partially supported due to fecal coliform bacteria excursions. At the downstream site ***(E-015A)***, aquatic life and recreational uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand.

A fish consumption advisory has been issued by the Department for mercury and includes the Four Hole Swamp within this watershed (see advisory p.41).

NPDES Permitted Activities

Active NPDES Facilities

RECEIVING STREAM ***FACILITY NAME***	***NPDES#*** ***TYPE***
FOUR HOLE SWAMP GIANT CEMENT COMPANY, INC.	SC0022667 MINOR INDUSTRIAL
FOUR HOLE SWAMP ROSEBURG FOREST PRODUCTS/HOLLY HILL MDF	SC0001147 MINOR INDUSTRIAL
HUTTOS LAKE GIANT CEMENT COMPANY, INC.	SC0022667 MINOR INDUSTRIAL
HOME BRANCH HOLCIM (US) INC./HOLLY HILL PLT	SC0002992 MINOR INDUSTRIAL
TIMOTHY CREEK SHOWA DENKO CARBON INC.	SC0038555 MAJOR INDUSTRIAL
TIMOTHY CREEK D&A LLC/RIDGEVILLE PIT	SCG730073 MINOR INDUSTRIAL

DEEP BRANCH	SCG730224
GIANT CEMENT CO./WASHIE ROAD SAND MINE	MINOR INDUSTRIAL
MARSHALL BRANCH	SCG730033
D&A LLC/GIVENS PIT	MINOR INDUSTRIAL
FOUR HOLE SWAMP	SCG730024
SANDERS BROTHERS CONSTR./BIG OAK MINE	MINOR INDUSTRIAL
TIMOTHY CREEK TRIBUTARY	SCG730080
CHAMBERS-OAKRIDGE/MORGAN MINE	MINOR INDUSTRIAL
WALNUT BRANCH	SCG730161
AFFORDABLE DIRT CO., INC./DIAMOND MINE #3	MINOR INDUSTRIAL
HOME BRANCH	SCG730427
D&A LLC/RIDGEVILLE PIT	MINOR INDUSTRIAL
WALNUT BRANCH	SCG730523
D&A LLC/HARLEY BAKER MINE	MINOR INDUSTRIAL
POWDER HORN CREEK	SCG730668
WELBYS CONSTR. MATERIALS/DORCHESTER MINE	MINOR INDUSTRIAL
COLDWATER BRANCH	SCG730882
BANKS CONSTRUCTION CO./TOMMY MINE	MINOR INDUSTRIAL
WALNUT BRANCH	SCG730934
D&A LLC/SANDHILL MINE	MINOR INDUSTRIAL
MARSHALL BRANCH	SCG730981
MCCRAW GROUP/PARKERS MINE	MINOR INDUSTRIAL
WALNUT BRANCH	SCG730985
PARAGON DEVELOPMENT LLC/CROWN CASTLE MINE	MINOR INDUSTRIAL
FOUR HOLE SWAMP TRIBUTARY	SCG731020
RISHER MINING & TRUCK/PLANTATION EGERIA TRACT 1	MINOR INDUSTRIAL
SANTEE BRANCH	SCG731081
MARK EDWINS/EDWINS MINE	MINOR INDUSTRIAL
FOUR HOLE SWAMP TRIBUTARY	SCG730411
TRI COUNTY INVESTMENTS LLC/BOYKIN RIDGE MINE	MINOR INDUSTRIAL
FOUR HOLE SWAMP TRIBUTARY	SCG731168
G5 LLC/SILVER MINE TWO	MINOR INDUSTRIAL

Nonpoint Source Permitted Activities

Land Disposal Activities

Landfill Facilities

LANDFILL NAME *FACILITY TYPE*	*PERMIT#* *STATUS*
GIANT CEMENT COMPANY, INC. INDUSTRIAL	183346-1601 INACTIVE
CITY OF HOLLY HILL C&D	381003-1201 INACTIVE
ROSEBURG FOREST PRODUCTS INDUSTRIAL	383304-1601 ACTIVE
SANDY PINES LANDFILL MUNICIPAL	182401-1101 CLOSED
OAKRIDGE LANDFILL, INC. MUNICIPAL	182400-1101 ACTIVE
DORCHESTER COUNTY SANITARY LANDFILL MUNICIPAL	---------- CLOSED
DORCHESTER COUNTY SOUTH COMPOSTING SITE COMPOSTING	181001-3002 INACTIVE
WASTE MANAGEMENT OF S.C., INC. MUNICIPAL	---------- CLOSED
VEXOR TECH. PROCESSING FACILITY INDUSTRIAL	182628-2001 ACTIVE
CHAMBERS OAKRIDGE LANDFILL COMPOSTING	182400-3001 INACTIVE
CHAMBERS OAKRIDGE LANDFILL SUBTITLE D MUNICIPAL	---------- INACTIVE
OAKRIDGE C&D LANDFILL COMPOSTING	PROPOSED
AFFORDABLE WASTE C&D LANDFILL C&D	182765-1201 ACTIVE
GIANT CEMENT COMPANY, INC. C&D LANDFILL C&D	183346-1901 ACTIVE
CITY OF HOLLY HILL INDUSTRIAL	---------- INACTIVE

Land Application Sites

LAND APPLICATION SYSTEM *FACILITY NAME*	*ND#* *TYPE*
SPRAY IRRIGATION CITY OF HOLLY HILL	ND0063380 DOMESTIC
TILE FIELD I-95 TRUCK STOP	ND0067130 DOMESTIC

Mining Activities

MINING COMPANY *MINE NAME*	*PERMIT #* *MINERAL*
GIANT CEMENT COMPANY, INC. HARLEYVILLE MINE	0120-35 LIMESTONE
HOLNAM, INC. MARL & CLAY QUARRY	0054-75 LIMESTONE
DORCHESTER DIRT CO., INC. DIAMOND MINE #3	1027-35 SAND; SAND/CLAY
D&A PARTNERSHIP CARTER MINE	1047-35 SAND; SAND/CLAY
D&A PARTNERSHIP GIVENS MINE	1085-35 SAND; SAND/CLAY
SANDERS BROTHERS BIG OAK MINE	1031-35 SAND
GIANT CEMENT COMPANY, INC. WASHIE ROAD SAND MINE	1163-35 SAND
MORGAN CORPORATION MORGAN MINE	1000-35 SAND; SAND/CLAY
D&A PARTNERSHIP RIDGEVILLE MINE	0870-35 CLAY
TRI COUNTY INVESTMENTS LLC BOYKIN RIDGE MINE	1105-35 SAND
WELBYS CONSTRUCTION MATERIALS DORCHESTER MINE	1572-35 SAND; TOP SOIL
D&A LLC HARLEY BAKER MINE	1592-35 SAND/CLAY
WELBYS CONSTRUCTION MATERIALS POWDER HORN MINE	1715-35 SAND/CLAY
PARAGON SITE WORK CONTRACTORS MILLPOND MINE	1781-35 SAND; TOP SOIL

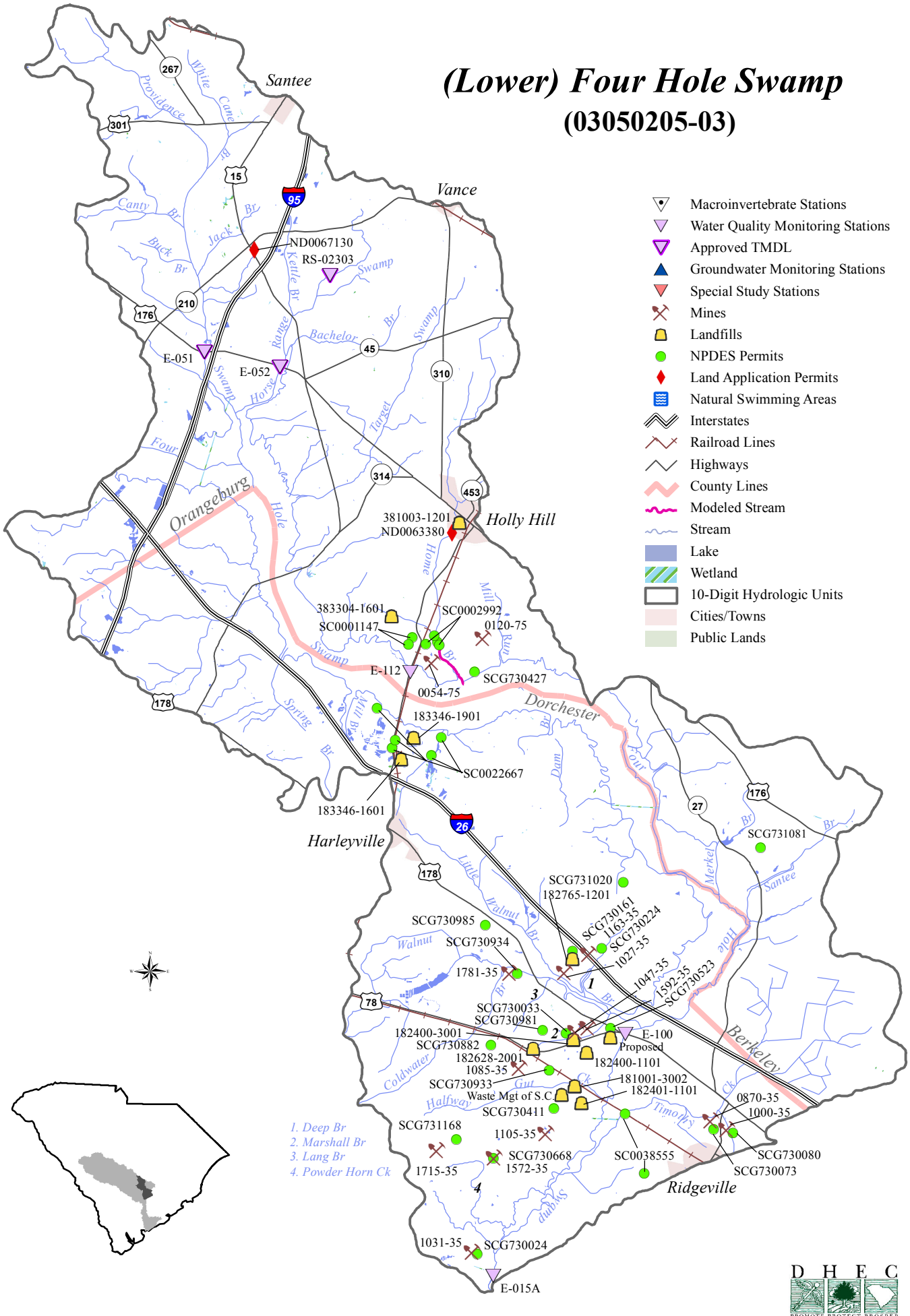
Growth Potential

There is potential for major growth in the upper portion of the watershed in the Santee/eastern Orangeburg area associated with the major intermodal port (Jafza). An estimated 7,000 to 10,000 jobs could be created within 10 years. A new full access diamond interchange is planned for I-95 near Santee and US 301 will be extended from its current end at I-95 to SC 6 east of Santee. Traffic counts, especially freight traffic counts, are expected to increase greatly. The Lower Savannah Council of Government is currently working on a Sustainable Growth Study for this area. The I-95, I-26, and US 301 area are called the Global Logistics Triangle, and is planned for major infrastructure improvements to support economic development in that region. A lower potential for growth is expected in the remainder of the watershed, which contains the Town of Holly Hill and portions of the Towns of Santee, Vance, Eutawville, and Harleyville. The Dorchester County region is estimated to build about 260 residential units between 2010 and 2035.

Watershed Protection and Restoration Strategies

Total Maximum Daily Loads (TMDLs)

TMDLs were developed for SCDHEC and approved by EPA for Four Hole Swamp and tributaries Gramling Creek, Cow Castle Creek, **Providence Swamp, Horse Range Swamp**, and Little Bull Creek at water quality monitoring sites E-022, E-050, E-051, E-052, E-059, and E-076. TMDLs determine the maximum amount of fecal coliform bacteria waterbodies can receive from pollution sources and still meet water quality standards. There are two minor permitted wastewater treatment facilities in the watershed. Orangeburg, located in western part of the watershed is considered as a potential small MS4. Probable sources of fecal coliform bacteria that were identified in the watershed are grazing animals, especially cattle with access to streams, land application of litter, failing septic systems, urban runoff, and wildlife. The TMDLs state that reductions of 4% to 73% in fecal coliform loading are necessary for the streams to meet the recreational use standard.


(Lower) Four Hole Swamp
(03050205-03)
Santee
Vance
Orangeburg
Holly Hill
Harleyville
Ridgeville
Dorchester
Berkeley
Macroinvertebrate Stations
Water Quality Monitoring Stations
Approved TMDL
Groundwater Monitoring Stations
Special Study Stations
Mines
Landfills
NPDES Permits
Land Application Permits
Natural Swimming Areas
Interstates
Railroad Lines
Highways
County Lines
Modeled Stream
Stream
Lake
Wetland
10-Digit Hydrologic Units
Cities/Towns
Public Lands
ND0067130
RS-02303
E-051
E-052
381003-1201
ND0063380
383304-1601
SC0001147
SC0002992
0120-75
E-112
0054-75
SCG730427
183346-1901
SC0022667
183346-1601
SCG731081
SCG731020
182765-1201
SCG730985
SCG730934
1781-35
SCG730161
1163-35
SCG730224
1027-35
1047-35
1592-35
SCG730523
SCG730033
SCG730981
182400-3001
SCG730882
182628-2001
1085-35
SCG730933
SCG730411
E-100
Proposed
182400-1101
181001-3002
182401-1101
Waste Mgt of S.C.
0870-35
1000-35
SCG731168
1105-35
1715-35
SCG730668
1572-35
SC0038555
SCG730080
SCG730073
1031-35
SCG730024
E-015A
1. Deep Br
2. Marshall Br
3. Lang Br
4. Powder Horn Ck
Miles
0 1 2 4 6 8
D H E C
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South Carolina Department of Health and Environmental Control

03050206-01

(Edisto River - Headwaters)

General Description

Watershed 03050206-01 (formerly 03050205-010, 020, 030) is located in Bamberg, Orangeburg, Dorchester, and Colleton Counties and consists primarily of the ***Edisto River*** and its tributaries from its origin to Polk Swamp. The watershed occupies 169,636 acres of the Lower Coastal Plain region of South Carolina. Land use/land cover in the watershed includes: 42.2% forested land, 27.7% forested wetland (swamp), 25.3% agricultural land, 4.2% urban land, 0.4% water, and 0.2% nonforested wetland (marsh).

The headwaters of the Edisto River are formed from the confluence of the North Fork Edisto River and the South Fork Edisto River near the Town of Branchville. The Edisto River accepts drainage from Betty Branch (Staley Branch, Mill Branch), Piney Bay, Broad Branch, Pen Branch, and Brier Creek. Further downstream, the river accepts drainage from Bush Branch, Box Branch, Cattle Creek (Sandy Run, Murray Branch, Mill Branch, Big Branch), Brickhouse Branch, Crooked Creek, Skull Branch, and Polk Swamp. Polk Swamp flows past Reevesville and St. George accepting drainage from Bear Branch, Cowtail Creek, and Indian Field Swamp Colleton State Park resides in the lower portion of the watershed. There are a total of 625.3 stream miles and 657.3 acres of lake waters in this watershed, all classified FW.

Surface Water Quality

Station #	Type	Class	Description
E-013	W	FW	EDISTO RIVER AT U.S. 78, W OF BRANCHVILLE
E-013A	INT	FW	EDISTO RIVER AT U.S. 21
RS-06180	RS06	FW	EDISTO R. OFF DOCK NEAR END OF FISHTALE RD, 6.5 MI SE BRANCHVILLE
E-108	INT/BIO	FW	CATTLE CREEK AT S-18-19
E-014	W	FW	EDISTO RIVER AT US 15, S OF ST. GEORGE
E-086	INT	FW	EDISTO RIVER AT S-18-29

Edisto River – There are five SCDHEC monitoring stations along this section of the Edisto River. This is a blackwater system, characterized by naturally low pH conditions. Although pH excursions occurred at all except E-014, they were typical of values seen in blackwater systems and were considered natural, not standards violations. At the furthest upstream site ***(E-013)***, aquatic life uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. There is a significant decreasing trend in pH. Significant decreasing trends in turbidity and total nitrogen concentration suggest improving conditions for these parameters. Recreational uses are partially supported due to fecal coliform bacteria excursions. Further downstream ***(E-013A)***, aquatic life and recreational uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. There is a significant decreasing trend in pH. A significant decreasing trend in turbidity suggests improving conditions for this parameter.

At the next site downstream ***(RS-06180)***, aquatic life uses are fully supported, but recreational uses are partially supported due to fecal coliform bacteria excursions. Further downstream ***(E-014)***, aquatic life uses are fully supported and a significant increasing trend in dissolved oxygen concentration suggests improving conditions for this parameter. There is a significant increasing trend in pH. Recreational uses are fully supported at this site and a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter. At the furthest downstream site ***(E-086)***, aquatic life uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. A significant increasing trend in dissolved oxygen concentration suggests improving conditions for this parameter. Recreational uses are fully supported and a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter.

Cattle Creek (E-108) – Although pH excursions occurred, aquatic life uses are fully supported based on macroinvertebrate community data. Significant decreasing trends in turbidity and increasing trends in dissolved oxygen concentration suggest improving conditions for these parameters. Recreational uses are not supported due to fecal coliform bacteria excursions.

A fish consumption advisory has been issued by the Department for mercury and includes the Edisto River within this watershed (see advisory p.41).

NPDES Permitted Activities

Active NPDES Facilities

RECEIVING STREAM ***FACILITY NAME***	***NPDES#*** ***TYPE***
EDISTO RIVER TOWN OF BRANCHVILLE	SC0047333 MINOR DOMESTIC
CATTLE CREEK R. WHALEY DURR/HARTZOG PIT	SCG730091 MINOR INDUSTRIAL
EDISTO RIVER SCE&G/CANADYS STATION	SC0002020 MAJOR INDUSTRIAL
BETTY BRANCH TRIBUTARY NORTH AMERICAN CONTAINER CORP.	SCG250191 MINOR INDUSTRIAL
EDISTO RIVER PETER R. STOKES IV MINE	SCG731112 MINOR INDUSTRIAL
EDISTO RIVER JAY & J CONSTRUCTION INC./BRANCHVILLE PIT MINE	SCG731107 MINOR INDUSTRIAL
EDISTO RIVER TRIBUTARY REA CONTRACTING LLC/CARROLL PIT #9	SCG730656 MINOR INDUSTRIAL

EDISTO RIVER CIRCLE C TRUCK STOP	SCG730003 MINOR INDUSTRIAL
EDISTO RIVER TRIBUTARY SCDOT/GROVER PIT	SCG730517 MINOR INDUSTRIAL

Nonpoint Source Permitted Activities

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
DORCHESTER COUNTY HARTZOG PIT	0412-35 SAND; SAND/CLAY

Growth Potential

There is a low to moderate potential for growth in this watershed, which contains the Towns of Branchville and Rowesville. The Town of Branchville is located in the center of the watershed with US 78 and a rail line connecting it to the Towns of Bamberg and St. George, and US 21 and another rail line connecting it to the City of Orangeburg. Infrastructure exists to serve any development. In the Dorchester County portion of the watershed, only about 250 proposed residential units are identified as most of this section is designated for conservation in the future.

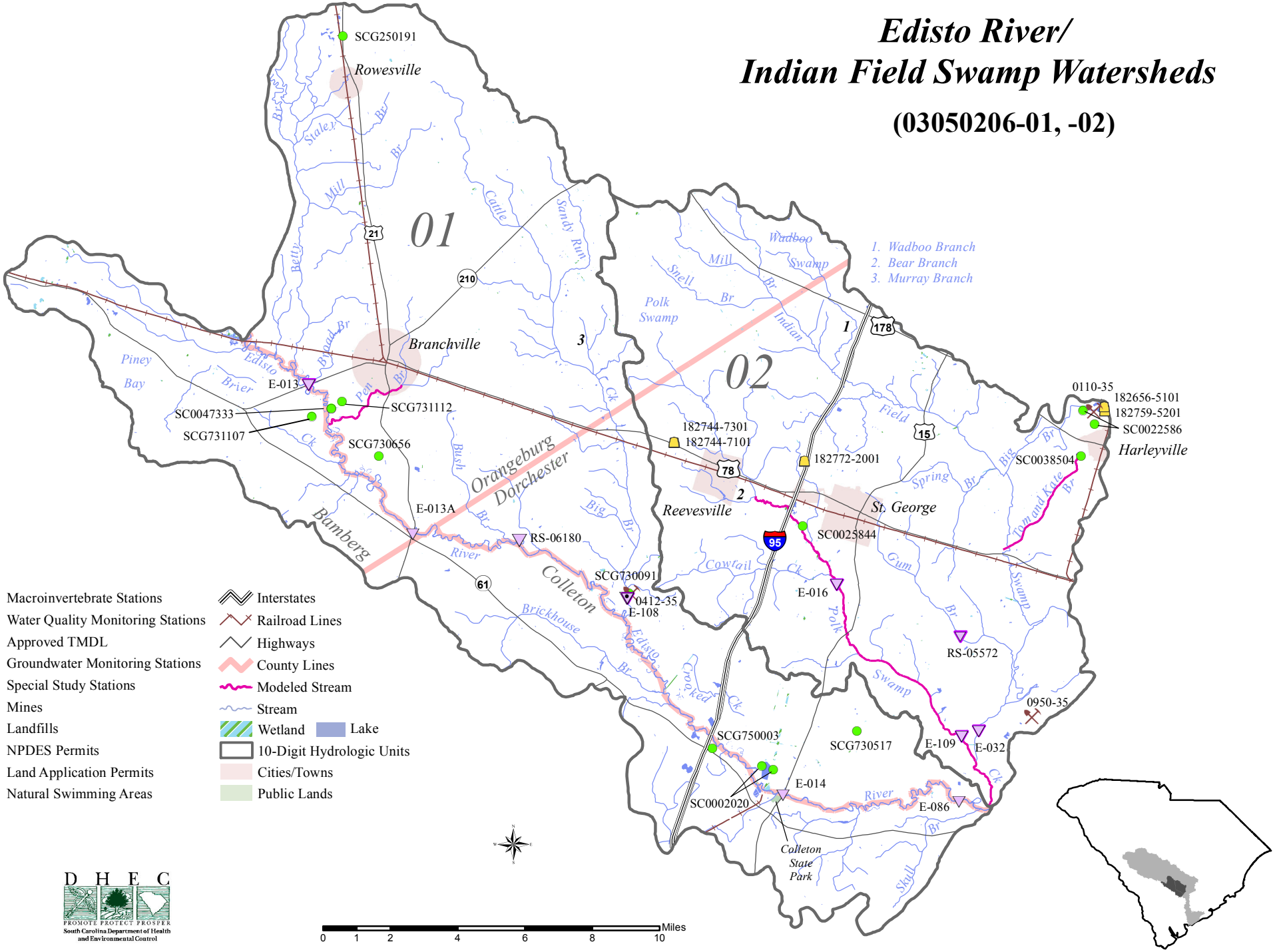
Watershed Protection and Restoration Strategies

Total Maximum Daily Loads (TMDLs)

A TMDL was developed by SCDHEC and approved by EPA for **Cattle Creek** at water quality monitoring site E-108. TMDLs determine the maximum amount of fecal coliform bacteria waterbodies can receive from sources and still meet water quality standards. This small stream has no permitted NPDES facility that discharges fecal coliform bacteria. None of the watershed is within a designated MS4. Probable sources of fecal coliform bacteria that were identified in the watershed are grazing animals, especially cattle with access to streams, land application of litter, and failing septic systems. The TMDL states that a reduction of 66% in fecal coliform loading is necessary for the stream to meet the recreational use standard.

Edisto River/ Indian Field Swamp Watersheds

(03050206-01, -02)



- Macroinvertebrate Stations
- Water Quality Monitoring Stations
- Approved TMDL
- Groundwater Monitoring Stations
- Special Study Stations
- Mines
- Landfills
- NPDES Permits
- Land Application Permits
- Natural Swimming Areas
- Interstates
- Railroad Lines
- Highways
- County Lines
- Modeled Stream
- Stream
- Wetland
- Lake
- 10-Digit Hydrologic Units
- Cities/Towns
- Public Lands

0 1 2 4 6 8 10 Miles

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South Carolina Department of Health and Environmental Control

03050206-02

(Indian Field Swamp)

General Description

Watershed 03050206-02 (formerly 03050205-040) is located in Dorchester and Orangeburg Counties and consists primarily of ***Indian Field Swamp*** and its tributaries. The watershed occupies 101,993 acres of the Lower Coastal Plain region of South Carolina. Land use/land cover in the watershed includes: 36.7% forested land, 32.0% agricultural land, 24.8% forested wetland (swamp), 6.0% urban land, 0.2% water, 0.2% barren land, and 0.1% nonforested wetland (marsh).

Mill Branch and Snell Branch combine to form Indian Field Swamp, which eventually drains into the Edisto River. Downstream from the confluence, Dove Branch and Wadboo Branch (Wadboo Swamp) enter the stream, followed by Spring Branch, Big Branch, Tom and Kate Branch, Pineland Branch, Millpond Branch, and Gum Branch. Polk Swamp (Bear Branch, Cowtail Creek) flows into Indian Field Swamp at the base of the watershed. There are a total of 462.0 stream miles and 180.1 acres of lake waters in this watershed. Indian Field Swamp, Gum Branch, and Polk Swamp are classified FW* (Site specific standards - DO not less than 4.0 mg/l, pH between 5.0-8.5 SU), and the remaining streams are classified FW.

Surface Water Quality

Station #	Type	Class	Description
E-597	BIO	FW*	INDIAN FIELD SWAMP AT US 78
RS-05572	RS05	FW*	GUM BRANCH AT S-18-167, 4.9 MI SE OF ST. GEORGE
E-032	INT	FW*	INDIAN FIELD SWAMP AT S-18-19
E-016	W	FW*	POLK SWAMP AT S-18-180, 2 MILES S OF ST. GEORGE
E-109	INT/BIO	FW*	POLK SWAMP AT S-18-19

Indian Field Swamp – There are two SCDHEC monitoring stations along Indian Field Swamp. At the upstream site ***(E-597)***, aquatic life uses are fully supported based on macroinvertebrate community data. At the downstream site ***(E-032)***, aquatic life uses are partially supported due to dissolved oxygen excursions. There is a significant increasing trend in pH. Recreational uses are partially supported at this site due to fecal coliform bacteria excursions.

Gum Branch (RS-05572) – Aquatic life uses are fully supported, but recreational uses are not supported due to fecal coliform bacteria excursions.

Polk Swamp - There are two SCDHEC monitoring stations along Polk Swamp. Aquatic life uses are not supported at the upstream site ***(E-016)*** due to dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. A significant decreasing trend in total nitrogen concentration suggests improving conditions for this parameter. Recreational uses are fully supported. Although dissolved oxygen excursions occurred at the downstream site ***(E-109)***,

aquatic life uses are fully supported based on macroinvertebrate community data. There is a significant increasing trend in pH. Significant decreasing trends in five-day biochemical oxygen demand and turbidity suggest improving conditions for these parameters. Recreational uses are partially supported at this site due to fecal coliform bacteria excursions.

NPDES Permitted Activities

Active NPDES Facilities

RECEIVING STREAM *FACILITY NAME*	*NPDES#* *TYPE*
TOM AND KATE BRANCH ARGOS CEMENT LLC/HARLEYVILLE CEMENT PLT	SC0022586 MINOR INDUSTRIAL
TOM AND KATE BRANCH TOWN OF HARLEYVILLE	SC0038504 MINOR DOMESTIC
POLK SWAMP DORCHESTER CO./UPPER DORCHESTER CO. WWTP	SC0025844 MINOR DOMESTIC

Nonpoint Source Permitted Activities

Mining Activities

MINING COMPANY *MINE NAME*	*PERMIT #* *MINERAL*
PAUL W. JONES HAULING P&M MINE	0950-35 SAND
ARGOS CEMENT LLC HARLEYVILLE QUARRY	0110-35 LIME

Growth Potential

Portions of this watershed, which contains the Towns of Reevesville and St. George, and a portion of the Town of Harleyville, have a moderate to high potential for growth. Interstate 95 crosses US 78 near St. George in the center of the watershed. This interchange area has a high growth potential, particularly as segments of US 78 are widened. The I-95 interchange with US 178 is another growth area. A rail line parallels US 78 through St. George and together with the presence of I-95, provides a high industrial growth potential. A growth of over 900 residential units (2010 - 2035) is estimated for this watershed.

Watershed Protection and Restoration Strategies

Total Maximum Daily Loads (TMDLs)

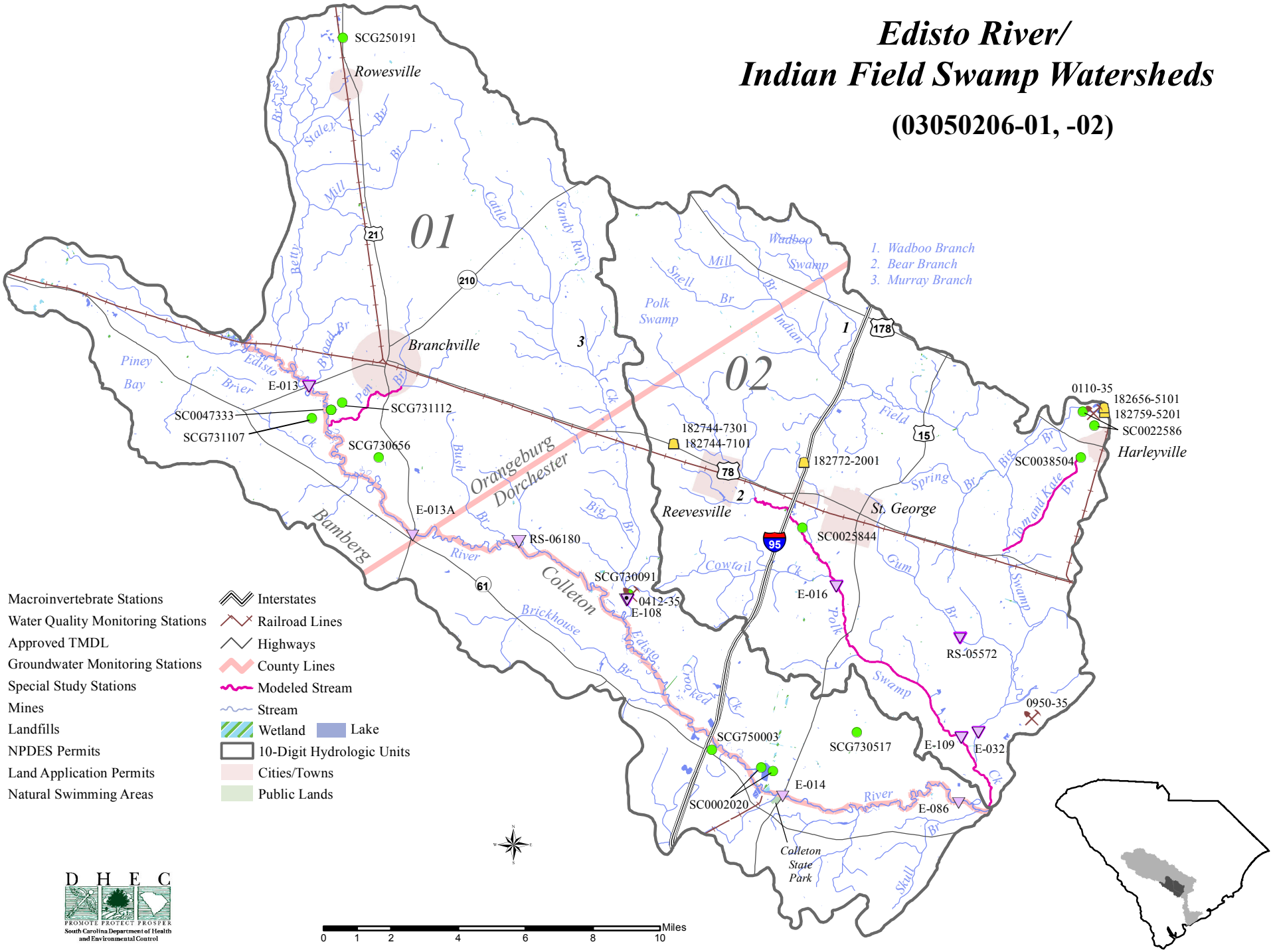
A TMDL was developed by SCDHEC and approved by EPA for **Indian Field Swamp** at water quality monitoring site E-032. TMDLs determine the maximum amount of fecal coliform bacteria waterbodies can receive from sources and still meet water quality standards. There is one minor permitted wastewater treatment facility in the watershed. This watershed has no designated or

potential MS4s. Probable sources of fecal coliform bacteria that were identified in the watershed are grazing animals, especially cattle with access to streams, failing septic systems, urban runoff, and wildlife. The TMDL states that a reduction of 60% in fecal coliform loading is necessary for the stream to meet the recreational use standard.

TMDLs were developed by SCDHEC and approved by EPA for **Polk Swamp** at water quality monitoring sites E-016 and E-109. There is one minor permitted wastewater treatment facility in the watershed. This watershed has no designated or potential MS4s. Probable sources of fecal coliform bacteria that were identified in the watershed are grazing animals, especially cattle with access to streams, failing septic systems, and wildlife. The TMDLs state that reductions of 43% and 52% in fecal coliform loading are necessary for the stream to meet the recreational use standard.

Edisto River/ Indian Field Swamp Watersheds

(03050206-01, -02)



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South Carolina Department of Health and Environmental Control

03050206-03

(Edisto River/South Edisto River)

General Description

Watershed 03050206-03 (formerly 03050205-050, 060) is located in Colleton, Dorchester, and Charleston Counties and consists primarily of the ***Edisto River*** and the ***South Edisto River*** and their tributaries from Indian Field Swamp to the Atlantic Ocean. The watershed occupies 174,109 acres of the Lower Coastal Plain and Coastal Zone regions of South Carolina. Land use/land cover in the watershed includes: 37.2% forested land, 26.9% forested wetland (swamp), 14.4% nonforested wetland (marsh), 11.1% agricultural land, 7.5% water, 2.6% urban land, and 0.3% barren land.

This lowest reach of the Edisto River receives the drainage from Poorly Branch, the Four Hole Swamp Watershed, Cold Water Branch, Deep Creek (Maple Cane Swamp, Horse Pen Branch), and Sandy Run (Big Bay Swamp, Craven Branch, Boston Branch). Further downstream near the Town of Jacksonboro, the Edisto River accepts drainage from Spooler Swamp. Bull Bridge Creek, Burden Swamp, Green Meadow, and Allen Meadow drain into the Edisto in the Big Swamp region. Penny Creek (Adams Run), Hope Creek, and Ashe Creek drain into the Edisto River before it joins the Dawho River to form the South Edisto River. The Edisto River is classified FW from its origin downstream to its intersection with U.S. 17, and below this point to its confluence with the Dawho River, the river is classified ORW.

The South Edisto River accepts drainage from Watts Cut (AIWW), North Creek, Mosquito Creek, Sampson Island Creek, and Alligator Creek. Further downstream below Fenwick Cut, the river accepts drainage from St. Pierre Creek (Shingle Creek, Milton Creek, Bailey Creek, Store Creek, Fishing Creek, Sandy Creek), Big Bay Creek (Scott Creek, Mud Creek), and Fish Creek (Jefford Creek, Pine Island Creek, Otter Creek) before draining to the Atlantic Ocean. Scott Creek drains to the Atlantic Ocean via Jeremy Inlet, and Frampton Creek and a portion of the Townsend River drain to the ocean via Frampton Inlet.

Jeremy Inlet and Watts Cut are classified SFH, and Frampton Inlet is ORW. The South Edisto River is classified ORW from its headwaters to Mud Creek, and below Mud Creek to the Atlantic Ocean the river is classified SFH. The Dawho River, Mosquito Creek, Sampson Island Creek, Alligator Creek, St. Pierre Creek, Shingle Creek, Milton Creek, Bailey Creek, Store Creek, Fishing Creek, Mud Creek, Big Bay Creek, and Scott Creek are all classified ORW. Mosquito Creek connects to the Ashepoo River (Salkehatchie River Basin) through Bull Cut. Also connecting the Ashepoo River and the South Edisto River are Fenwick Cut, Jeffords Creek and Otter Creek. The South Edisto River connects to the North Edisto River through the Dawho River, Fishing Creek, and Watts Cut/North Creek. There are a total of 309.6 stream miles, 211.8 acres of lake waters, and 8,195.1 acres of estuarine areas in this watershed. The lower portion of this watershed is within the ACE Basin and is a National Estuarine Research Reserve (NERR) site. Additional natural resource areas in the watershed

include Givhans Ferry State Park near the top of the watershed and Edisto Beach State Park and a portion of the Botany Bay Wildlife Management Area at the base of the watershed.

Surface Water Quality

Station #	Type	Class	Description
E-015	INT	FW	EDISTO RIVER AT SC 61, AT GIVHANS FERRY STATE PARK
RS-05584	RS05	FW	EDISTO R. AT END OF BOAT LANDING RD, 13.3 MI W SUMMERVILLE
MD-119	W	FW/ORW	EDISTO RIVER AT US 17, 12.5 MILES NW OF RAVENEL
MD-260	INT	ORW	S. EDISTO R. AT NORTHERN CONFLUENCE WITH ALLIGATOR CREEK
RO-036043	RO03	ORW	SOUTH EDISTO RIVER, 1.7 MI NE FENWICK CUT
MD-244	W	SFH	SOUTH EDISTO RIVER BELOW ST. PIERRE CREEK
RO-06311	RO06	SFH	SOUTH EDISTO RIVER, 2.2 MI NW OF EDISTO BEACH
RT-052105	RT05	ORW	SCOTT CREEK NEAR EDISTO BEACH SP, 1 MI NE CONFL.WITH BIG BAY CK
RT-02019	RT02	SFH	PINE ISLAND CREEK TRIBUTARY, W OF PINE ISLAND
RT-06007	RT06	SFH	PINE ISLAND CREEK, 3.3 MI NW OF EDISTO BEACH

Edisto River – There are three SCDHEC monitoring stations along this section of the Edisto River. At the upstream site ***(E-015)***, aquatic life and recreational uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. There is a significant increasing trend in pH. Significant increasing trends in dissolved oxygen concentration and decreasing trends in total phosphorus concentration and fecal coliform bacteria concentration suggest improving conditions for these parameters. Aquatic life and recreational uses are fully supported at the midstream site ***(RS-05584)***. Aquatic life and recreational uses are again fully supported at the downstream site ***(MD-119)***; however, there is a significant increasing trend in turbidity. There is a significant increasing trend in pH. Significant decreasing trends in total phosphorus concentration and total nitrogen concentration suggest improving conditions for these parameters. *Fish tissue analyses on species caught from the Edisto River downstream of Highway 17 indicate no advisories or restrictions on consumption of fish from these waters.*

South Edisto River - There are four SCDHEC monitoring stations along the South Edisto River. This is a tidally influenced system with significant marsh drainage, characterized by naturally low dissolved oxygen concentrations. Although dissolved oxygen excursions occurred at the two upstream sites, they were typical of values seen in such systems and were considered natural, not standards violations. At the furthest upstream site ***(MD-260)***, aquatic life uses are not supported due to turbidity excursions and occurrences of copper in excess of the aquatic life chronic criterion. Recreational uses are fully supported. Aquatic life and recreational uses are fully supported at the next site downstream ***(RO-036043)***. Further downstream **(MD-244)**, aquatic life and recreational uses are fully supported; however, there are significant increasing trends in five-day biochemical oxygen demand and total phosphorus concentration. There is a significant decreasing trend in pH. A significant increasing trend in total nitrogen concentration suggests improving conditions for this parameter. At the furthest downstream site ***(RO-06311)***, aquatic life and recreational uses are fully supported.

Scott Creek (RT-052105) **-** This is a tidally influenced system with significant marsh drainage, characterized by naturally low dissolved oxygen concentrations. Although dissolved oxygen excursions occurred, they were typical of values seen in such systems and were considered natural, not standards violations. Aquatic life and recreational uses are fully supported.

Pine Island Creek Tributary (RT-02019) **-** This is a tidally influenced system with significant marsh drainage, characterized by naturally low dissolved oxygen concentrations. Although dissolved oxygen excursions occurred, they were typical of values seen in such systems and were considered natural, not standards violations. Aquatic life uses are not supported due to occurrences of copper in excess of the aquatic life chronic criterion. Recreational uses are fully supported.

Pine Island Creek (RT-06007) **-** This is a tidally influenced system with significant marsh drainage, characterized by naturally low dissolved oxygen concentrations. Although dissolved oxygen excursions occurred, they were typical of values seen in such systems and were considered natural, not standards violations. Aquatic life and recreational uses are fully supported.

A fish consumption advisory has been issued by the Department for mercury and includes portions of the Edisto River within this watershed (see advisory p.41).

Shellfish Monitoring Stations

Station #	Description
13-01	SCOTT CREEK AT THE MOUND
13-02	MOUTH OF BIG BAY CREEK
13-03	MOUTH OF ST. PIERRE CREEK
13-04	ST. PIERRE CREEK AT PETERS PT.
13-05	FISHING CREEK AT SANDY CREEK
13-05A	UPPER REACHES OF SANDY CREEK
13-06	CONFLUENCE OF SHINGLE CREEK AND BAILEY CREEK
13-07	STORE CREEK OPPOSITE HOUSE WITH DOCKS ON RIGHT
13-08	EDISTO RIVER AT ASHEPOO RIVER
13-09	FISHING CREEK AT OYSTER PLANT
13-10	FISHING CREEK AT POLLUTION LINE
13-12	HEADWATERS OF FISHING CREEK PAST OYSTER PLANT
13-17	CONFLUENCE OF WATTS CUT AND SOUTH EDISTO RIVER
13-18	CONFLUENCE OF RUSSELL CK AND WATTS CUT
13-20	NORTHERN CONFLUENCE OF ALLIGATOR CK AND S. EDISTO RIVER
13-21	BIG BAY CREEK HEADWATERS AT FIRST BEND TO RIGHT PAST THE NECK
13-22	HEADWATERS OF SCOTT CREEK AT JEREMY INLET AT THE BOAT LANDING
13-23	JEREMY INLET AT ATLANTIC OCEAN
13-24	FRAMPTON INLET AT NORTH END OF JEREMY CAY
13-25	FRAMPTON INLET AT ATLANTIC OCEAN
13-27	FRAMPTON INLET UPSTREAM OF BOAT RAMP PAST FIRST BEND
13-28	CONFLUENCE OF SHINGLE CREEK AND MILTON CREEK
13-29	BAILEY CREEK, 1ST BEND ADJACENT TO BLUFF ON BAILEY ISLAND (NEAR CONFL. WITH ST. PIERRE CREEK)

13-30	BAILEY CREEK AT CONFLUENCE WITH UNNAMED TRIBUATARY NEAR SW POINT OF SCANAWAH ISLAND
13-31	BAILEY CREEK AT CONFLUENCE WITH SOUTH EDISTO RIVER

Station locations can be found at http://www.scdhec.gov/environment/water/docs/SFMA_13.pdf and information from the Shellfish Annual Report for Section 13 can be found at http://www.scdhec.gov/environment/water/sfreports.htm.

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-095	GB	TERTIARY LIMESTONE	EDISTO BEACH WELL 4

All water samples collected from ambient monitoring well ***AMB-095*** met standards for Class GB groundwater.

NPDES Permitted Activities

Active NPDES Facilities

RECEIVING STREAM *FACILITY NAME*	*NPDES#* *TYPE*
SANDY RUN TRIBUTARY SC MINERALS/SANDY RUN MINE	SCG730261 MINOR INDUSTRIAL
POORLY BRANCH MEM LLC/MIXSON MINE	SCG730385 MINOR INDUSTRIAL
EDISTO RIVER TRIBUTARY MURRAY MINES INC./PRINCIP MINE	SCG730773 MINOR INDUSTRIAL
BOSTON BRANCH GLOVER REAL ESTATE LLC/COTTAGEVILLE MINE	SCG731055 MINOR INDUSTRIAL
SANDY RUN SEAFREE EDISTO INC./GOOD HOPE MINE	SCG731086 MINOR INDUSTRIAL
EDISTO RIVER TRIBUTARY DANNY LEE CONSTRUCTION/PIT SAND HILL MINE	SCG730976 MINOR INDUSTRIAL
SPOOLER SWAMP PALMETTO SAND CO. INC./BINLAW HWY 17A	SCG730408 MINOR INDUSTRIAL
SPOOLER SWAMP ROGERS & SONS CONSTR. INC./SULLIVANS LANDING	SCG730643 MINOR INDUSTRIAL
ADAMS RUN TRIBUTARY JOE WEEKS/DEEP SOUTH MINE	SCG731049 MINOR INDUSTRIAL
SANDY RUN WEST BANK CONSTR. CO., INC./RED HOUSE POND	SCG730657 MINOR INDUSTRIAL
EDISTO RIVER TRIBUTARY MALPHRUS CONSTR.CO./CRYSTAL LAKES MINE	SCG730990 MINOR INDUSTRIAL

Nonpoint Source Permitted Activities

Land Disposal Activities

Landfill Facilities

LANDFILL NAME *FACILITY TYPE*	*PERMIT#* *STATUS*
SHEPPARD C&D LANDFILL C&D	------ PROPOSED

Land Application Sites

LAND APPLICATION SYSTEM *FACILITY NAME*	*ND#* *TYPE*
SPRAY IRRIGATION TOWN OF EDISTO BEACH/FAIRFIELD GOLF COURSE	ND0063789 DOMESTIC
SPRAYFIELD JEREMY CAY	ND0071510 DOMESTIC

Mining Activities

MINING COMPANY *MINE NAME*	*PERMIT #* *MINERAL*
RED BAY CONSTRUCTORS CAW CAW BURROW	1447-19 SAND
WEST BANK CONSTRUCTION CO., INC. RED HOUSE POND	1568-19 SAND
BOHICKET CONSTRUCTION CO., INC. EDINGSVILLE ONE	1090-19 SAND/CLAY
TRI-COUNTY INVESTMENTS LLC. MAD DOG #3 MINE	1105-35 SAND
EDISTO MINING LLC EDISTO #1	1615-35 SAND; TOPSOIL
CECIL M. LACHICOTTE, INC. DURANT SHELL HOUSE ROAD MINE	1705-19 SAND; TOPSOIL
GL BUCKNER LLC ADAMS RUN #1 MINE	1770-19 SAND; TOPSOIL
MEM LLC MIXSON MINE	1398-35 SAND/CLAY
PALMETTO SAND CO., INC. HPT BINLAW MINE	1492-35 SAND; SAND/CLAY; TOPSOIL
PETER J KUHNS ----------	1539-29 ----------

ROGERS & SONS CONSTRUCTION INC. SULLIVANS LANDING MINE #2	1556-35 SAND; SAND/CLAY
MURRAY MINES INC. PRINCIP MINE	1620-29 SAND; SAND/CLAY
PALMETTO SAND CO., INC. PINE BLUFF MINE	1654-35 SAND/CLAY

Water Quantity

WATER USER (TYPE) ***WATERBODY***	***REGULATED CAPACITY (MGD)*** ***PUMPING CAPACITY (MGD)***
CITY OF CHARLESTON EDISTO RIVER	150.00 100.00

Growth Potential

A high growth potential is projected for the upper portion of the watershed surrounding the Cottageville area. The Cottageville growth along US 17A to Charleston is one of the fastest growing areas in the state. There is a low to moderate growth potential for the lower portion of the watershed, primarily in the unincorporated areas centered around the Town of Edisto Beach. Much of the growth is tourism-based and thus elicits primarily seasonal influence on the area. Only a small proportion of the town is sewered and there are no plans to expand the sewer service area. However, the Town of Edisto Beach will extend sewer lines to serve areas where septic systems have failed (at owner expense). The ORW classification of most of the waters in this watershed prohibits new point source discharges of wastewater to surface waters. Growth that occurs will have to rely primarily on septic tanks and/or land application systems.

Watershed Protection and Restoration Strategies

Special Studies

Edisto Beach Ocean Water Monitoring Station Tier Re-assessment

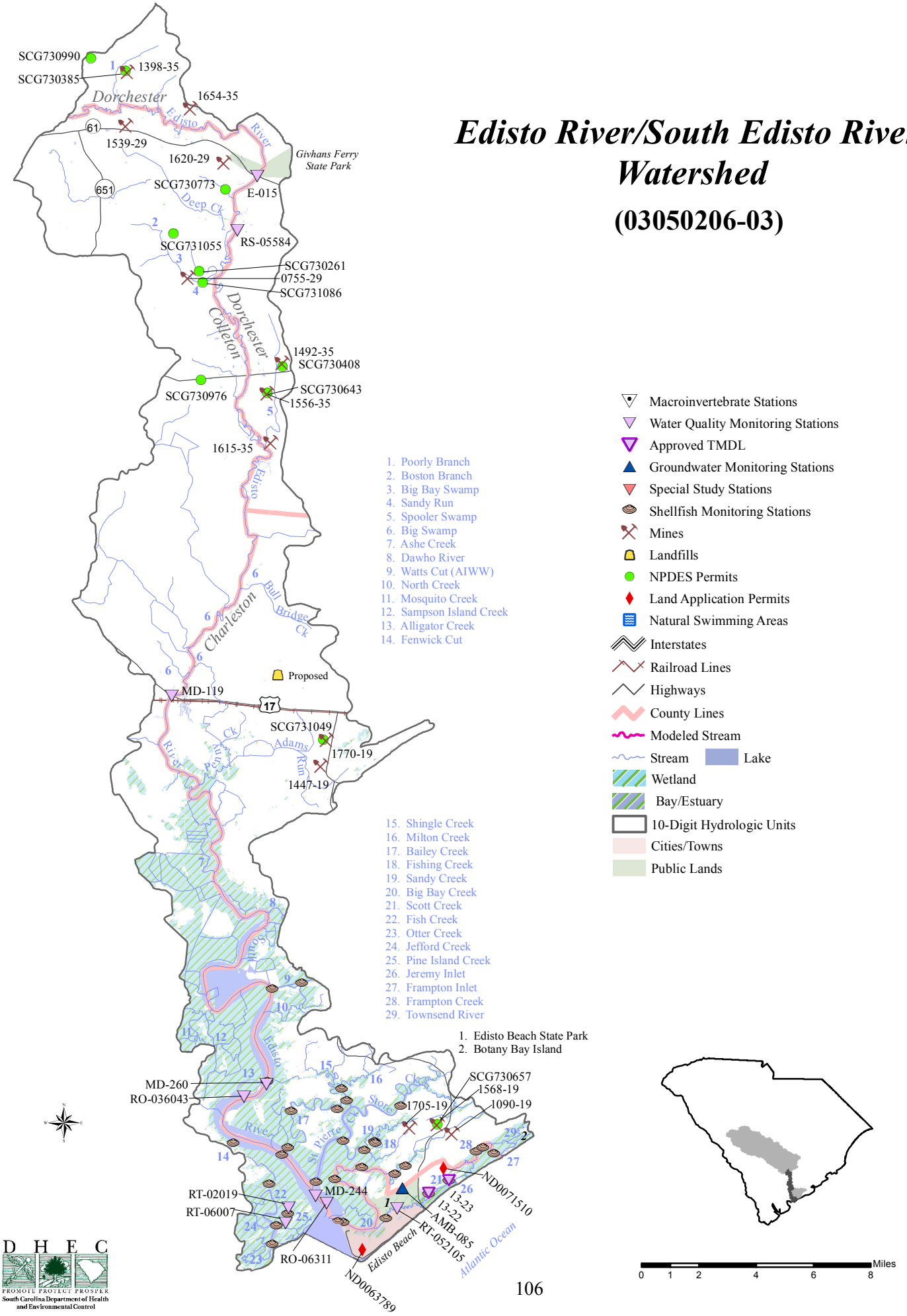
In 2009, eight advisories were issued at the ocean water monitoring stations along the riverfront of Edisto Island. Because there were no obvious or known sources of pollution, and because advisories were a rare occurrence on Edisto, SCDHEC staff devised a study to determine if a change in the tier status of these stations was warranted. Of the 14 ocean water monitoring stations on Edisto Island, 3 are along the South Edisto River before it drains into the Atlantic Ocean. The eight advisories seen in 2009 were from these stations. All eight samples exceeded the bacteria standard of 104 CFU/100ml and four of the samples exceeded 500 CFU/100 ml, which resulted in the issuance of the swimming advisories.

A special monitoring study was conducted in 2011 attempting to identify the cause of these standards excursions. Nineteen stations were sampled for enterococcus bacteria in Big Bay Creek, Scott Creek, and from lagoons. The bacteria samples were collected twice per month from May to October on the same day as the routine ocean water monitoring stations. Study results indicate a correlation between rainfall and higher enterococcus bacteria concentrations. There also appears to be a correlation between

higher enterococcus bacteria concentrations at the study sites in Big Bay Creek and the riverfront ocean monitoring stations. Due to the elevation of the discharge pipes, some of the lagoons that were sampled have a tidal exchange with Big Bay Creek, reducing the amount of retention time necessary to reduce bacteria concentrations within the lagoons. The preliminary study results identify “hot spots” where bacteria concentrations frequently exceed the ocean water standards. Investigation of these “hot spots” is ongoing.

Edisto River/South Edisto River Watershed

(03050206-03)



03050206-04

(North Edisto River)

General Description

Watershed 03050206-04 (formerly 03050205-070) is located in Charleston County and consists primarily of the ***North Edisto River*** and its tributaries. The watershed occupies 111,800 acres of the Coastal Zone region of South Carolina. Land use/land cover in the watershed includes: 29.6% forested land, 25.5% nonforested wetland (marsh), 17.1% agricultural land, 13.0% water, 12.1% forested wetland (swamp), 2.5% urban land, and 0.2% barren land.

The Dawho River (ORW) joins the Wadmalaw River to form the North Edisto River (ORW), which drains into the Atlantic Ocean. There are a total of 12.6 stream miles, 0.5 acres of lake waters, and 12,419.8 acres of estuarine areas in this watershed. The Dawho River accepts drainage from the South Edisto River Watershed, as does its tributaries Fishing Creek and North Creek, before merging with the Wadmalaw River.

Upstream from the confluence, Church Creek (Raven Point Creek, New Cut) flows into Wadmalaw Sound along with the Stono River and Oyster House Creek. New Cut connects the Stono River to Church Creek. The Wadmalaw River flows out of Wadmalaw Sound and accepts drainage from Gibson Creek, Toogoodoo Creek (Lower Toogoodoo Creek, Swinton Creek), and Tom Point Creek (also known as McLeod Creek) before merging with the Dawho River. Tom Point Creek is connected to Toogoodoo Creek through Garden Creek. Lower Toogoodoo Creek is classified SFH from its headwaters to a point 3 miles from its mouth, and ORW from that point to its confluence with Toogoodoo Creek. Church Creek is classified ORW from Wadmalaw Sound to Raven Point Creek, and SFH from Raven Point Creek to Hoopstick Island.

Downstream from the confluence, the North Edisto River accepts drainage from Steamboat Creek (Whooping Island Creek, Sand Creek, Russel Creek, Long Creek), Westbank Creek, Leadenwah Creek, Bohicket Creek (Fickling Creek, Adams Creek), Privateer Creek, and South Creek (Ocella Creek). South Creek drains to the Atlantic Ocean as well as to the North Edisto River. A portion of the Townsend River (the other half of the river is in 03050206-03 and drains to the ocean via Frampton Inlet) drains directly into the Atlantic Ocean. The Atlantic Intracoastal Waterway runs through Watts Cut and North Creek, along the Dawho River, up into the Wadmalaw River, through Wadmalaw Sound, and into the Stono River and the Santee River Basin. Church Creek and Bohicket Creek meet and exchange waters near Hoopstick Island. The North Edisto River is classified ORW from its headwaters to the AIWW, SFH from the AIWW to Steamboat Creek, and ORW again from Steamboat Creek to the Atlantic Ocean. All remaining streams are classified ORW. An additional natural resource in the watershed includes a portion of Botany Bay, a state Heritage Preserve, at the base of the watershed.

Surface Water Quality

Station #	Type	Class	Description
MD-195	W	SFH	CHURCH CREEK AT SC 700, 1 MILE SW OF CEDAR SPRINGS
MD-261	INT	ORW	YONGES ISLAND CREEK; MARKER #90
RT-042075	RT04	ORW	WADMALAW RIVER TRIB OPPOSITE YONGES ISLAND & END OF SC 165
RO-036039	RO03	ORW	WADMALAW RIVER, 0.5 MI S OF YONGES ISLAND
RO-056091	RO05	ORW	WADMALAW RIVER, 4.4 MI S OF MEGGETT
RT-02005	RT02	ORW	FISHING CREEK NEAR JEHOSSEE ISLAND
MD-120	INT	ORW	DAWHO RIVER AT SC 174, 9 MILES N OF EDISTO BEACH STATE PARK
RT-02021	RT02	ORW	SAND CREEK, 0.1 MI E OF SC 174
RO-02013	RO02	ORW	WESTBANK CREEK NEAR CONFLUENCE WITH NORTH EDISTO RIVER
RT-042077	RT04	ORW	LEADENWAH CREEK TRIBUTARY, 3.3 MI NNW OF ROCKVILLE
RO-06315	RO06	ORW	LEADENWAH CREEK, 2.7 MI NNW OF ROCKVILLE
MD-262	INT	ORW	NORTH EDISTO RIVER AT LEADENWAH CREEK
RO-036041	RO03	ORW	BOHICKET CREEK, 3 MI SW OF SC700 BRIDGE
MD-209	INT	ORW	BOHICKET CREEK AT FICKLING CREEK
RT-052095	RT05	ORW	ADAMS CREEK, 0.9 MI E OF CONFL OF LEADENWAH CK AND N. EDISTO R.
MD-210	W	ORW	BOHICKET CREEK MOUTH AT NORTH EDISTO RIVER
RO-056093	RO05	ORW	OCELLA CREEK, 0.7 MI NW OF CONFLUENCE WITH TOWNSEND RIVER

Church Creek (MD-195) – Aquatic life uses are partially supported due to dissolved oxygen excursions. There is a significant increasing trend in pH. Significant increasing trends in dissolved oxygen concentration and decreasing trends in total nitrogen concentration suggest improving conditions for these parameters. Recreational uses are fully supported.

Yonges Island Creek (MD-261) – This is a tidally influenced system with significant marsh drainage, characterized by naturally low dissolved oxygen concentrations. Although dissolved oxygen excursions occurred, they were typical of values seen in such systems and were considered natural, not standards violations. Aquatic life and recreational uses are fully supported. A significant decreasing trend in total nitrogen concentration suggests improving conditions for this parameter.

Wadmalaw River Tributary (RT-042075) – This is a tidally influenced system with significant marsh drainage, characterized by naturally low dissolved oxygen concentrations. Although dissolved oxygen excursions occurred, they were typical of values seen in such systems and were considered natural, not standards violations. Aquatic life and recreational uses are fully supported.

Wadmalaw River – There are two SCDHEC monitoring stations along the Wadmalaw River and aquatic life and recreational uses are fully supported at both sites ***(RO-036039, RO-056091)***. This is a tidally influenced system with significant marsh drainage, characterized by naturally low dissolved oxygen concentrations. Although dissolved oxygen excursions occurred, they were typical of values seen in such systems and were considered natural, not standards violations.

Fishing Creek (RT-02005) – This is a tidally influenced system with significant marsh drainage, characterized by naturally low dissolved oxygen concentrations. Although dissolved oxygen excursions occurred, they were typical of values seen in such systems and were considered natural, not standards

violations. Aquatic life uses are not supported due to turbidity excursions. Recreational uses are fully supported.

Dawho River (MD-120) - Aquatic life uses are not supported due to dissolved oxygen excursions. In addition, there is a significant increasing trend in five-day biochemical oxygen demand. There is a significant increasing trend in pH. A significant decreasing trend in total nitrogen concentration suggests improving conditions for this parameter. Recreational uses are fully supported and a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter.

Sand Creek (RT-02021) – This is a tidally influenced system with significant marsh drainage, characterized by naturally low dissolved oxygen concentrations. Although dissolved oxygen excursions occurred, they were typical of values seen in such systems and were considered natural, not standards violations. Aquatic life and recreational uses are fully supported.

Westbank Creek (RO-02013) – This is a tidally influenced system with significant marsh drainage, characterized by naturally low dissolved oxygen concentrations. Although dissolved oxygen excursions occurred, they were typical of values seen in such systems and were considered natural, not standards violations. Aquatic life and recreational uses are fully supported.

Leadenwah Creek Tributary (RT-042077) – This is a tidally influenced system with significant marsh drainage, characterized by naturally low dissolved oxygen concentrations. Although dissolved oxygen excursions occurred, they were typical of values seen in such systems and were considered natural, not standards violations. Aquatic life and recreational uses are fully supported.

Leadenwah Creek (RO-06315) – This is a tidally influenced system with significant marsh drainage, characterized by naturally low dissolved oxygen concentrations. Although dissolved oxygen excursions occurred, they were typical of values seen in such systems and were considered natural, not standards violations. Aquatic life and recreational uses are fully supported.

North Edisto River (MD-262) – This is a tidally influenced system with significant marsh drainage, characterized by naturally low dissolved oxygen concentrations. Although dissolved oxygen excursions occurred, they were typical of values seen in such systems and were considered natural, not standards violations. Aquatic life and recreational uses are fully supported. A significant decreasing trend in total nitrogen suggests improving conditions for this parameter.

Bohicket Creek - There are three SCDHEC monitoring stations along Bohicket Creek and recreational uses are fully supported at all sites. At the upstream site ***(RO-036041)***, aquatic life uses are not supported due to dissolved oxygen excursions. At the midstream site ***(MD-210)***, aquatic life uses are

again not supported due to dissolved oxygen excursions. In addition, there are significant increasing trends in five-day biochemical oxygen demand and turbidity. There is a significant decreasing trend in pH. A significant decreasing trend in total nitrogen suggests improving conditions for this parameter. At the downstream site ***(MD-210)***, aquatic life and recreational uses are fully supported.

Adams Creek (RT-052095) – This is a tidally influenced system with significant marsh drainage, characterized by naturally low dissolved oxygen concentrations. Although dissolved oxygen excursions occurred, they were typical of values seen in such systems and were considered natural, not standards violations. Aquatic life and recreational uses are fully supported.

Ocella Creek (RO-056093) – This is a tidally influenced system with significant marsh drainage, characterized by naturally low dissolved oxygen concentrations. Although dissolved oxygen excursions occurred, they were typical of values seen in such systems and were considered natural, not standards violations. Aquatic life and recreational uses are fully supported.

Shellfish Monitoring Stations

Station #	Description
11-15	Stono River (AIWW) at Marker #63
12A-09	Adams Creek at Bohicket Creek
12A-10	Rockville Boat Landing
12A-11	Adams Creek between Adams Creek Marina and Shrimp Dock
12A-13	Bohicket Creek at Fickling Creek
12A-14	S.C. 700 bridge over Bohicket Creek
12A-20	Bohicket Creek opposite hoopstick Island
12A-21	Opposite old dam behind Rast House Restaurant
12A-22	Opposite Boy Scout Camp
12A-29	Raven Point Creek at confluence with Church Creek
12A-31	Southwest boundary of Prohibited Area at Bohicket Marina
12A-32	Privateer Creek up mile at fork
12A-38	Drainage discharge 1/8 mi E of power lines, N bank of Church Creek
12A-39	Confl. of Church Creek and small tidal Ck – 350 yds W S.C. 700 bridge, N side of Church Ck
12A-40	Pine Creek at first fork
12A-41	Confluence of Church Creek and New Cut
12A-46	Bohicket Creek midway between Sta.. 21 and 22 at small unnamed tributary on west bank
12B-01	Mouth of Church Creek, Marker #77
12B-02	Goshen Point, Marker #69
12B-03	Yonges Island Creek, at center of metal trade dock
12B-04	Toogoodoo Creek at confluence with AIWW, Marker #102
12B-05	Dawho Creek, Marker #110
12B-06	Steamboat Creek, Marker #2
12B-07	Westbank Creek at North Edisto River, opposite Leadenwah Creek
12B-08	Leadenwah Creek at North Edisto River
12B-09	Dawho Creek, Marker #119
12B-10	South boundary of Protected Area at Metal Trades Dock
12B-12	Leadenwah Creek 1 mile from confluence with North Edisto River
12B-30	Tom Point Creek at Park Island

12B-33	CONFLUENCE OF OCELLA CREEK AND SOUTH CREEK
12B-34	TOOGOODOO CREEK SSG AT LAST CREEK BEFORE FORK
12B-35	PUBLIC BOAT RAMP, LOWER TOOGOODOO CREEK
12B-36	CONFLUENCE OF TOM POINT CREEK AND NORTH EDISTO RIVER
12B-37	CONFLUENCE OF STEAMBOAT CREEK AND RUSSELL CREEK
12B-42	HEADWATERS OF OCELLA CREEK
12B-43	RUSSELL CREEK AT ESTUARY ENTERING SUNBELT CLAM FARMS
12B-44	TOOGOODOO CREEK MIDWAY BETWEEN STATIONS 4 AND 34
12B-45	TOOGOODOO CREEK AT THE SECOND BEND PAST THE CONFLUENCE WITH LOWER TOOGOODOO CREEK
12B-47	SAND CREEK BRIDGE AT HWY 174
12B-48	FIRST STORMWATER OUTFALL IN HTWTRS OF SAND CR (1998-98)
12B-49	DOCK MIDWAY STATIONS 48&50 (1996-96)
12B-50	SAND CREEK AT INTAKE TO WESTENDORF CLAM FARM
12B-51	WADMALAW SOUND AT DAY BEACON #80
12B-52	CONFLUENCE OF WHOOPING ISLAND CREEK AND STEAMBOAT CREEK
12B-53	DAWHO RIVER, MARKER #126
12B-54	TOM POINT CREEK, 3 BENDS UPSTREAM OF STATION #30
13-16	HIGHWAY 174 BRIDGE OVER NORTH CREEK (1993-98)
13-19	RUSSELL CREEK AT AREA 12/13 BOUNDARY (1993-98)

Station locations can be found at http://www.scdhec.gov/environment/water/docs/SFMA_12A.pdf, http://www.scdhec.gov/environment/water/docs/SFMA_12B.pdf, and http://www.scdhec.gov/environment/water/docs/SFMA_13.pdf. Information from the Shellfish Annual Reports for Sections 12A, 12B, and a portion of 13 can be found at http://www.scdhec.gov/environment/water/sfreports.htm.

NPDES Permitted Activities

Active NPDES Facilities

RECEIVING STREAM ***FACILITY NAME***	***NPDES#*** ***TYPE***
BOHICKET CREEK TRIBUTARY CHARLES HILLS/NICHOLS POND MINE	SCG731064 MINOR INDUSTRIAL
WEE CREEK BEARS BLUFF NATIONAL FISH HATCHERY	SC0047848 MINOR INDUSTRIAL
NORTH EDISTO RIVER LCP MINING CO. LLC/LEGARE CREEK PLANTATION MINE	SC0048488 MINOR INDUSTRIAL
CHURCH CREEK TRIBUTARY ISLAND CONSTR. CO./TREMONT MINE	SCG730128 MINOR INDUSTRIAL
CHURCH CREEK TRIBUTARY DIRT SUPPLY LLC/BLUEMEL MINE	SCG731001 MINOR INDUSTRIAL
LOWER TOOGOODOO CREEK L. DEAN WEAVER/VANNESS MINE	SCG730436 MINOR INDUSTRIAL

LOWER TOOGOODOO CREEK TRIBUTARY	SCG730114
RENTZ LANDCLEARING/RENTZ MINE	MINOR INDUSTRIAL

Nonpoint Source Permitted Activities

Land Disposal Activities

Land Application Sites

LAND APPLICATION SYSTEM FACILITY NAME	***ND# TYPE***
SPRAY IRRIGATION ON GOLF COURSES TOWN OF SEABROOK ISLAND	ND0063347 DOMESTIC
LAND APPLICATION BP FARMS LLC	ND0087807 INDUSTRIAL
LAND APPLICATION BRABHAM DIRT PIT/HOLLYWOOD	ND0087131 INDUSTRIAL

Mining Activities

MINING COMPANY MINE NAME	***PERMIT # MINERAL***
GUY L. BUCKNER JOHNS ISLAND #1 MINE	0122-19 SAND
RENTZ LANDCLEARING RENTZ MINE	0994-19 SAND; SAND/CLAY
LAFARGE MATERIALS, INC. JAMISON MINE	0206-19 CLAY
D&S CONSTRUCTION OF PINEVILLE CEDAR HILL MINE	1694-19 SAND/TOP SOIL
MASSENBURG CONSTRUCTION, INC. BED ROCK II MINE	1644-19 SAND/CLAY

Growth Potential

There is a low potential for growth in this rural agricultural-based watershed, which contains the Towns of Rockville, Seabrook Island, and Meggett, and portions of the Town of Hollywood and the City of Charleston. Much of this area is outside of Charleston County's Urban Growth Boundary, as delineated in Charleston County comprehensive plan and therefore designated for agricultural and resource management uses. The ORW classification of most of the waters in this watershed prohibits new point source discharges of wastewater to surface waters. Growth that occurs will have to rely on septic tanks and/or land application (ND) systems. There are two recent developments identified – Part of the proposed East Edisto development is located on the north-western edge of this watershed (450 units), and residential/retail developments in Angel Oak area of Johns Island (640 residential units with 80,000 square feet of retail/commercial).

Watershed Protection and Restoration Strategies

Special Studies

Toogoodoo Creek Study

Toogoodoo Creek and a portion of Lower Toogoodoo Creek have been of considerable interest due to their classification as ORW waters with restricted shellfish harvesting status. Several special studies have been undertaken to study the degree and extent of impairment as well as the sources and loadings of fecal coliform bacteria. The National Oceanic and Atmospheric Administration (NOAA) conducted a study, funded through SCDHEC, which used a variety of novel techniques attempting to differentiate the source category (human, wildlife, and domestic animal) of the bacteria. The three methods employed were ribotyping (analysis of E. coli DNA), Microbial Antibiotic Resistance, and RNA coliphage typing (Viral RNA).

Scat samples from various livestock and wildlife species were collected at various locations around the watershed, as well as sewer samples from a pump station, for source comparison purposes. Each source (cow, raccoon, human) was differentiated or ribotyped using DNA typing techniques. Toogoodoo Creek water samples were analyzed and compared to the known sources. Although some uncertainty remains due to limited sampling size and frequency, and the limited number of sources ribotyped, the study suggests that a majority of the sources of in stream contamination were of wildlife origin, primarily raccoon and some deer. However, E. coli bacteria originating from cattle had a significant number of positive IDs and there was one in stream isolate of human origin. The other two methods were less effective in allowing differentiation of fecal bacteria sources. This study has shed considerable light on the challenges that confront restoration of the shellfish beds of Toogoodoo Creek.

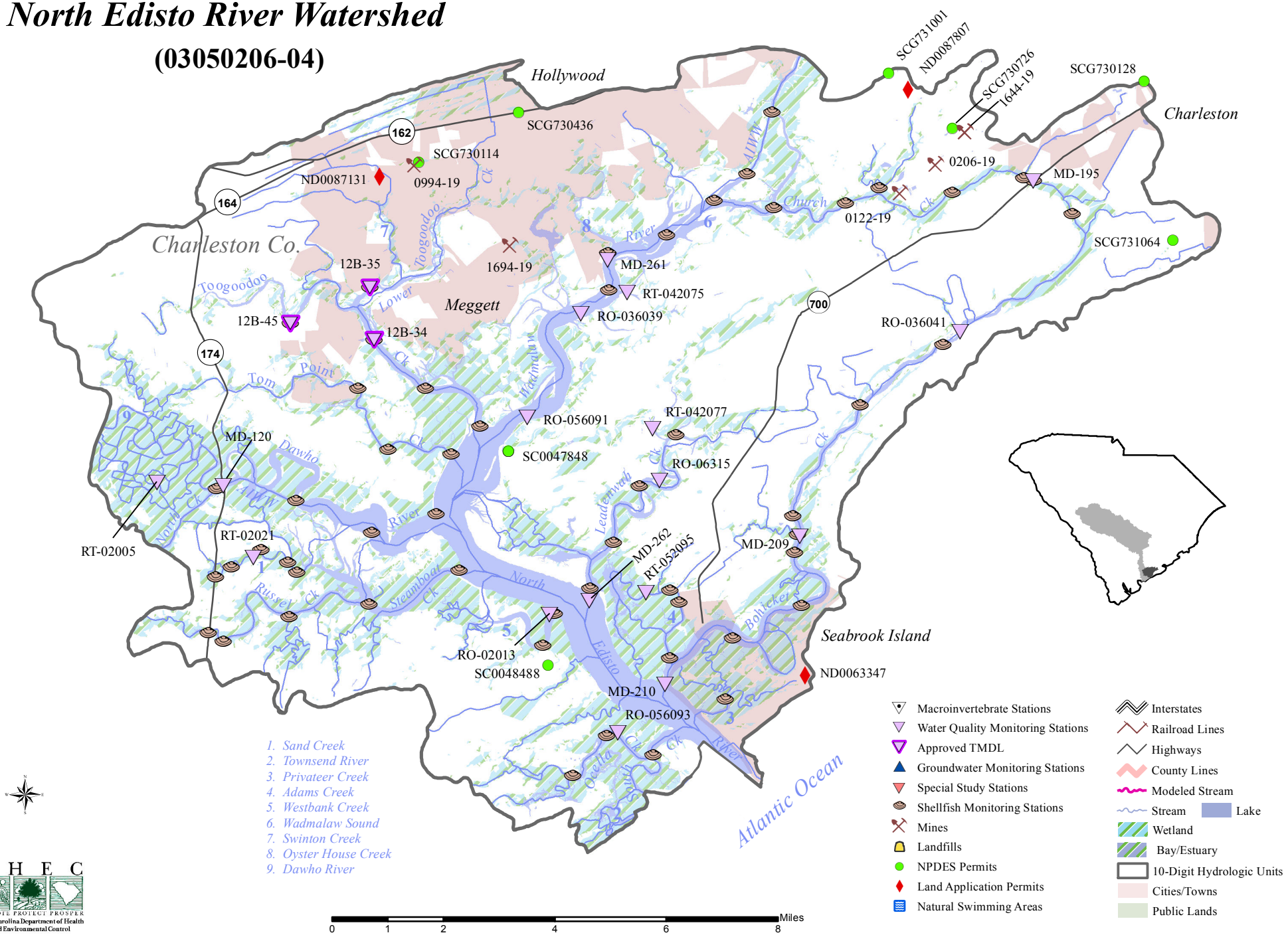
The EPA also chose Toogoodoo Creek for a cooperative sampling event using another alternative sampling method called Petrifilm. Petrifilm is a proprietary bacterial sampling and enumeration kit supplied by the 3M Company. Toogoodoo Creek was sampled at nine different areas on an outgoing tide. Results ranged from 0 to 725 bacteria per 100/ml (43 is the standard). High counts were only observed in upper Toogoodoo Creek. Visual surveys suggested livestock and pet waste to be potential sources. Inputs of bacteria from wildlife were likely and from mal-functioning septic tanks were a possibility.

Total Maximum Daily Loads (TMDLs)

A TMDL for stations 12B-34, 12B-35, and 12B-45 along Toogoodoo Creek and Lower Toogoodoo Creek has been developed, and in September of 2010 the TMDL was approved by EPA. The TMDL sets targets of between 30 and 66 percent reduction in fecal coliform bacteria from specific sections of Toogoodoo Creek. The TMDL can be found online at the following link: http://www.scdhec.gov/environment/water/tmdl/docs/tmdl_tgd%20.pdf . There has been much interest in a comprehensive plan to implement BMPs in the watershed to restore water quality. Proposals have been developed for §319 funding of an array of measures designed to reduce the nonpoint source loads of bacteria to the watershed.

North Edisto River Watershed

(03050206-04)



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South Carolina Department of Health and Environmental Control

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APPENDIX A.

Edisto River Basin

Ambient Water Quality Monitoring Site Descriptions

Station #	Type	Class	Description
03050203-01			
E-091	W	FW	CHINQUAPIN CREEK AT SC 391, 5.5 MI S BATESBURG
E-606	BIO	FW	CHINQUAPIN CREEK AT SR 210
E-101	W	FW	LIGHTWOOD KNOT CREEK OFF S-32-77, AT BATESBURG WATER INTAKE
E-605	BIO	FW	LIGHTWOOD KNOT CREEK AT UNNAMED ROAD W OF SR 60
E-084	INT	FW	NORTH FORK EDISTO RIVER AT S-02-74
E-102	INT	FW	NORTH FORK EDISTO RIVER AT S-02-110
E-604	BIO	FW	BLACK CREEK AT SR 278
E-103	INT	FW	BLACK CREEK AT S-32-53 (RAMBO BRIDGE), 3.5 MI SE OF PELION
03050203-02			
E-092	W	FW	NORTH FORK EDISTO RIVER AT SC 3, 5.5 MI NW OF NORTH
E-034	W	FW	BULL SWAMP CREEK AT CULVERT, 1.1 MI NW OF SWANSEA
E-035	W	FW	BULL SWAMP CREEK AT US 321, 0.9 MI S OF SWANSEA
E-042	INT/BIO	FW	BULL SWAMP CREEK AT S-38-189
E-104	INT	FW	NORTH FORK EDISTO RIVER AT S-38-73
03050203-03			
E-099	INT	FW	NORTH FORK EDISTO RIVER AT S-38-74 NW ORANGEBURG
E-105	INT	FW	CAW CAW SWAMP AT S-38-1032
E-007	W	FW	NORTH FORK EDISTO RIVER AT US 601 AT ORANGEBURG
E-007A	S/W	FW	NORTH FORK EDISTO RIVER AT POWER LINE CROSSING, 2 MI BELOW E-007
E-007B	S/W	FW	NORTH FORK EDISTO RIVER, 4 MILES BELOW E-007 AT A CABIN
E-007C	P/W	FW	NORTH FORK EDISTO RIVER AT POLICEMAN CAMP, 6 MILES BELOW E-007
E-008	P/W/BIO	FW	NORTH FORK EDISTO RIVER AT S-38-39, WSW OF ROWESVILLE
E-008A	W/INT	FW	NORTH FORK EDISTO RIVER AT S-38-63
03050204-01			
E-001	W	FW	FIRST BRANCH AT S-19-41, BESIDE WATER PLANT AT JOHNSTON
E-002	W	FW	SOUTH FORK EDISTO RIVER AT S-19-57, BELOW JOHNSTON WWTP
E-090	W/BIO	FW	SOUTH FORK EDISTO RIVER AT US 1, 12 MI NE OF AIKEN
RS-03518	RS03/BIO	FW	FIRST MCTIER CREEK TRIB ON ALBERTA PEACH RD OFF S-02-25
E-578	BIO	FW	MCTIER CREEK AT S-02-209
E-113	INT	FW	SOUTH FORK EDISTO RIVER AT S-02-152
E-021	W	FW	SOUTH FORK EDISTO RIVER AT SC 302
RS-03344	RS03/BIO	FW	HILLYER BRANCH AT UNNAMED RD OFF S-19-75, 3.5 MI NE OF TRENTON
RS-02480	RS02/BIO	FW	SHAW CREEK AT SC191
E-579	BIO	FW	SHAW CREEK AT S-02-153
E-094	W	FW	SHAW CREEK AT S-02-26, 4.2 MILES NE OF AIKEN
E-106	INT	FW	SHAW CREEK AT S-02-576
03050204-02			
E-107	INT	FW	DEAN SWAMP CREEK AT SC 4
03050204-03			
E-011	INT	FW	SOUTH FORK EDISTO RIVER AT SC 39
E-036	INT/BIO	FW	GOODLAND CREEK AT SC 4, 2.1 MILES E OF SPRINGFIELD
E-029	BIO	FW	WINDY HILL CREEK AT SR 38
E-039	INT	FW	ROBERTS SWAMP AT SC 332
E-012	INT	FW	SOUTH FORK EDISTO RIVER AT S-38-39 BRIDGE

Station #	Type	Class	Description
03050205-01			
E-022	W	FW*	GRAMLING CREEK AT CULVERT ON SC 33, 2 MILES E OF ORANGEBURG
E-076	W	FW	LITTLE BULL CREEK AT SC 33 BELOW UTICA TOOL CO.
E-589	BIO	FW	LITTLE BULL SWAMP AT SR 154
E-059	INT	FW*	FOUR HOLE SWAMP AT S-38-50, 5.2 MILES SE OF CAMERON
RS-04537	RS04/BIO	FW	FOUR HOLE SWAMP TRIBUTARY AT S-38-92, 5.5 MI NE OF BOWMAN
E-111	INT	FW*	FOUR HOLE SWAMP AT SC 210
E-050	INT	FW	COW CASTLE CREEK AT S-38-170
03050205-02			
RS-02473	RS02	FW	SANDY RUN TRIBUTARY AT HARVEST ROAD OFF SC 6, 2.4 MI NW OF EUTAWVILLE
E-596	BIO	FW	CEDAR SWAMP AT CEMENT BRIDGE ROAD OFF SR 640
E-030	INT	FW	DEAN SWAMP AT U.S. 176
03050205-03			
E-051	INT	FW	PROVIDENCE SWAMP AT EAST FRONTAGE ROAD TO I-95
RS-02303	RS02	FW	HORSE RANGE SWAMP AT S-38-1264
E-052	INT	FW	HORSE RANGE SWAMP AT U.S. 176
E-112	INT	FW*	FOUR HOLE SWAMP AT SC 453
E-100	W	FW*	FOUR HOLE SWAMP AT US 78, E. OF DORCHESTER
E-015A	INT	FW*	FOUR HOLE SWAMP AT S-18-19
03050206-01			
E-013	W	FW	EDISTO RIVER AT U.S. 78, W OF BRANCHVILLE
E-013A	INT	FW	EDISTO RIVER AT U.S. 21
RS-06180	RS06	FW	EDISTO RIVER OFF DOCK NEAR END OF FISHTALE RD, 6.5 MI SE BRANCHVILLE
E-108	INT/BIO	FW	CATTLE CREEK AT S-18-19
E-014	W	FW	EDISTO RIVER AT US 15, S OF ST. GEORGE
E-086	INT	FW	EDISTO RIVER AT S-18-29
03050206-02			
E-597	BIO	FW*	INDIAN FIELD SWAMP AT US 78
RS-05572	RS05	FW*	GUM BRANCH AT S-18-167, 4.9 MI SE OF ST. GEORGE
E-032	INT	FW*	INDIAN FIELD SWAMP AT S-18-19
E-016	W	FW*	POLK SWAMP AT S-18-180, 2 MILES S OF ST. GEORGE
E-109	INT/BIO	FW*	POLK SWAMP AT S-18-19
03050206-03			
E-015	INT	FW	EDISTO RIVER AT SC 61, AT GIVHANS FERRY STATE PARK
RS-05584	RS05	FW	EDISTO R. AT END OF BOAT LANDING RD, 13.3 MI W SUMMERVILLE
MD-119	W	FW/ORW	EDISTO RIVER AT US 17, 12.5 MILES NW OF RAVENEL
MD-260	INT	ORW	S. EDISTO R. AT NORTHERN CONFLUENCE WITH ALLIGATOR CREEK
RO-036043	RO03	ORW	SOUTH EDISTO RIVER, 1.7 MI NE FENWICK CUT
MD-244	W	SFH	SOUTH EDISTO RIVER BELOW ST. PIERRE CREEK
RO-06311	RO06	SFH	SOUTH EDISTO RIVER, 2.2 MI NW OF EDISTO BEACH
RT-052105	RT05	ORW	SCOTT CREEK NEAR EDISTO BEACH SP, 1 MI NE CONFL.WITH BIG BAY CK
RT-02019	RT02	SFH	PINE ISLAND CREEK TRIBUTARY, W OF PINE ISLAND
RT-06007	RT06	SFH	PINE ISLAND CREEK, 3.3 MI NW OF EDISTO BEACH

Station #	Type	Class	Description
03050206-04			
MD-195	W	SFH	CHURCH CREEK AT SC 700, 1 MILE SW OF CEDAR SPRINGS
MD-261	INT	ORW	YONGES ISLAND CREEK; MARKER #90
RT-042075	RT04	ORW	WADMALAW RIVER TRIB OPPOSITE YONGES ISLAND & END OF SC 165
RO-036039	RO03	ORW	WADMALAW RIVER, 0.5 MI S OF YONGES ISLAND
RO-056091	RO05	ORW	WADMALAW RIVER, 4.4 MI S OF MEGGETT
RT-02005	RT02	ORW	FISHING CREEK NEAR JEHOSSEE ISLAND
MD-120	INT	ORW	DAWHO RIVER AT SC 174, 9 MILES N OF EDISTO BEACH STATE PARK
RT-02021	RT02	ORW	SAND CREEK, 0.1 MI E OF SC 174
RO-02013	RO02	ORW	WESTBANK CREEK NEAR CONFLUENCE WITH NORTH EDISTO RIVER
RT-042077	RT04	ORW	LEADENWAH CREEK TRIBUTARY, 3.3 MI NNW OF ROCKVILLE
RO-06315	RO06	ORW	LEADENWAH CREEK, 2.7 MI NNW OF ROCKVILLE
MD-262	INT	ORW	NORTH EDISTO RIVER AT LEADENWAH CREEK
RO-036041	RO03	ORW	BOHICKET CREEK, 3 MI SW OF SC700 BRIDGE
MD-209	INT	ORW	BOHICKET CREEK AT FICKLING CREEK
RT-052095	RT05	ORW	ADAMS CREEK, 0.9 MI E OF CONFL OF LEADENWAH CK AND N. EDISTO R.
MD-210	W	ORW	BOHICKET CREEK MOUTH AT NORTH EDISTO RIVER
RO-056093	RO05	ORW	OCELLA CREEK, 0.7 MI NW OF CONFLUENCE WITH TOWNSEND RIVER

Groundwater Monitoring Sites

Well #	Class	Aquifer	Location
03050203-01			
AMB-026	GB	MIDDENDORF	WAGENER
AMB-063	GB	PIEDMONT BEDROCK	GILBERT
03050203-02			
AMB-104	GB	TERTIARY SANDS	NORTH
AMB-040	GB	MIDDENDORF	SWANSEA
03050203-03			
AMB-044	GB	MIDDENDORF	ORANGEBURG FISH HATCHERY (1)
AMB-101	GB	TERTIARY LIMESTONE	ORANGEBURG FISH HATCHERY (2)
03050204-01			
AMB-028	GB	MIDDENDORF	MONTMORENCI COUCHTON
03050204-03			
AMB-100	GB	TERTIARY LIMESTONE	COPE
AMB-002	GB	BLACK CREEK	WILLISTON
AMB-102	GB	TERTIARY SANDS	BLACKVILLE
03050205-01			
AMB-004	GB	BLACK CREEK	BOWMAN
03050205-02			
AMB-052	GB	PEE DEE	EUTAW SPRINGS
03050206-03			
AMB-095	GB	TERTIARY LIMESTONE	EDISTO BEACH WELL 4

Shellfish Monitoring Stations

Station #	Description
03050206-03	
13-01	SCOTT CREEK AT THE MOUND
13-02	MOUTH OF BIG BAY CREEK
13-03	MOUTH OF ST. PIERRE CREEK
13-04	ST. PIERRE CREEK AT PETERS PT.
13-05	FISHING CREEK AT SANDY CREEK
13-05A	UPPER REACHES OF SANDY CREEK
13-06	CONFLUENCE OF SHINGLE CREEK AND BAILEY CREEK
13-07	STORE CREEK OPPOSITE HOUSE WITH DOCKS ON RIGHT
13-08	EDISTO RIVER AT ASHEPOO RIVER
13-09	FISHING CREEK AT OYSTER PLANT
13-10	FISHING CREEK AT POLLUTION LINE
13-12	HEADWATERS OF FISHING CREEK PAST OYSTER PLANT
13-17	CONFLUENCE OF WATTS CUT AND SOUTH EDISTO RIVER
13-18	CONFLUENCE OF RUSSELL CK AND WATTS CUT
13-20	NORTHERN CONFLUENCE OF ALLIGATOR CK AND S. EDISTO RIVER
13-21	BIG BAY CREEK HEADWATERS AT FIRST BEND TO RIGHT PAST THE NECK
13-22	HEADWATERS OF SCOTT CREEK AT JEREMY INLET AT THE BOAT LANDING
13-23	JEREMY INLET AT ATLANTIC OCEAN
13-24	FRAMPTON INLET AT NORTH END OF JEREMY CAY
13-25	FRAMPTON INLET AT ATLANTIC OCEAN
13-27	FRAMPTON INLET UPSTREAM OF BOAT RAMP PAST FIRST BEND
13-28	CONFLUENCE OF SHINGLE CREEK AND MILTON CREEK
13-29	BAILEY CREEK, FIRST BEND ADJACENT TO BLUFF ON BAILEY ISLAND (NEAR CONFL. WITH ST. PIERRE CREEK)
13-30	BAILEY CREEK AT CONFLUENCE WITH UNNAMED TRIBUATARY NEAR SW POINT OF SCANAWAH ISLAND
13-31	BAILEY CREEK AT CONFLUENCE WITH SOUTH EDISTO RIVER
03050206-04	
11-15	STONO RIVER (AIWW) AT MARKER #63
12-48	FIRST STORMWATER OUTFALL IN HTWTRS OF SAND CR (1998-98)
12-49	DOCK MIDWAY STATIONS 48&50 (1996-96)
12A-09	ADAMS CREEK AT BOHICKET CREEK
12A-10	ROCKVILLE BOAT LANDING
12A-11	ADAMS CREEK BETWEEN ADAMS CREEK MARINA AND SHRIMP DOCK
12A-13	BOHICKET CREEK AT FICKLING CREEK
12A-14	S.C. 700 BRIDGE OVER BOHICKET CREEK
12A-20	BOHICKET CREEK OPPOSITE HOOPSTICK ISLAND
12A-21	OPPOSITE OLD DAM BEHIND RAST HOUSE RESTAURANT
12A-22	OPPOSITE BOY SCOUT CAMP
12A-29	RAVEN POINT CREEK AT CONFLUENCE WITH CHURCH CREEK
12A-31	SOUTHWEST BOUNDARY OF PROHIBITED AREA AT BOHICKET MARINA
12A-32	PRIVATEER CREEK UP MILE AT FORK
12A-38	DRAINAGE DISCHARGE 1/8 MI E OF POWER LINES, N BANK OF CHURCH CREEK
12A-39	CONFL. OF CHURCH CREEK AND SMALL TIDAL CK – 350 YDS W S.C. 700 BRIDGE, N SIDE OF CHURCH CK
12A-40	PINE CREEK AT FIRST FORK
12A-41	CONFLUENCE OF CHURCH CREEK AND NEW CUT
12A-46	BOHICKET CREEK MIDWAY BETWEEN STA.. 21 AND 22 AT SMALL UNNAMED TRIBUTARY ON WEST BANK

03050206-04 (continued)

12B-01	MOUTH OF CHURCH CREEK, MARKER #77
12B-02	GOSHEN POINT, MARKER #69
12B-03	YONGES ISLAND CREEK, AT CENTER OF METAL TRADE DOCK
12B-04	TOOGOODOO CREEK AT CONFLUENCE WITH AIWW, MARKER #102
12B-05	DAWHO CREEK, MARKER #110
12B-06	STEAMBOAT CREEK, MARKER #2
12B-07	WESTBANK CREEK AT NORTH EDISTO RIVER, OPPOSITE LEADENWAH CREEK
12B-08	LEADENWAH CREEK AT NORTH EDISTO RIVER
12B-09	DAWHO CREEK, MARKER #119
12B-10	SOUTH BOUNDARY OF PROTECTED AREA AT METAL TRADES DOCK
12B-12	LEADENWAH CREEK 1 MILE FROM CONFLUENCE WITH NORTH EDISTO RIVER
12B-30	TOM POINT CREEK AT PARK ISLAND
12B-33	CONFLUENCE OF OCELLA CREEK AND SOUTH CREEK
12B-34	TOOGOODOO CREEK SSG AT LAST CREEK BEFORE FORK
12B-35	PUBLIC BOAT RAMP, LOWER TOOGOODOO CREEK
12B-36	CONFLUENCE OF TOM POINT CREEK AND NORTH EDISTO RIVER
12B-37	CONFLUENCE OF STEAMBOAT CREEK AND RUSSELL CREEK
12B-42	HEADWATERS OF OCELLA CREEK
12B-43	RUSSELL CREEK AT ESTUARY ENTERING SUNBELT CLAM FARMS
12B-44	TOOGOODOO CREEK MIDWAY BETWEEN STATIONS 4 AND 34
12B-45	TOOGOODOO CREEK AT THE SECOND BEND PAST THE CONFLUENCE WITH LOWER TOOGOODOO CREEK
12B-47	SAND CREEK BRIDGE AT HWY 174
12B-50	SAND CREEK AT INTAKE TO WESTENDORF CLAM FARM
12B-51	WADMALAW SOUND AT DAY BEACON #80
12B-52	CONFLUENCE OF WHOOPING ISLAND CREEK AND STEAMBOAT CREEK
12B-53	DAWHO RIVER, MARKER #126
12B-54	TOM POINT CREEK, 3 BENDS UPSTREAM OF STATION #30
13-16	HIGHWAY 174 BRIDGE OVER NORTH CREEK (1993-98)
13-19	RUSSELL CREEK AT AREA 12/13 BOUNDARY (1993-98)

For further details concerning sampling frequency and parameters sampled, please visit our website at www.scdhec.gov/eqc/admin/html/eqcpubs.html#wqreports for the current State of S.C. Monitoring Strategy.

Water Quality Data

Spreadsheet Legend

Station Information:

STATION NUMBER Station ID

TYPE SCDHEC station type code

P = Primary station, sampled monthly all year round

S = Secondary station, sampled monthly May - October

P* = Secondary station upgraded to primary station parameter coverage and sampling frequency for basin study

W = Special watershed station added for the Edisto River Basin study

BIO = Indicates macroinvertebrate community data assessed

INT = Integrator Station (approximates a Primary station)

RL = Random Lake station

RO = Random Open water station

RS = Random Stream station

RT = Random Tide Creek station

WATERBODY NAME Stream or Lake Name

CLASS Stream classification at the point where monitoring station is located

Parameter Abbreviations and Parameter Measurement Units:

DO	Dissolved Oxygen (mg/l)		
BOD	Five-Day Biochemical Oxygen Demand (mg/l)	**NH3**	Ammonia (mg/l)
pH	pH (SU)	**CD**	Cadmium (ug/l)
TP	Total Phosphorus (mg/l)	**CR**	Chromium (ug/l)
TN	Total Nitrogen (mg/l)	**CU**	Copper (ug/l)
TURB	Turbidity (NTU)	**PB**	Lead (ug/l)
TSS	Total Suspended Solids (mg/l)	**HG**	Mercury (ug/l)
BACT	Fecal Coliform Bacteria (#/100 ml)	**NI**	Nickel (ug/l)
		ZN	Zinc (ug/l)

Statistical Abbreviations:

N For *standards compliance*, number of surface samples collected between January 2002 and December 2006. For *trends*, number of surface samples collected between January 1992 and December 2006.

EXC. Number of samples contravening the appropriate standard

% Percentage of samples contravening the appropriate standard

MEAN EXC. Mean of samples that contravened the applied standard

MED For *heavy metals with a human health criterion*, this is the median of all surface samples between January 2002 and December 2006. DL indicates that the median was the detection limit.

MAG Magnitude of any statistically significant trend, average change per year, expressed in parameter measurement units

GEO MEAN Geometric mean of fecal coliform bacteria samples collected between January 2002 and December 2006

Key to Trends:

D Statistically significant decreasing trend in parameter concentration

I Statistically significant increasing trend in parameter concentration

***** No statistically significant trend

STATION				DO	DO	DO	MEAN	TRENDS (92-2006)					
NUMBER	TYPE	WATERBODY NAME	CLASS	N	EXC.	%	EXC.	DO	N	MAG	BOD	N	MAG
03050203-01													
E-091	SE	CHINQUAPIN CK	FW	12	0	0	0	D	143	-0.08	NS	142	0.0134
E-606		CHINGUAPIN CK											
E-101	SE	LIGHTWOOD KNOT CK	FW	11	0	0	0	D	80	-0.1333	NS	74	0.06
E-605		LIGHTWOOD KNOT CK											
E-084	INT	N FORK EDISTO RVR	FW	59	0	0	0	NS	87	0.0269	I	87	0
E-102	INT	N FORK EDISTO RVR	FW	58	0	0	0	NS	86	0.005	I	87	0
E-604		BLACK CK											
E-103/ RS-01298/ RS-05402	INT	BLACK CK	FW	58	0	0	0	NS	98	-0.0024	I	96	0
03050203-02													
E-092	SE	N FORK EDISTO RVR	FW	12	0	0	0	NS	142	0.0143	I	140	0.0714
E-034	SE	BULL SWAMP CK	FW	12	7	58	3.0129	NS	81	0.0571	I	77	0.069
E-035	SE	BULL SWAMP CK	FW	12	1	8	4.79	NS	80	0	NS	75	-0.025
E-042	INT	BULL SWAMP CK	FW	60	0	0	0	NS	87	0.0143	I	84	0
E-104	INT	N FORK EDISTO RVR	FW	60	0	0	0	NS	87	0.02	I	84	0
03050203-03													
E-099	INT	N FORK EDISTO RVR	FW	60	0	0	0	NS	191	0	I	187	0.08
E-105	INT	CAW CAW SWAMP	FW-SP	60	0	0	0	NS	87	0.0417	I	84	0
E-007	SE	N FORK EDISTO RVR	FW	12	0	0	0	NS	131	0	I	132	0.1
E-007A	SE	N FORK EDISTO RVR	FW	11	0	0	0	NS	82	0.0225	I	82	0.0732
E-007B	SE	N FORK EDISTO RVR	FW	10	0	0	0	NS	81	0.0225	I	81	0.075
E-007C	SE	N FORK EDISTO RVR	FW	12	0	0	0	NS	131	0	I	131	0.075
E-008	SE	N FORK EDISTO RVR	FW	12	0	0	0	NS	143	0.02	I	142	0.0667
E-008A	INT	N FORK EDISTO RVR	FW	57	0	0	0	NS	86	0.035	I	86	0
03050204-01													
E-001	SE	FIRST BRANCH	FW	8	1	13	4.68	NS	67	-0.05	NS	68	-0.0857
E-002	SE	S FORK EDISTO RVR	FW	9	0	0	0	NS	78	-0.08	NS	78	-0.025
E-090	SE	S FORK EDISTO RVR	FW	12	0	0	0	NS	143	-0.031	I	143	0.05
RS-03518	RS03	MCTIER CK TRIB	FW	12	0	0	0						
E-578		MCTIER CK											
E-113	INT	S FORK EDISTO RVR	FW	43	3	7	3.35	NS	43	-0.0067	NS	46	0
E-021	I*	S FORK EDISTO RVR	FW	12	0	0	0	NS	40	-0.0225	I	41	0.1
RS-03344	RS03	HILLYER BRANCH	FW	12	0	0	0						
RS-02480	RS02	SHAW CK	FW	12	0	0	0						
E-579		SHAWS CK											
E-094	SE	SHAW CK	FW	12	0	0	0	NS	140	0.02	I	139	0.0789
E-106	INT	SHAW CK	FW	55	0	0	0	NS	82	0.05	I	87	0
03050204-02													
E-107	INT	DEAN SWAMP CK	FW	55	0	0	0	NS	84	0.05	I	89	0

STATION				pH	pH	pH	MEAN	TRENDS (92-2006)			TURB	TURB	TURB	MEAN	TRENDS (92-2006)		
NUMBER	TYPE	WATERBODY NAME	CLASS	N	EXC.	%	EXC.	PH	N	MAG	N	EXC.	%	EXC.	TURB	N	MAG
03050203-01																	
E-091	SE	CHINQUAPIN CK	FW	12	0	0	0	NS	142	0.0085	12	0	0	0	D	141	-0.3146
E-606		CHINGUAPIN CK															
E-101	SE	LIGHTWOOD KNOT CK	FW	11	2	18	5.825	I	80	0.0688	11	0	0	0	D	75	-0.1764
E-605		LIGHTWOOD KNOT CK															
E-084	INT	N FORK EDISTO RVR	FW	59	27	46	5.9796	NS	87	-0.0145	60	0	0	0	D	89	-0.2243
E-102	INT	N FORK EDISTO RVR	FW	59	54	92	5.5007	D	87	-0.0414	60	0	0	0	NS	89	-0.119
E-604		BLACK CK															
E-103/ RS-01298/ RS-05402	INT	BLACK CK	FW	59	52	88	5.4767	D	99	-0.0467	60	0	0	0	D	99	-0.0354
03050203-02																	
E-092	SE	N FORK EDISTO RVR	FW	12	12	100	5.4542	D	143	-0.1	12	0	0	0	D	141	-0.225
E-034	SE	BULL SWAMP CK	FW	12	6	50	5.8483	D	81	-0.0425	12	0	0	0	NS	81	-0.0071
E-035	SE	BULL SWAMP CK	FW	12	2	17	5.86	NS	80	0.03	12	0	0	0	D	80	-0.15
E-042	INT	BULL SWAMP CK	FW	60	51	85	5.5778	D	87	-0.0414	60	0	0	0	D	87	-0.0667
E-104	INT	N FORK EDISTO RVR	FW	60	56	93	5.4632	D	87	-0.0462	60	0	0	0	D	87	-0.1167
03050203-03																	
E-099	INT	N FORK EDISTO RVR	FW	60	50	83	5.4798	D	191	-0.0667	60	0	0	0	D	190	-0.1882
E-105	INT	CAW CAW SWAMP	FW-SP	60	0	0	0	NS	87	0.0033	60	0	0	0	D	86	-0.2
E-007	SE	N FORK EDISTO RVR	FW	12	4	33	6.65	D	132	-0.0833	12	0	0	0	D	132	-0.3
E-007A	SE	N FORK EDISTO RVR	FW	11	1	9	5.6	D	82	-0.0483	11	0	0	0	D	82	-0.3118
E-007B	SE	N FORK EDISTO RVR	FW	10	1	10	5.75	D	81	-0.0423	11	0	0	0	D	82	-0.3
E-007C	SE	N FORK EDISTO RVR	FW	12	1	8	5.9	D	132	-0.04	12	0	0	0	D	132	-0.2
E-008	SE	N FORK EDISTO RVR	FW	12	1	8	5.9	D	144	-0.0261	12	0	0	0	D	143	-0.2732
E-008A	INT	N FORK EDISTO RVR	FW	58	16	28	5.7125	D	87	-0.0286	58	0	0	0	D	87	-0.2333
03050204-01																	
E-001	SE	FIRST BRANCH	FW	8	2	25	5.35	NS	68	-0.02	8	0	0	0	D	68	-0.6667
E-002	SE	S FORK EDISTO RVR	FW	9	0	0	0	NS	79	0.0167	9	0	0	0	D	79	-0.6
E-090	SE	S FORK EDISTO RVR	FW	12	2	17	5.95	D	142	-0.03	12	0	0	0	D	142	-0.3268
RS-03518	RS03	MCTIER CK TRIB	FW	12	12	100	5.3275				12	0	0	0			
E-578		MCTIER CK															
E-113	INT	S FORK EDISTO RVR	FW	46	38	83	5.5326	NS	46	-0.0125	47	0	0	0	NS	47	-0.1333
E-021	I*	S FORK EDISTO RVR	FW	12	10	83	5.447	D	40	-0.1002	13	0	0	0	D	41	-0.2833
RS-03344	RS03	HILLYER BRANCH	FW	12	9	75	5.55				12	0	0	0			
RS-02480	RS02	SHAW CK	FW	12	2	17	5.86				12	0	0	0			
E-579		SHAWS CK															
E-094	SE	SHAW CK	FW	12	8	67	5.7713	D	139	-0.0682	12	0	0	0	D	140	-0.1875
E-106	INT	SHAW CK	FW	58	46	79	5.5122	D	85	-0.06	60	0	0	0	D	88	-0.1333
03050204-02																	
E-107	INT	DEAN SWAMP CK	FW	58	50	86	5.4788	D	87	-0.0606	60	0	0	0	D	90	-0.1333

STATION				TP	TP	TP	MEAN	TRENDS (92-2006)			TN	TN	TN	MEAN	TRENDS (92-2006)		
NUMBER	TYPE	WATERBODY NAME	CLASS	N	EXC.	%	EXC.	TP	N	MAG	N	EXC.	%	EXC.	TN	N	MAG
03050203-01																	
E-091	SE	CHINQUAPIN CK	FW					NS	102	0.01					NS	129	0.0063
E-606		CHINGUAPIN CK															
E-101	SE	LIGHTWOOD KNOT CK	FW					NS	52	0							
E-605		LIGHTWOOD KNOT CK															
E-084	INT	N FORK EDISTO RVR	FW					D	77	-0.0033					NS	68	-0.01
E-102	INT	N FORK EDISTO RVR	FW					NS	76	0					NS	67	0.0053
E-604		BLACK CK															
E-103/ RS-01298/ RS-05402	INT	BLACK CK	FW					NS	77	0					I	75	0.0147
03050203-02																	
E-092	SE	N FORK EDISTO RVR	FW					NS	105	0					NS	133	-0.0033
E-034	SE	BULL SWAMP CK	FW					NS	58	0							
E-035	SE	BULL SWAMP CK	FW					D	56	-0.005							
E-042	INT	BULL SWAMP CK	FW					NS	77	0					NS	66	-0.0023
E-104	INT	N FORK EDISTO RVR	FW					NS	77	0					NS	67	0.0045
03050203-03																	
E-099	INT	N FORK EDISTO RVR	FW					D	150	-0.0004					NS	164	0
E-105	INT	CAW CAW SWAMP	FW-SP					NS	77	-0.0005					NS	68	-0.0047
E-007	SE	N FORK EDISTO RVR	FW					NS	91	0					D	113	-0.01
E-007A	SE	N FORK EDISTO RVR	FW					D	56	-0.004							
E-007B	SE	N FORK EDISTO RVR	FW					D	56	-0.0046							
E-007C	SE	N FORK EDISTO RVR	FW					NS	93	0					NS	114	-0.014
E-008	SE	N FORK EDISTO RVR	FW					D	103	-0.0033					NS	129	-0.0062
E-008A	INT	N FORK EDISTO RVR	FW					D	77	-0.0021					NS	68	-0.0033
03050204-01																	
E-001	SE	FIRST BRANCH	FW					D	53	-0.005							
E-002	SE	S FORK EDISTO RVR	FW					NS	54	-0.0008							
E-090	SE	S FORK EDISTO RVR	FW					D	103	-0.0003					D	130	-0.0367
RS-03518	RS03	MCTIER CK TRIB	FW														
E-578		MCTIER CK															
E-113	INT	S FORK EDISTO RVR	FW					NS	47	0					NS	37	-0.0115
E-021	I*	S FORK EDISTO RVR	FW														
RS-03344	RS03	HILLYER BRANCH	FW														
RS-02480	RS02	SHAW CK	FW														
E-579		SHAWS CK															
E-094	SE	SHAW CK	FW					NS	99	0					NS	128	-0.0076
E-106	INT	SHAW CK	FW					NS	75	0					NS	63	-0.0007
03050204-02																	
E-107	INT	DEAN SWAMP CK	FW					NS	76	0					NS	64	-0.0014

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	CHL N	CHL EXC.	CHL %	MEAN EXC.	TRENDS (92-2006) TSS	N	MAG
03050203-01										
E-091	SE	CHINQUAPIN CK	FW							
E-606		CHINGUAPIN CK								
E-101	SE	LIGHTWOOD KNOT CK	FW							
E-605		LIGHTWOOD KNOT CK								
E-084	INT	N FORK EDISTO RVR	FW							
E-102	INT	N FORK EDISTO RVR	FW							
E-604		BLACK CK								
E-103/ RS-01298/ RS-05402	INT	BLACK CK	FW							
03050203-02										
E-092	SE	N FORK EDISTO RVR	FW							
E-034	SE	BULL SWAMP CK	FW							
E-035	SE	BULL SWAMP CK	FW							
E-042	INT	BULL SWAMP CK	FW							
E-104	INT	N FORK EDISTO RVR	FW							
03050203-03										
E-099	INT	N FORK EDISTO RVR	FW							
E-105	INT	CAW CAW SWAMP	FW-SP							
E-007	SE	N FORK EDISTO RVR	FW							
E-007A	SE	N FORK EDISTO RVR	FW							
E-007B	SE	N FORK EDISTO RVR	FW							
E-007C	SE	N FORK EDISTO RVR	FW							
E-008	SE	N FORK EDISTO RVR	FW					NS	90	0
E-008A	INT	N FORK EDISTO RVR	FW							
03050204-01										
E-001	SE	FIRST BRANCH	FW							
E-002	SE	S FORK EDISTO RVR	FW							
E-090	SE	S FORK EDISTO RVR	FW							
RS-03518	RS03	MCTIER CK TRIB	FW							
E-578		MCTIER CK								
E-113	INT	S FORK EDISTO RVR	FW							
E-021	I*	S FORK EDISTO RVR	FW							
RS-03344	RS03	HILLYER BRANCH	FW							
RS-02480	RS02	SHAW CK	FW							
E-579		SHAWS CK								
E-094	SE	SHAW CK	FW							
E-106	INT	SHAW CK	FW							
03050204-02										
E-107	INT	DEAN SWAMP CK	FW							

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	GEO MEAN	BACT N	BACT EXC.	BACT %	MEAN EXC.	TRENDS (92-2006) BACT	N	MAG
03050203-01											
E-091	SE	CHINQUAPIN CK	FW	361.5593	12	7	58	641.4286	NS	143	11.3393
E-606		CHINGUAPIN CK									
E-101	SE	LIGHTWOOD KNOT CK	FW	74.746	11	3	27	466.6667	NS	76	-3.5
E-605		LIGHTWOOD KNOT CK									
E-084	INT	N FORK EDISTO RVR	FW	96.0452	60	5	8	936	NS	89	0
E-102	INT	N FORK EDISTO RVR	FW	94.8533	60	8	13	676.25	NS	89	2.2374
E-604		BLACK CK									
E-103/ RS-01298/ RS-05402	INT	BLACK CK	FW	34.5905	60	3	5	603.3333	NS	99	-2.5
03050203-02											
E-092	SE	N FORK EDISTO RVR	FW	157.8276	12	3	25	486.6667	NS	142	3
E-034	SE	BULL SWAMP CK	FW	60.7283	12	1	8	740	NS	82	0.1
E-035	SE	BULL SWAMP CK	FW	143.9761	12	2	17	2250	NS	81	-4.0625
E-042	INT	BULL SWAMP CK	FW	55.4251	60	2	3	585	NS	87	-2.2857
E-104	INT	N FORK EDISTO RVR	FW	73.8875	60	5	8	648	NS	86	-1.5
03050203-03											
E-099	INT	N FORK EDISTO RVR	FW	93.889	60	9	15	535.5556	D	191	-4.4643
E-105	INT	CAW CAW SWAMP	FW-SP	213.248	60	12	20	645.8333	NS	87	7.1429
E-007	SE	N FORK EDISTO RVR	FW	122.2907	12	1	8	540	NS	132	-6.45
E-007A	SE	N FORK EDISTO RVR	FW	122.033	11	1	9	590	NS	82	-6.0556
E-007B	SE	N FORK EDISTO RVR	FW	123.1741	11	2	18	550	NS	82	-3.3333
E-007C	SE	N FORK EDISTO RVR	FW	85.6008	12	0	0	0	NS	132	-0.6071
E-008	SE	N FORK EDISTO RVR	FW	115.988	12	2	17	1090	NS	143	-2.8571
E-008A	INT	N FORK EDISTO RVR	FW	85.9221	58	0	0	0	D	87	-4.2857
03050204-01											
E-001	SE	FIRST BRANCH	FW	41.1131	8	0	0	0	NS	69	-6
E-002	SE	S FORK EDISTO RVR	FW	249.7158	9	3	33	753.3333	I	80	11.6905
E-090	SE	S FORK EDISTO RVR	FW	161.3733	12	0	0	0	NS	143	-2.9
RS-03518	RS03	MCTIER CK TRIB	FW	39.4385	12	0	0	0			
E-578		MCTIER CK									
E-113	INT	S FORK EDISTO RVR	FW	103.3919	47	6	13	775	NS	47	3.5
E-021	I*	S FORK EDISTO RVR	FW	58.3008	13	0	0	0	D	42	-8
RS-03344	RS03	HILLYER BRANCH	FW	46.568	12	0	0	0			
RS-02480	RS02	SHAW CK	FW	113.7775	12	0	0	0			
E-579		SHAWS CK									
E-094	SE	SHAW CK	FW	149.542	12	1	8	1000	NS	140	1.0714
E-106	INT	SHAW CK	FW	137.1909	60	3	5	943.3333	NS	88	1.6667
03050204-02											
E-107	INT	DEAN SWAMP CK	FW	65.245	60	3	5	786.6667	D	89	-5

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	NH3 N	NH3 EXC.	NH3 %	MEAN EXC.	CD N	CD EXC.	CD %	MEAN EXC.	CR N	CR EXC.	CR %	MEAN EXC.
03050203-01															
E-091	SE	CHINQUAPIN CK	FW	9	0	0	0	4	0	0	0	4	0	0	0
E-606		CHINGUAPIN CK													
E-101	SE	LIGHTWOOD KNOT CK	FW	8	0	0	0	3	0	0	0	3	0	0	0
E-605		LIGHTWOOD KNOT CK													
E-084	INT	N FORK EDISTO RVR	FW	45	2	4	0.15	20	0	0	0	20	0	0	0
E-102	INT	N FORK EDISTO RVR	FW	44	0	0	0	20	0	0	0	20	0	0	0
E-604		BLACK CK													
E-103/ RS-01298/ RS-05402	INT	BLACK CK	FW	44	0	0	0	20	0	0	0	20	1	5	1400
03050203-02															
E-092	SE	N FORK EDISTO RVR	FW	8	0	0	0	4	0	0	0	4	0	0	0
E-034	SE	BULL SWAMP CK	FW	12	0	0	0	4	0	0	0	4	0	0	0
E-035	SE	BULL SWAMP CK	FW	12	0	0	0	4	0	0	0	4	0	0	0
E-042	INT	BULL SWAMP CK	FW	47	0	0	0	20	0	0	0	20	0	0	0
E-104	INT	N FORK EDISTO RVR	FW	48	0	0	0	20	0	0	0	20	0	0	0
03050203-03															
E-099	INT	N FORK EDISTO RVR	FW	48	0	0	0	20	0	0	0	20	0	0	0
E-105	INT	CAW CAW SWAMP	FW-SP	47	0	0	0	20	0	0	0	20	0	0	0
E-007	SE	N FORK EDISTO RVR	FW	8	1	13	0.14	4	0	0	0	4	0	0	0
E-007A	SE	N FORK EDISTO RVR	FW	7	0	0	0	4	0	0	0	4	0	0	0
E-007B	SE	N FORK EDISTO RVR	FW	6	0	0	0	4	0	0	0	4	0	0	0
E-007C	SE	N FORK EDISTO RVR	FW	8	0	0	0	4	0	0	0	4	0	0	0
E-008	SE	N FORK EDISTO RVR	FW	6	0	0	0	4	0	0	0	4	0	0	0
E-008A	INT	N FORK EDISTO RVR	FW	46	0	0	0	19	0	0	0	19	0	0	0
03050204-01															
E-001	SE	FIRST BRANCH	FW	8	0	0	0	2	0	0	0	2	0	0	0
E-002	SE	S FORK EDISTO RVR	FW	9	0	0	0	2	0	0	0	2	0	0	0
E-090	SE	S FORK EDISTO RVR	FW	11	0	0	0	4	0	0	0	4	0	0	0
RS-03518	RS03	MCTIER CK TRIB	FW	6	0	0	0	4	0	0	0	4	0	0	0
E-578		MCTIER CK													
E-113	INT	S FORK EDISTO RVR	FW	37	0	0	0	16	0	0	0	16	0	0	0
E-021	I*	S FORK EDISTO RVR	FW	7	0	0	0	4	0	0	0	4	0	0	0
RS-03344	RS03	HILLYER BRANCH	FW	7	0	0	0	4	0	0	0	4	0	0	0
RS-02480	RS02	SHAW CK	FW	6	0	0	0	4	0	0	0	4	0	0	0
E-579		SHAWS CK													
E-094	SE	SHAW CK	FW	11	0	0	0	4	0	0	0	4	0	0	0
E-106	INT	SHAW CK	FW	46	0	0	0	20	0	0	0	20	0	0	0
03050204-02															
E-107	INT	DEAN SWAMP CK	FW	43	0	0	0	20	0	0	0	20	0	0	0

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	CU N	CU EXC.	CU %	MEAN EXC.	PB N	PB EXC.	PB %	MEAN EXC.	HG N	HG EXC.	HG %	MEAN EXC.
03050203-01															
E-091	SE	CHINQUAPIN CK	FW	4	0	0	0	4	0	0	0	4	0	0	0
E-606		CHINGUAPIN CK													
E-101	SE	LIGHTWOOD KNOT CK	FW	3	0	0	0	3	0	0	0	3	0	0	0
E-605		LIGHTWOOD KNOT CK													
E-084	INT	N FORK EDISTO RVR	FW	20	0	0	0	20	0	0	0	20	0	0	0
E-102	INT	N FORK EDISTO RVR	FW	20	1	5	67	20	0	0	0	20	0	0	0
E-604		BLACK CK													
E-103/ RS-01298/ RS-05402	INT	BLACK CK	FW	20	1	5	1100	20	0	0	0	20	0	0	0
03050203-02															
E-092	SE	N FORK EDISTO RVR	FW	4	0	0	0	4	0	0	0	4	0	0	0
E-034	SE	BULL SWAMP CK	FW	4	0	0	0	4	0	0	0	4	0	0	0
E-035	SE	BULL SWAMP CK	FW	4	0	0	0	4	0	0	0	4	0	0	0
E-042	INT	BULL SWAMP CK	FW	20	1	5	23	20	0	0	0	20	0	0	0
E-104	INT	N FORK EDISTO RVR	FW	20	0	0	0	20	0	0	0	20	0	0	0
03050203-03															
E-099	INT	N FORK EDISTO RVR	FW	20	0	0	0	20	0	0	0	20	0	0	0
E-105	INT	CAW CAW SWAMP	FW-SP	20	0	0	0	20	0	0	0	20	0	0	0
E-007	SE	N FORK EDISTO RVR	FW	4	0	0	0	4	0	0	0	4	0	0	0
E-007A	SE	N FORK EDISTO RVR	FW	4	1	25	11	4	0	0	0	4	0	0	0
E-007B	SE	N FORK EDISTO RVR	FW	4	0	0	0	4	0	0	0	4	0	0	0
E-007C	SE	N FORK EDISTO RVR	FW	4	0	0	0	4	0	0	0	4	0	0	0
E-008	SE	N FORK EDISTO RVR	FW	4	0	0	0	4	0	0	0	4	0	0	0
E-008A	INT	N FORK EDISTO RVR	FW	19	1	5	11	19	0	0	0	19	0	0	0
03050204-01															
E-001	SE	FIRST BRANCH	FW	2	0	0	0	2	0	0	0	2	0	0	0
E-002	SE	S FORK EDISTO RVR	FW	2	0	0	0	2	0	0	0	2	0	0	0
E-090	SE	S FORK EDISTO RVR	FW	4	0	0	0	4	0	0	0	4	0	0	0
RS-03518	RS03	MCTIER CK TRIB	FW	4	0	0	0	4	0	0	0	4	0	0	0
E-578		MCTIER CK													
E-113	INT	S FORK EDISTO RVR	FW	16	0	0	0	16	0	0	0	16	0	0	0
E-021	I*	S FORK EDISTO RVR	FW	4	0	0	0	4	0	0	0	4	0	0	0
RS-03344	RS03	HILLYER BRANCH	FW	4	0	0	0	4	0	0	0	4	0	0	0
RS-02480	RS02	SHAW CK	FW	4	0	0	0	4	0	0	0	4	0	0	0
E-579		SHAWS CK													
E-094	SE	SHAW CK	FW	4	0	0	0	4	0	0	0	4	0	0	0
E-106	INT	SHAW CK	FW	20	0	0	0	20	0	0	0	20	0	0	0
03050204-02															
E-107	INT	DEAN SWAMP CK	FW	20	0	0	0	20	0	0	0	20	0	0	0

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	NI N	NI EXC.	NI %	MEAN EXC.	ZN N	ZN EXC.	ZN %	MEAN EXC.
03050203-01											
E-091	SE	CHINQUAPIN CK	FW	4	0	0	0	4	0	0	0
E-606		CHINGUAPIN CK									
E-101	SE	LIGHTWOOD KNOT CK	FW	3	0	0	0	3	0	0	0
E-605		LIGHTWOOD KNOT CK									
E-084	INT	N FORK EDISTO RVR	FW	20	0	0	0	20	0	0	0
E-102	INT	N FORK EDISTO RVR	FW	20	0	0	0	20	0	0	0
E-604		BLACK CK									
E-103/ RS-01298/ RS-05402	INT	BLACK CK	FW	20	0	0	0	20	0	0	0
03050203-02											
E-092	SE	N FORK EDISTO RVR	FW	4	0	0	0	4	0	0	0
E-034	SE	BULL SWAMP CK	FW	4	0	0	0	4	0	0	0
E-035	SE	BULL SWAMP CK	FW	4	0	0	0	4	0	0	0
E-042	INT	BULL SWAMP CK	FW	20	0	0	0	20	0	0	0
E-104	INT	N FORK EDISTO RVR	FW	20	0	0	0	20	0	0	0
03050203-03											
E-099	INT	N FORK EDISTO RVR	FW	20	0	0	0	20	0	0	0
E-105	INT	CAW CAW SWAMP	FW-SP	20	0	0	0	20	1	5	120
E-007	SE	N FORK EDISTO RVR	FW	4	0	0	0	4	0	0	0
E-007A	SE	N FORK EDISTO RVR	FW	4	0	0	0	4	0	0	0
E-007B	SE	N FORK EDISTO RVR	FW	4	0	0	0	4	0	0	0
E-007C	SE	N FORK EDISTO RVR	FW	4	0	0	0	4	0	0	0
E-008	SE	N FORK EDISTO RVR	FW	4	0	0	0	4	0	0	0
E-008A	INT	N FORK EDISTO RVR	FW	19	0	0	0	19	1	5	160
03050204-01											
E-001	SE	FIRST BRANCH	FW	2	0	0	0	2	0	0	0
E-002	SE	S FORK EDISTO RVR	FW	2	0	0	0	2	0	0	0
E-090	SE	S FORK EDISTO RVR	FW	4	0	0	0	4	0	0	0
RS-03518	RS03	MCTIER CK TRIB	FW	4	0	0	0	4	0	0	0
E-578		MCTIER CK									
E-113	INT	S FORK EDISTO RVR	FW	16	0	0	0	16	0	0	0
E-021	I*	S FORK EDISTO RVR	FW	4	0	0	0	4	0	0	0
RS-03344	RS03	HILLYER BRANCH	FW	4	0	0	0	4	0	0	0
RS-02480	RS02	SHAW CK	FW	4	0	0	0	4	0	0	0
E-579		SHAWS CK									
E-094	SE	SHAW CK	FW	4	0	0	0	4	0	0	0
E-106	INT	SHAW CK	FW	20	0	0	0	20	0	0	0
03050204-02											
E-107	INT	DEAN SWAMP CK	FW	20	0	0	0	20	0	0	0

STATION				DO	DO	DO	MEAN	TRENDS (92-2006)					
NUMBER	TYPE	WATERBODY NAME	CLASS	N	EXC.	%	EXC.	DO	N	MAG	BOD	N	MAG
03050204-03													
E-011	INT	S FORK EDISTO RVR	FW	56	0	0	0	NS	84	0.0175	I	88	0
E-036/ E-598	INT	GOODLAND CK	FW	53	0	0	0	NS	129	0.0286	I	134	0.0667
E-029		WINDY HILL CK	FW	2	0	0	0						
E-039	INT	ROBERTS SWAMP	FW	50	0	0	0	NS	78	0.0492	NS	81	0
E-012	INT	S FORK EDISTO RVR	FW	58	0	0	0	NS	135	0.0444	I	134	0.0571
03050205-01													
E-022	SE	GRAMLING CK	FW-SP	6	0	0	0	D	58	-0.24	NS	58	-0.0667
E-076	SE	LITTLE BULL CK	FW	12	1	8	3.8	D	78	-0.2083	NS	78	0.05
E-589		GRAMBLING CK											
E-059	INT	FOUR HOLE SWAMP	FW-SP	59	2	3	3.625	NS	184	-0.0337	I	180	0.0667
RS-04537	RS04	UNNAMED TRIB TO FOUR HOLE SWAMP	FW	11	1	9	4.75						
E-111	INT	FOUR HOLE SWAMP	FW-SP	57	6	11	3.0417	NS	84	-0.0446	NS	81	0
E-050	INT	COW CASTLE CK	FW	59	7	12	3.9457	NS	87	-0.0113	NS	84	0
03050205-02													
RS-02473	RS02	UNNAMED TRIB	FW	3	1	33	3.6						
E-596		CEDAR SWAMP											
E-030	INT	DEAN SWAMP	FW	56	4	7	4.375	NS	83	0.0563	NS	80	0
03050205-03													
E-051	INT	PROVIDENCE SWAMP	FW	54	9	17	3.4833	NS	172	0.04	I	169	0.03
RS-02303	RS02	HORSE RANGE SWAMP	FW	9	1	11	4.85						
E-052	INT	HORSE RANGE SWAMP	FW	54	10	19	3.195	NS	80	-0.0333	I	76	0
E-112	INT	FOUR HOLE SWAMP	FW-SP	57	17	30	3.1882	NS	84	-0.0312	NS	81	0
E-100	SE	FOUR HOLE SWAMP	FW-SP	10	2	20	3.365	NS	132	-0.0333	NS	134	-0.01
E-015A	INT	FOUR HOLE SWAMP	FW-SP	54	5	9	3.534	NS	88	0	I	91	0
03050206-01													
E-013	SE	EDISTO RVR	FW	12	0	0	0	NS	143	0.0472	I	142	0.0732
E-013A/ E-088	INT	EDISTO RVR	FW	58	0	0	0	NS	87	0	I	87	0
RS-06180	RS06	EDISTO RVR	FW	11	0	0	0						
E-108	INT	CATTLE CK	FW	48	2	4	3.175	I	74	0.205	NS	72	0
E-014	SE	EDISTO RVR	FW	10	0	0	0	I	72	0.0667	NS	73	0
E-086	INT	EDISTO RVR	FW	54	2	4	4.365	I	162	0.075	I	165	0.0191
03050206-02													
E-597		INDIAN FIELDS CK											
RS-05572	RS05	GUM BRANCH	FW-SP	11	1	9	3.84						
E-032	INT	INDIAN FIELD SWAMP	FW-SP	53	10	19	2.161	NS	87	0.03	NS	91	0
E-016	SE	POLK SWAMP	FW-SP	10	5	50	1.492	D	121	-0.5	NS	121	0.0125
E-109	INT	POLK SWAMP	FW-SP	52	20	38	2.1185	NS	86	0.0875	D	89	0

STATION				pH	pH	pH	MEAN	TRENDS (92-2006)			TURB	TURB	TURB	MEAN	TRENDS (92-2006)		
NUMBER	TYPE	WATERBODY NAME	CLASS	N	EXC.	%	EXC.	PH	N	MAG	N	EXC.	%	EXC.	TURB	N	MAG
03050204-03																	
E-011	INT	S FORK EDISTO RVR	FW	58	54	93	5.3848	D	86	-0.0811	60	0	0	0	D	89	-0.125
E-036/ E-598	INT	GOODLAND CK	FW	55	38	69	5.7611	D	131	-0.0508	58	0	0	0	D	135	-0.21
E-029		WINDY HILL CK	FW	2	0	0	0										
E-039	INT	ROBERTS SWAMP	FW	53	3	6	5.78	NS	81	-0.0133	53	1	2	66	NS	82	-0.1396
E-012	INT	S FORK EDISTO RVR	FW	58	33	57	5.6164	D	135	-0.0341	58	0	0	0	D	134	-0.4
03050205-01																	
E-022	SE	GRAMLING CK	FW-SP	6	0	0	0	NS	58	-0.018	6	0	0	0	D	58	-0.9143
E-076	SE	LITTLE BULL CK	FW	12	4	33	5.9	D	78	-0.0333	12	0	0	0	D	78	-0.7208
E-589		GRAMBLING CK															
E-059	INT	FOUR HOLE SWAMP	FW-SP	59	0	0	0	NS	184	0	59	0	0	0	D	183	-0.2429
RS-04537	RS04	UNNAMED TRIB TO FOUR HOLE SWAMP	FW	11	0	0	0				11	0	0	0			
E-111	INT	FOUR HOLE SWAMP	FW-SP	57	0	0	0	NS	84	0.0134	57	0	0	0	D	84	-0.2
E-050	INT	COW CASTLE CK	FW	59	1	2	5.72	I	87	0.0282	59	1	2	89	NS	87	-0.1875
03050205-02																	
RS-02473	RS02	UNNAMED TRIB	FW	3	2	67	5.675				3	0	0	0			
E-596		CEDAR SWAMP															
E-030	INT	DEAN SWAMP	FW	56	3	5	5.8667	I	83	0.04	56	0	0	0	NS	82	-0.0629
03050205-03																	
E-051	INT	PROVIDENCE SWAMP	FW	54	5	9	5.886	NS	172	-0.0045	54	0	0	0	D	172	-0.36
RS-02303	RS02	HORSE RANGE SWAMP	FW	9	0	0	0				9	1	11	170			
E-052	INT	HORSE RANGE SWAMP	FW	54	1	2	5.9	NS	80	0.005	54	2	4	119.5	NS	80	-0.3
E-112	INT	FOUR HOLE SWAMP	FW-SP	57	0	0	0	I	84	0.0214	57	0	0	0	D	84	-0.1
E-100	SE	FOUR HOLE SWAMP	FW-SP	10	0	0	0	I	133	0.04	11	0	0	0	NS	133	0.0667
E-015A	INT	FOUR HOLE SWAMP	FW-SP	53	0	0	0	NS	87	-0.01	57	0	0	0	NS	90	0.1
03050206-01																	
E-013	SE	EDISTO RVR	FW	12	2	17	5.775	D	142	-0.025	12	0	0	0	D	142	-0.2
E-013A/ E-088	INT	EDISTO RVR	FW	59	17	29	5.9053	D	88	-0.0382	60	0	0	0	D	88	-0.3
RS-06180	RS06	EDISTO RVR	FW	11	7	64	6.8143				12	0	0	0			
E-108	INT	CATTLE CK	FW	49	8	16	5.6838	NS	75	0.0087	49	1	2	400	D	75	-0.3
E-014	SE	EDISTO RVR	FW	9	0	0	0	I	71	0.0625	11	0	0	0	NS	72	0.0444
E-086	INT	EDISTO RVR	FW	53	6	11	5.7933	NS	161	0.015	57	0	0	0	NS	164	-0.0625
03050206-02																	
E-597		INDIAN FIELDS CK															
RS-05572	RS05	GUM BRANCH	FW-SP	11	0	0	0				11	1	9	170			
E-032	INT	INDIAN FIELD SWAMP	FW-SP	52	0	0	0	I	86	0.0408	56	0	0	0	NS	91	0.0604
E-016	SE	POLK SWAMP	FW-SP	9	0	0	0	NS	120	-0.01	11	0	0	0	NS	121	-0.1857
E-109	INT	POLK SWAMP	FW-SP	51	0	0	0	I	85	0.05	55	0	0	0	D	89	-0.155

STATION				TP	TP	TP	MEAN	TRENDS (92-2006)			TN	TN	TN	MEAN	TRENDS (92-2006)		
NUMBER	TYPE	WATERBODY NAME	CLASS	N	EXC.	%	EXC.	TP	N	MAG	N	EXC.	%	EXC.	TN	N	MAG
03050204-03																	
E-011	INT	S FORK EDISTO RVR	FW					NS	74	0					NS	62	0.0006
E-036/ E-598	INT	GOODLAND CK	FW					D	107	-0.0019					NS	62	-0.0055
E-029		WINDY HILL CK	FW														
E-039	INT	ROBERTS SWAMP	FW					D	73	-0.0017					D	65	-0.0207
E-012	INT	S FORK EDISTO RVR	FW					D	108	-0.0017					NS	68	-0.0068
03050205-01																	
E-022	SE	GRAMLING CK	FW-SP					NS	50	0							
E-076	SE	LITTLE BULL CK	FW					NS	59	0							
E-589		GRAMBLING CK															
E-059	INT	FOUR HOLE SWAMP	FW-SP					NS	147	-0.0009					D	162	-0.0142
RS-04537	RS04	UNNAMED TRIB TO FOUR HOLE SWAMP	FW														
E-111	INT	FOUR HOLE SWAMP	FW-SP					D	73	-0.005					NS	66	-0.0149
E-050	INT	COW CASTLE CK	FW					NS	77	-0.0012					NS	68	0.0179
03050205-02																	
RS-02473	RS02	UNNAMED TRIB	FW														
E-596		CEDAR SWAMP															
E-030	INT	DEAN SWAMP	FW					D	73	-0.0015					D	66	-0.0178
03050205-03																	
E-051	INT	PROVIDENCE SWAMP	FW					D	137	-0.0033					NS	148	-0.0007
RS-02303	RS02	HORSE RANGE SWAMP	FW														
E-052	INT	HORSE RANGE SWAMP	FW					NS	70	-0.0016					NS	61	0.0043
E-112	INT	FOUR HOLE SWAMP	FW-SP					NS	74	-0.002					NS	68	-0.0179
E-100	SE	FOUR HOLE SWAMP	FW-SP					NS	96	0					NS	126	-0.016
E-015A	INT	FOUR HOLE SWAMP	FW-SP					NS	80	0.0008					NS	72	0.0027
03050206-01																	
E-013	SE	EDISTO RVR	FW					NS	104	0					D	134	-0.02
E-013A/ E-088	INT	EDISTO RVR	FW					NS	75	-0.0003					NS	65	-0.0087
RS-06180	RS06	EDISTO RVR	FW														
E-108	INT	CATTLE CK	FW					NS	71	-0.0007					NS	59	-0.0032
E-014	SE	EDISTO RVR	FW					NS	52	0							
E-086	INT	EDISTO RVR	FW					NS	128	0.0002					NS	144	-0.0071
03050206-02																	
E-597		INDIAN FIELDS CK															
RS-05572	RS05	GUM BRANCH	FW-SP														
E-032	INT	INDIAN FIELD SWAMP	FW-SP					NS	79	0.0007					NS	70	-0.0215
E-016	SE	POLK SWAMP	FW-SP					NS	82	0.01					D	108	-0.0682
E-109	INT	POLK SWAMP	FW-SP					NS	79	0					NS	71	-0.012

STATION				CHL	CHL	CHL	MEAN	TRENDS (92-2006)		
NUMBER	TYPE	WATERBODY NAME	CLASS	N	EXC.	%	EXC.	TSS	N	MAG
03050204-03										
E-011	INT	S FORK EDISTO RVR	FW							
E-036/ E-598	INT	GOODLAND CK	FW							
E-029		WINDY HILL CK	FW							
E-039	INT	ROBERTS SWAMP	FW							
E-012	INT	S FORK EDISTO RVR	FW							
03050205-01										
E-022	SE	GRAMLING CK	FW-SP							
E-076	SE	LITTLE BULL CK	FW							
E-589		GRAMBLING CK								
E-059	INT	FOUR HOLE SWAMP	FW-SP					NS	81	0
RS-04537	RS04	UNNAMED TRIB TO FOUR HOLE SWAMP	FW							
E-111	INT	FOUR HOLE SWAMP	FW-SP							
E-050	INT	COW CASTLE CK	FW							
03050205-02										
RS-02473	RS02	UNNAMED TRIB	FW							
E-596		CEDAR SWAMP								
E-030	INT	DEAN SWAMP	FW							
03050205-03										
E-051	INT	PROVIDENCE SWAMP	FW							
RS-02303	RS02	HORSE RANGE SWAMP	FW							
E-052	INT	HORSE RANGE SWAMP	FW							
E-112	INT	FOUR HOLE SWAMP	FW-SP							
E-100	SE	FOUR HOLE SWAMP	FW-SP					NS	83	0
E-015A	INT	FOUR HOLE SWAMP	FW-SP							
03050206-01										
E-013	SE	EDISTO RVR	FW							
E-013A/ E-088	INT	EDISTO RVR	FW							
RS-06180	RS06	EDISTO RVR	FW							
E-108	INT	CATTLE CK	FW							
E-014	SE	EDISTO RVR	FW							
E-086	INT	EDISTO RVR	FW							
03050206-02										
E-597		INDIAN FIELDS CK								
RS-05572	RS05	GUM BRANCH	FW-SP							
E-032	INT	INDIAN FIELD SWAMP	FW-SP							
E-016	SE	POLK SWAMP	FW-SP							
E-109	INT	POLK SWAMP	FW-SP							

STATION				GEO	BACT	BACT	BACT	MEAN	TRENDS (92-2006)		
NUMBER	TYPE	WATERBODY NAME	CLASS	MEAN	N	EXC.	%	EXC.	BACT	N	MAG
03050204-03											
E-011	INT	S FORK EDISTO RVR	FW	107.7608	60	6	10	560	I	88	4
E-036/ E-598	INT	GOODLAND CK	FW	183.4872	57	9	16	691.1111	I	132	6.6667
E-029		WINDY HILL CK	FW								
E-039	INT	ROBERTS SWAMP	FW	280.0289	53	19	36	708.9474	NS	81	-0.9444
E-012	INT	S FORK EDISTO RVR	FW	122.1679	58	5	9	484	NS	134	-3.75
03050205-01											
E-022	SE	GRAMLING CK	FW-SP	259.2011	6	3	50	600	NS	58	17.5
E-076	SE	LITTLE BULL CK	FW	275.1555	12	4	33	727.5	NS	78	8.0357
E-589		GRAMBLING CK									
E-059	INT	FOUR HOLE SWAMP	FW-SP	341.4878	59	26	44	664.6154	NS	184	6.0769
RS-04537	RS04	UNNAMED TRIB TO FOUR HOLE SWAMP	FW	401.4553	11	7	64	771.4286			
E-111	INT	FOUR HOLE SWAMP	FW-SP	154.8492	57	8	14	617.5	NS	84	1.0417
E-050	INT	COW CASTLE CK	FW	324.976	59	30	51	750.3333	NS	87	0
03050205-02											
RS-02473	RS02	UNNAMED TRIB	FW	201.4944	2	0	0	0			
E-596		CEDAR SWAMP									
E-030	INT	DEAN SWAMP	FW	145.8181	56	13	23	533.0769	I	83	7.3889
03050205-03											
E-051	INT	PROVIDENCE SWAMP	FW	169.359	54	10	19	672	NS	172	0
RS-02303	RS02	HORSE RANGE SWAMP	FW	161.0247	9	4	44	580			
E-052	INT	HORSE RANGE SWAMP	FW	208.335	54	13	24	846.9231	NS	80	-11.2
E-112	INT	FOUR HOLE SWAMP	FW-SP	88.9171	57	4	7	677.5	NS	84	0
E-100	SE	FOUR HOLE SWAMP	FW-SP	94.792	10	2	20	1150	NS	131	0.0833
E-015A	INT	FOUR HOLE SWAMP	FW-SP	100.3921	57	3	5	463.3333	NS	91	-1.3333
03050206-01											
E-013	SE	EDISTO RVR	FW	75.6266	12	2	17	585	NS	143	0
E-013A/ E-088	INT	EDISTO RVR	FW	76.5644	60	4	7	562.5	NS	89	0
RS-06180	RS06	EDISTO RVR	FW	113.5849	12	2	17	600			
E-108	INT	CATTLE CK	FW	245.6613	49	17	35	1197.0588	NS	74	-6.6667
E-014	SE	EDISTO RVR	FW	30.6319	11	0	0	0	D	72	-5.225
E-086	INT	EDISTO RVR	FW	55.9605	57	0	0	0	D	163	-2.8013
03050206-02											
E-597		INDIAN FIELDS CK									
RS-05572	RS05	GUM BRANCH	FW-SP	970.8674	11	9	82	1288.8889			
E-032	INT	INDIAN FIELD SWAMP	FW-SP	202.3003	56	14	25	817.1429	NS	90	4.75
E-016	SE	POLK SWAMP	FW-SP	101.0862	11	1	9	440	NS	122	-12.5
E-109	INT	POLK SWAMP	FW-SP	118.29	54	13	24	780	NS	87	-2

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	NH3 N	NH3 EXC.	NH3 %	MEAN EXC.	CD N	CD EXC.	CD %	MEAN EXC.	CR N	CR EXC.	CR %	MEAN EXC.
03050204-03															
E-011	INT	S FORK EDISTO RVR	FW	43	0	0	0	20	0	0	0	20	0	0	0
E-036/ E-598	INT	GOODLAND CK	FW	43	0	0	0	19	0	0	0	19	0	0	0
E-029		WINDY HILL CK	FW	1	0	0	0	1	0	0	0	1	0	0	0
E-039	INT	ROBERTS SWAMP	FW	42	0	0	0	18	0	0	0	18	0	0	0
E-012	INT	S FORK EDISTO RVR	FW	46	0	0	0	19	0	0	0	19	0	0	0
03050205-01															
E-022	SE	GRAMLING CK	FW-SP	6	0	0	0	2	0	0	0	2	0	0	0
E-076	SE	LITTLE BULL CK	FW	9	0	0	0	4	0	0	0	4	0	0	0
E-589		GRAMBLING CK													
E-059	INT	FOUR HOLE SWAMP	FW-SP	46	0	0	0	20	0	0	0	20	0	0	0
RS-04537	RS04	UNNAMED TRIB TO FOUR HOLE SWAMP	FW	10	0	0	0	3	0	0	0	3	0	0	0
E-111	INT	FOUR HOLE SWAMP	FW-SP	44	0	0	0	19	0	0	0	19	0	0	0
E-050	INT	COW CASTLE CK	FW	46	1	2	8.1	20	0	0	0	20	0	0	0
03050205-02															
RS-02473	RS02	UNNAMED TRIB	FW	1	0	0	0	1	0	0	0	1	0	0	0
E-596		CEDAR SWAMP													
E-030	INT	DEAN SWAMP	FW	45	0	0	0	19	0	0	0	19	0	0	0
03050205-03															
E-051	INT	PROVIDENCE SWAMP	FW	44	0	0	0	19	0	0	0	19	0	0	0
RS-02303	RS02	HORSE RANGE SWAMP	FW	3	0	0	0	3	0	0	0	3	0	0	0
E-052	INT	HORSE RANGE SWAMP	FW	43	0	0	0	19	0	0	0	19	0	0	0
E-112	INT	FOUR HOLE SWAMP	FW-SP	46	0	0	0	19	0	0	0	19	0	0	0
E-100	SE	FOUR HOLE SWAMP	FW-SP	11	0	0	0	3	0	0	0	3	0	0	0
E-015A	INT	FOUR HOLE SWAMP	FW-SP	42	0	0	0	20	0	0	0	20	0	0	0
03050206-01															
E-013	SE	EDISTO RVR	FW	11	0	0	0	4	0	0	0	4	0	0	0
E-013A/ E-088	INT	EDISTO RVR	FW	42	1	2	0.19	20	0	0	0	20	0	0	0
RS-06180	RS06	EDISTO RVR	FW	9	1	11	0.16	4	0	0	0	4	0	0	0
E-108	INT	CATTLE CK	FW	35	0	0	0	16	0	0	0	16	0	0	0
E-014	SE	EDISTO RVR	FW	9	0	0	0	4	0	0	0	4	0	0	0
E-086	INT	EDISTO RVR	FW	42	0	0	0	20	0	0	0	20	0	0	0
03050206-02															
E-597		INDIAN FIELDS CK													
RS-05572	RS05	GUM BRANCH	FW-SP	11	0	0	0	4	0	0	0	4	0	0	0
E-032	INT	INDIAN FIELD SWAMP	FW-SP	40	0	0	0	20	0	0	0	20	0	0	0
E-016	SE	POLK SWAMP	FW-SP	11	0	0	0	4	0	0	0	4	0	0	0
E-109	INT	POLK SWAMP	FW-SP	41	0	0	0	19	0	0	0	19	0	0	0

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	CU N	CU EXC.	CU %	MEAN EXC.	PB N	PB EXC.	PB %	MEAN EXC.	HG N	HG EXC.	HG %	MEAN EXC.
03050204-03															
E-011	INT	S FORK EDISTO RVR	FW	20	0	0	0	20	0	0	0	20	0	0	0
E-036/ E-598	INT	GOODLAND CK	FW	19	2	11	15.5	19	0	0	0	19	0	0	0
E-029		WINDY HILL CK	FW	1	0	0	0	1	0	0	0	1	0	0	0
E-039	INT	ROBERTS SWAMP	FW	18	0	0	0	18	0	0	0	18	0	0	0
E-012	INT	S FORK EDISTO RVR	FW	19	0	0	0	19	0	0	0	19	0	0	0
03050205-01															
E-022	SE	GRAMLING CK	FW-SP	2	0	0	0	2	0	0	0	2	0	0	0
E-076	SE	LITTLE BULL CK	FW	4	0	0	0	4	0	0	0	4	0	0	0
E-589		GRAMBLING CK													
E-059	INT	FOUR HOLE SWAMP	FW-SP	20	0	0	0	20	0	0	0	20	0	0	0
RS-04537	RS04	UNNAMED TRIB TO FOUR HOLE SWAMP	FW	3	0	0	0	3	0	0	0	3	0	0	0
E-111	INT	FOUR HOLE SWAMP	FW-SP	19	1	5	16	19	0	0	0	19	0	0	0
E-050	INT	COW CASTLE CK	FW	20	0	0	0	20	0	0	0	20	0	0	0
03050205-02															
RS-02473	RS02	UNNAMED TRIB	FW	1	0	0	0	1	0	0	0	1	0	0	0
E-596		CEDAR SWAMP													
E-030	INT	DEAN SWAMP	FW	19	0	0	0	19	0	0	0	19	0	0	0
03050205-03															
E-051	INT	PROVIDENCE SWAMP	FW	19	2	11	19.5	19	0	0	0	19	0	0	0
RS-02303	RS02	HORSE RANGE SWAMP	FW	3	1	33	14	3	0	0	0	3	0	0	0
E-052	INT	HORSE RANGE SWAMP	FW	19	0	0	0	19	0	0	0	19	0	0	0
E-112	INT	FOUR HOLE SWAMP	FW-SP	19	0	0	0	19	0	0	0	19	0	0	0
E-100	SE	FOUR HOLE SWAMP	FW-SP	3	0	0	0	3	0	0	0	3	0	0	0
E-015A	INT	FOUR HOLE SWAMP	FW-SP	20	1	5	23	20	0	0	0	20	0	0	0
03050206-01															
E-013	SE	EDISTO RVR	FW	4	0	0	0	4	0	0	0	4	0	0	0
E-013A/ E-088	INT	EDISTO RVR	FW	20	1	5	47	20	0	0	0	20	0	0	0
RS-06180	RS06	EDISTO RVR	FW	4	0	0	0	4	0	0	0	4	0	0	0
E-108	INT	CATTLE CK	FW	16	0	0	0	16	0	0	0	16	0	0	0
E-014	SE	EDISTO RVR	FW	4	0	0	0	4	0	0	0	4	0	0	0
E-086	INT	EDISTO RVR	FW	20	0	0	0	20	0	0	0	20	0	0	0
03050206-02															
E-597		INDIAN FIELDS CK													
RS-05572	RS05	GUM BRANCH	FW-SP	4	1	25	70	4	0	0	0	4	0	0	0
E-032	INT	INDIAN FIELD SWAMP	FW-SP	20	0	0	0	20	0	0	0	20	0	0	0
E-016	SE	POLK SWAMP	FW-SP	4	0	0	0	4	0	0	0	4	0	0	0
E-109	INT	POLK SWAMP	FW-SP	19	0	0	0	19	0	0	0	19	0	0	0

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	NI N	NI EXC.	NI %	MEAN EXC.	ZN N	ZN EXC.	ZN %	MEAN EXC.
03050204-03											
E-011	INT	S FORK EDISTO RVR	FW	20	0	0	0	20	0	0	0
E-036/ E-598	INT	GOODLAND CK	FW	19	0	0	0	19	0	0	0
E-029		WINDY HILL CK	FW	1	0	0	0				
E-039	INT	ROBERTS SWAMP	FW	18	0	0	0	18	1	6	100
E-012	INT	S FORK EDISTO RVR	FW	19	1	5	36	19	0	0	0
03050205-01											
E-022	SE	GRAMLING CK	FW-SP	2	0	0	0	2	0	0	0
E-076	SE	LITTLE BULL CK	FW	4	0	0	0	4	0	0	0
E-589		GRAMBLING CK									
E-059	INT	FOUR HOLE SWAMP	FW-SP	20	0	0	0	20	0	0	0
RS-04537	RS04	UNNAMED TRIB TO FOUR HOLE SWAMP	FW	3	0	0	0	3	0	0	0
E-111	INT	FOUR HOLE SWAMP	FW-SP	19	0	0	0	19	0	0	0
E-050	INT	COW CASTLE CK	FW	20	0	0	0	20	0	0	0
03050205-02											
RS-02473	RS02	UNNAMED TRIB	FW	1	0	0	0	1	0	0	0
E-596		CEDAR SWAMP									
E-030	INT	DEAN SWAMP	FW	19	0	0	0	19	0	0	0
03050205-03											
E-051	INT	PROVIDENCE SWAMP	FW	19	1	5	35	19	0	0	0
RS-02303	RS02	HORSE RANGE SWAMP	FW	3	0	0	0	3	0	0	0
E-052	INT	HORSE RANGE SWAMP	FW	19	0	0	0	19	0	0	0
E-112	INT	FOUR HOLE SWAMP	FW-SP	19	0	0	0	19	1	5	95
E-100	SE	FOUR HOLE SWAMP	FW-SP	3	0	0	0	3	0	0	0
E-015A	INT	FOUR HOLE SWAMP	FW-SP	20	0	0	0	20	1	5	86
03050206-01											
E-013	SE	EDISTO RVR	FW	4	0	0	0	4	1	25	180
E-013A/ E-088	INT	EDISTO RVR	FW	20	0	0	0	20	0	0	0
RS-06180	RS06	EDISTO RVR	FW	4	0	0	0	4	0	0	0
E-108	INT	CATTLE CK	FW	16	0	0	0	16	0	0	0
E-014	SE	EDISTO RVR	FW	4	0	0	0	4	0	0	0
E-086	INT	EDISTO RVR	FW	20	0	0	0	20	0	0	0
03050206-02											
E-597		INDIAN FIELDS CK									
RS-05572	RS05	GUM BRANCH	FW-SP	4	0	0	0	4	0	0	0
E-032	INT	INDIAN FIELD SWAMP	FW-SP	20	0	0	0	20	1	5	84
E-016	SE	POLK SWAMP	FW-SP	4	0	0	0	4	0	0	0
E-109	INT	POLK SWAMP	FW-SP	19	0	0	0	19	0	0	0

STATION				DO	DO	DO	MEAN	TRENDS (92-2006)					
NUMBER	TYPE	WATERBODY NAME	CLASS	N	EXC.	%	EXC.	DO	N	MAG	BOD	N	MAG
03050206-03													
E-015	INT	EDISTO RVR	FW	54	2	4	4.165	I	176	0.0992	I	177	0.05
RS-05584	RS05	EDISTO RVR	FW	11	0	0	0						
MD-119	SE	EDISTO RVR	FW/ORW	12	0	0	0	NS	136	0.0367	NS	135	0
MD-260	INT	SOUTH EDISTO RVR	ORW	42	7	17	4.3843	NS	52	0.03	NS	68	0
RO-036043	RO03	SOUTH EDISTO RIVER	ORW	11	3	27	4.3433						
MD-244/ RO-046065	SE	SOUTH EDISTO RVR	SFH	14	0	0	0	NS	46	0.0436	I	54	0.04
RO-06311	RO06	SOUTH EDISTO RVR	SFH	8	1	13	4.93						
RT-052105	RT05	SCOTT CK	ORW	10	3	30	3.7733						
RT-02019	RT02	PINE ISLAND CK TRIB	SFH	11	2	18	3.96						
RT-06007	RT06	PINE ISLAND CK	SFH	8	2	25	4.525						
03050206-04													
MD-195	SE	CHURCH CK	SFH	11	2	18	4.115	I	132	0.0833	NS	134	0
MD-261	INT	YONGES ISL CK	ORW	56	17	30	4.2359	NS	67	0.015	NS	69	0
RT-042075	RT04	TRIB TO WADMALAW RVR	ORW	13	5	38	4.092						
RO-036039	RO03	WADMAWLAW RIVER	ORW	12	3	25	4.2767						
RO-056091	RO05	WADMALAW RVR	ORW	12	3	25	4.1333						
RT-02005	RT02	FISHING CK	ORW	13	5	38	3.91						
MD-120	INT	DAWHO RVR	ORW	56	18	32	4.01	NS	177	-0.0067	I	178	0
RT-02021	RT02	SAND CK	ORW	13	7	54	4.0943						
RO-02013	RO02	WESTBANK CK	ORW	13	3	23	4.59						
RT-042077	RT04	TRIB TO LEADENWAH CK	ORW	13	7	54	3.7729						
RO-06315	RO06	LEADENWAH CK	ORW	11	4	36	3.9575						
MD-262	INT	NORTH EDISTO RVR	ORW	56	11	20	4.2673	NS	67	0.075	NS	67	0
RO-036041	RO03	BOHICKET CREEK	ORW	12	6	50	4.1833						
MD-209	INT	BOHICKET CK	ORW	58	19	33	4.1489	NS	173	-0.0012	I	155	0.0158
RT-052095	RT05	ADAMS CK	ORW	12	4	33	3.705						
MD-210	SE	BOHICKET CK	ORW	11	1	9	4.97	NS	79	0.0058	NS	67	0.0167
RO-056093	RO05	OCELLA CK	ORW	13	3	23	3.8033						

STATION				pH	pH	pH	MEAN	TRENDS (92-2006)			TURB	TURB	TURB	MEAN	TRENDS (92-2006)		
NUMBER	TYPE	WATERBODY NAME	CLASS	N	EXC.	%	EXC.	PH	N	MAG	N	EXC.	%	EXC.	TURB	N	MAG
03050206-03																	
E-015	INT	EDISTO RVR	FW	53	1	2	5.36	I	175	0.0207	57	0	0	0	NS	177	0
RS-05584	RS05	EDISTO RVR	FW	11	0	0	0				11	0	0	0			
MD-119	SE	EDISTO RVR	FW/ORW	11	0	0	0	I	136	0.0573	12	0	0	0	I	134	0.175
MD-260	INT	SOUTH EDISTO RVR	ORW	42	0	0	0	NS	52	-0.0175	57	21	37	46.3333	NS	67	-1
RO-036043	RO03	SOUTH EDISTO RIVER	ORW	11	0	0	0				12	0	0	0			
MD-244/ RO-046065	SE	SOUTH EDISTO RVR	SFH	14	0	0	0	D	46	-0.0226	24	3	13	35.6667	NS	52	-0.0417
RO-06311	RO06	SOUTH EDISTO RVR	SFH	8	0	0	0				12	3	25	36			
RT-052105	RT05	SCOTT CK	ORW	10	0	0	0				13	3	23	27.6667			
RT-02019	RT02	PINE ISLAND CK TRIB	SFH	11	0	0	0				12	3	25	31.3333			
RT-06007	RT06	PINE ISLAND CK	SFH	8	0	0	0				12	1	8	34			
03050206-04																	
MD-195	SE	CHURCH CK	SFH	11	0	0	0	I	133	0.02	11	1	9	33	NS	134	0
MD-261	INT	YONGES ISL CK	ORW	54	0	0	0	NS	65	0.0313	59	9	15	53.7778	NS	70	-0.0525
RT-042075	RT04	TRIB TO WADMALAW RVR	ORW	11	0	0	0				13	3	23	40.6667			
RO-036039	RO03	WADMAWLAW RIVER	ORW	12	0	0	0				13	2	15	32.5			
RO-056091	RO05	WADMALAW RVR	ORW	11	0	0	0				13	3	23	30.6667			
RT-02005	RT02	FISHING CK	ORW	13	0	0	0				13	4	31	57.25			
MD-120	INT	DAWHO RVR	ORW	55	0	0	0	I	176	0.0192	59	12	20	36.0833	NS	181	-0.125
RT-02021	RT02	SAND CK	ORW	13	0	0	0				13	2	15	40			
RO-02013	RO02	WESTBANK CK	ORW	13	0	0	0				13	3	23	39.6667			
RT-042077	RT04	TRIB TO LEADENWAH CK	ORW	11	0	0	0				13	1	8	43			
RO-06315	RO06	LEADENWAH CK	ORW	12	0	0	0				12	0	0	0			
MD-262	INT	NORTH EDISTO RVR	ORW	55	0	0	0	NS	66	0.03	59	4	7	34	NS	70	-0.29
RO-036041	RO03	BOHICKET CREEK	ORW	12	0	0	0				13	1	8	29			
MD-209	INT	BOHICKET CK	ORW	55	0	0	0	D	171	-0.0188	58	13	22	34.6923	I	159	0.3083
RT-052095	RT05	ADAMS CK	ORW	12	0	0	0				13	1	8	30			
MD-210	SE	BOHICKET CK	ORW	11	0	0	0	NS	80	-0.006	11	0	0	0	NS	68	0.3333
RO-056093	RO05	OCELLA CK	ORW	12	0	0	0				13	1	8	26			

STATION				TP	TP	TP	MEAN	TRENDS (92-2006)			TN	TN	TN	MEAN	TRENDS (92-2006)		
NUMBER	TYPE	WATERBODY NAME	CLASS	N	EXC.	%	EXC.	TP	N	MAG	N	EXC.	%	EXC.	TN	N	MAG
03050206-03																	
E-015	INT	EDISTO RVR	FW					D	143	-0.0007					NS	159	-0.0033
RS-05584	RS05	EDISTO RVR	FW														
MD-119	SE	EDISTO RVR	FW/ORW					D	102	-0.0038					D	126	-0.0183
MD-260	INT	SOUTH EDISTO RVR	ORW					NS	55	0.003					NS	49	0.02
RO-036043	RO03	SOUTH EDISTO RIVER	ORW														
MD-244/ RO-046065	SE	SOUTH EDISTO RVR	SFH					I	44	0.0026					D	39	-0.0167
RO-06311	RO06	SOUTH EDISTO RVR	SFH														
RT-052105	RT05	SCOTT CK	ORW														
RT-02019	RT02	PINE ISLAND CK TRIB	SFH														
RT-06007	RT06	PINE ISLAND CK	SFH														
03050206-04																	
MD-195	SE	CHURCH CK	SFH					NS	100	0					D	123	-0.03
MD-261	INT	YONGES ISL CK	ORW					NS	51	0.0003					D	44	-0.049
RT-042075	RT04	TRIB TO WADMALAW RVR	ORW														
RO-036039	RO03	WADMAWLAW RIVER	ORW														
RO-056091	RO05	WADMALAW RVR	ORW														
RT-02005	RT02	FISHING CK	ORW														
MD-120	INT	DAWHO RVR	ORW					NS	139	-0.0015					D	156	-0.01
RT-02021	RT02	SAND CK	ORW														
RO-02013	RO02	WESTBANK CK	ORW														
RT-042077	RT04	TRIB TO LEADENWAH CK	ORW														
RO-06315	RO06	LEADENWAH CK	ORW														
MD-262	INT	NORTH EDISTO RVR	ORW					NS	52	-0.0005					D	44	-0.0471
RO-036041	RO03	BOHICKET CREEK	ORW														
MD-209	INT	BOHICKET CK	ORW					NS	121	0					D	131	-0.0223
RT-052095	RT05	ADAMS CK	ORW														
MD-210	SE	BOHICKET CK	ORW					NS	52	-0.002							
RO-056093	RO05	OCELLA CK	ORW														

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	CHL N	CHL EXC.	CHL %	MEAN EXC.	TRENDS (92-2006) TSS	N	MAG
03050206-03										
E-015	INT	EDISTO RVR	FW					NS	87	0
RS-05584	RS05	EDISTO RVR	FW							
MD-119	SE	EDISTO RVR	FW/ORW							
MD-260	INT	SOUTH EDISTO RVR	ORW							
RO-036043	RO03	SOUTH EDISTO RIVER	ORW							
MD-244/ RO-046065	SE	SOUTH EDISTO RVR	SFH							
RO-06311	RO06	SOUTH EDISTO RVR	SFH							
RT-052105	RT05	SCOTT CK	ORW							
RT-02019	RT02	PINE ISLAND CK TRIB	SFH							
RT-06007	RT06	PINE ISLAND CK	SFH							
03050206-04										
MD-195	SE	CHURCH CK	SFH							
MD-261	INT	YONGES ISL CK	ORW							
RT-042075	RT04	TRIB TO WADMALAW RVR	ORW							
RO-036039	RO03	WADMAWLAW RIVER	ORW							
RO-056091	RO05	WADMALAW RVR	ORW							
RT-02005	RT02	FISHING CK	ORW							
MD-120	INT	DAWHO RVR	ORW							
RT-02021	RT02	SAND CK	ORW							
RO-02013	RO02	WESTBANK CK	ORW							
RT-042077	RT04	TRIB TO LEADENWAH CK	ORW							
RO-06315	RO06	LEADENWAH CK	ORW							
MD-262	INT	NORTH EDISTO RVR	ORW							
RO-036041	RO03	BOHICKET CREEK	ORW							
MD-209	INT	BOHICKET CK	ORW							
RT-052095	RT05	ADAMS CK	ORW							
MD-210	SE	BOHICKET CK	ORW							
RO-056093	RO05	OCELLA CK	ORW							

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	GEO MEAN	BACT N	BACT EXC.	BACT %	MEAN EXC.	TRENDS (92-2006) BACT	N	MAG
03050206-03											
E-015	INT	EDISTO RVR	FW	62.0177	57	0	0	0	D	179	-2.2111
RS-05584	RS05	EDISTO RVR	FW	42.3822	11	0	0	0			
MD-119	SE	EDISTO RVR	FW/ORW	56.1178	12	0	0	0	NS	135	0
MD-260	INT	SOUTH EDISTO RVR	ORW	11.0673	57	0	0	0	NS	68	0
RO-036043	RO03	SOUTH EDISTO RIVER	ORW	11.378	14	0	0	0			
MD-244/ RO-046065	SE	SOUTH EDISTO RVR	SFH	3.2617	24	0	0	0	NS	54	0
RO-06311	RO06	SOUTH EDISTO RVR	SFH	2.7491	12	0	0	0			
RT-052105	RT05	SCOTT CK	ORW	8.8323	13	0	0	0			
RT-02019	RT02	PINE ISLAND CK TRIB	SFH	2.9472	11	0	0	0			
RT-06007	RT06	PINE ISLAND CK	SFH	3.7666	12	0	0	0			
03050206-04											
MD-195	SE	CHURCH CK	SFH	31.3055	11	0	0	0	NS	133	0
MD-261	INT	YONGES ISL CK	ORW	5.6825	58	0	0	0	NS	69	0.5
RT-042075	RT04	TRIB TO WADMALAW RVR	ORW	12.0873	13	0	0	0			
RO-036039	RO03	WADMAWLAW RIVER	ORW	12.554	13	1	8	1600			
RO-056091	RO05	WADMALAW RVR	ORW	5.3983	13	0	0	0			
RT-02005	RT02	FISHING CK	ORW	55.0742	13	0	0	0			
MD-120	INT	DAWHO RVR	ORW	44.3528	59	4	7	975	D	180	-1.8182
RT-02021	RT02	SAND CK	ORW	27.9989	13	0	0	0			
RO-02013	RO02	WESTBANK CK	ORW	4.1923	13	0	0	0			
RT-042077	RT04	TRIB TO LEADENWAH CK	ORW	35.9536	12	0	0	0			
RO-06315	RO06	LEADENWAH CK	ORW	9.0216	12	0	0	0			
MD-262	INT	NORTH EDISTO RVR	ORW	5.9989	58	0	0	0	NS	69	0
RO-036041	RO03	BOHICKET CREEK	ORW	35.9887	13	0	0	0			
MD-209	INT	BOHICKET CK	ORW	23.584	59	3	5	866.6667	NS	161	0
RT-052095	RT05	ADAMS CK	ORW	18.7791	13	1	8	500			
MD-210	SE	BOHICKET CK	ORW	2.1293	11	0	0	0	NS	69	0
RO-056093	RO05	OCELLA CK	ORW	4.6323	13	0	0	0			

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	NH3 N	NH3 EXC.	NH3 %	MEAN EXC.	CD N	CD EXC.	CD %	MEAN EXC.	CR N	CR EXC.	CR %	MEAN EXC.
03050206-03															
E-015	INT	EDISTO RVR	FW	43	0	0	0	20	1	5	11	20	0	0	0
RS-05584	RS05	EDISTO RVR	FW	11	0	0	0	4	0	0	0	4	0	0	0
MD-119	SE	EDISTO RVR	FW/ORW	9	0	0	0	4	0	0	0	4	0	0	0
MD-260	INT	SOUTH EDISTO RVR	ORW	39	0	0	0	19	0	0	0	19	0	0	0
RO-036043	RO03	SOUTH EDISTO RIVER	ORW	7	0	0	0	4	0	0	0	4	1	25	64
MD-244/ RO-046065	SE	SOUTH EDISTO RVR	SFH	18	0	0	0	8	0	0	0	8	0	0	0
RO-06311	RO06	SOUTH EDISTO RVR	SFH	8	0	0	0	4	0	0	0	4	0	0	0
RT-052105	RT05	SCOTT CK	ORW	11	0	0	0	4	0	0	0	4	0	0	0
RT-02019	RT02	PINE ISLAND CK TRIB	SFH	3	0	0	0	3	0	0	0	3	0	0	0
RT-06007	RT06	PINE ISLAND CK	SFH	10	0	0	0	4	0	0	0	4	0	0	0
03050206-04															
MD-195	SE	CHURCH CK	SFH	8	0	0	0	4	0	0	0	4	0	0	0
MD-261	INT	YONGES ISL CK	ORW	42	0	0	0	21	0	0	0	21	0	0	0
RT-042075	RT04	TRIB TO WADMALAW RVR	ORW	12	0	0	0	4	0	0	0	4	0	0	0
RO-036039	RO03	WADMAWLAW RIVER	ORW	8	0	0	0	5	0	0	0	5	0	0	0
RO-056091	RO05	WADMALAW RVR	ORW	12	0	0	0	4	0	0	0	4	0	0	0
RT-02005	RT02	FISHING CK	ORW	5	0	0	0	4	0	0	0	4	0	0	0
MD-120	INT	DAWHO RVR	ORW	43	0	0	0	21	0	0	0	21	0	0	0
RT-02021	RT02	SAND CK	ORW	4	0	0	0	4	0	0	0	4	0	0	0
RO-02013	RO02	WESTBANK CK	ORW	3	0	0	0	4	0	0	0	4	0	0	0
RT-042077	RT04	TRIB TO LEADENWAH CK	ORW	12	0	0	0	4	0	0	0	4	0	0	0
RO-06315	RO06	LEADENWAH CK	ORW	8	0	0	0	4	0	0	0	4	0	0	0
MD-262	INT	NORTH EDISTO RVR	ORW	42	0	0	0	21	0	0	0	21	0	0	0
RO-036041	RO03	BOHICKET CREEK	ORW	8	0	0	0	5	0	0	0	5	0	0	0
MD-209	INT	BOHICKET CK	ORW	40	0	0	0	21	0	0	0	21	0	0	0
RT-052095	RT05	ADAMS CK	ORW	12	0	0	0	4	0	0	0	4	0	0	0
MD-210	SE	BOHICKET CK	ORW	9	0	0	0	4	0	0	0	4	0	0	0
RO-056093	RO05	OCELLA CK	ORW	11	0	0	0	4	0	0	0	4	0	0	0

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	CU N	CU EXC.	CU %	MEAN EXC.	PB N	PB EXC.	PB %	MEAN EXC.	HG N	HG EXC.	HG %	MEAN EXC.
03050206-03															
E-015	INT	EDISTO RVR	FW	20	0	0	0	20	0	0	0	20	0	0	0
RS-05584	RS05	EDISTO RVR	FW	4	0	0	0	4	0	0	0	4	0	0	0
MD-119	SE	EDISTO RVR	FW/ORW	4	0	0	0	4	0	0	0	4	0	0	0
MD-260	INT	SOUTH EDISTO RVR	ORW	19	3	16	20	19	0	0	0	19	0	0	0
RO-036043	RO03	SOUTH EDISTO RIVER	ORW	4	1	25	23	4	0	0	0	4	0	0	0
MD-244/ RO-046065	SE	SOUTH EDISTO RVR	SFH	8	0	0	0	8	0	0	0	8	0	0	0
RO-06311	RO06	SOUTH EDISTO RVR	SFH	4	0	0	0	4	0	0	0	4	0	0	0
RT-052105	RT05	SCOTT CK	ORW	4	0	0	0	4	0	0	0	4	0	0	0
RT-02019	RT02	PINE ISLAND CK TRIB	SFH	3	2	67	24.5	3	0	0	0	3	0	0	0
RT-06007	RT06	PINE ISLAND CK	SFH	4	0	0	0	4	0	0	0	4	0	0	0
03050206-04															
MD-195	SE	CHURCH CK	SFH	4	0	0	0	4	0	0	0	4	0	0	0
MD-261	INT	YONGES ISL CK	ORW	21	0	0	0	21	0	0	0	21	0	0	0
RT-042075	RT04	TRIB TO WADMALAW RVR	ORW	4	0	0	0	4	0	0	0	4	0	0	0
RO-036039	RO03	WADMAWLAW RIVER	ORW	5	1	20	17	5	0	0	0	5	0	0	0
RO-056091	RO05	WADMALAW RVR	ORW	4	0	0	0	4	0	0	0	4	0	0	0
RT-02005	RT02	FISHING CK	ORW	4	0	0	0	4	0	0	0	4	0	0	0
MD-120	INT	DAWHO RVR	ORW	21	1	5	12	21	0	0	0	21	0	0	0
RT-02021	RT02	SAND CK	ORW	4	0	0	0	4	0	0	0	4	0	0	0
RO-02013	RO02	WESTBANK CK	ORW	4	0	0	0	4	0	0	0	4	0	0	0
RT-042077	RT04	TRIB TO LEADENWAH CK	ORW	4	1	25	11	4	0	0	0	4	0	0	0
RO-06315	RO06	LEADENWAH CK	ORW	4	0	0	0	4	0	0	0	4	0	0	0
MD-262	INT	NORTH EDISTO RVR	ORW	21	1	5	13	21	0	0	0	21	0	0	0
RO-036041	RO03	BOHICKET CREEK	ORW	5	1	20	16	5	0	0	0	5	0	0	0
MD-209	INT	BOHICKET CK	ORW	21	1	5	12	21	0	0	0	21	0	0	0
RT-052095	RT05	ADAMS CK	ORW	4	0	0	0	4	0	0	0	4	0	0	0
MD-210	SE	BOHICKET CK	ORW	4	0	0	0	4	0	0	0	4	0	0	0
RO-056093	RO05	OCELLA CK	ORW	4	0	0	0	4	0	0	0	4	0	0	0

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	NI N	NI EXC.	NI %	MEAN EXC.	ZN N	ZN EXC.	ZN %	MEAN EXC.
03050206-03											
E-015	INT	EDISTO RVR	FW	20	0	0	0	20	0	0	0
RS-05584	RS05	EDISTO RVR	FW	4	0	0	0	4	0	0	0
MD-119	SE	EDISTO RVR	FW/ORW	4	0	0	0	4	0	0	0
MD-260	INT	SOUTH EDISTO RVR	ORW	19	1	5	37	19	0	0	0
RO-036043	RO03	SOUTH EDISTO RIVER	ORW	4	1	25	88	4	0	0	0
MD-244/ RO-046065	SE	SOUTH EDISTO RVR	SFH	8	0	0	0	8	0	0	0
RO-06311	RO06	SOUTH EDISTO RVR	SFH	4	0	0	0	4	0	0	0
RT-052105	RT05	SCOTT CK	ORW	4	0	0	0	4	0	0	0
RT-02019	RT02	PINE ISLAND CK TRIB	SFH	3	0	0	0	3	0	0	0
RT-06007	RT06	PINE ISLAND CK	SFH	4	0	0	0	4	0	0	0
03050206-04											
MD-195	SE	CHURCH CK	SFH	4	0	0	0	4	0	0	0
MD-261	INT	YONGES ISL CK	ORW	21	0	0	0	21	0	0	0
RT-042075	RT04	TRIB TO WADMALAW RVR	ORW	4	0	0	0	4	0	0	0
RO-036039	RO03	WADMAWLAW RIVER	ORW	5	0	0	0	5	0	0	0
RO-056091	RO05	WADMALAW RVR	ORW	4	0	0	0	4	0	0	0
RT-02005	RT02	FISHING CK	ORW	4	0	0	0	4	0	0	0
MD-120	INT	DAWHO RVR	ORW	21	0	0	0	21	0	0	0
RT-02021	RT02	SAND CK	ORW	4	0	0	0	4	0	0	0
RO-02013	RO02	WESTBANK CK	ORW	4	0	0	0	4	0	0	0
RT-042077	RT04	TRIB TO LEADENWAH CK	ORW	4	0	0	0	4	0	0	0
RO-06315	RO06	LEADENWAH CK	ORW	4	0	0	0	4	0	0	0
MD-262	INT	NORTH EDISTO RVR	ORW	21	0	0	0	21	0	0	0
RO-036041	RO03	BOHICKET CREEK	ORW	5	0	0	0	5	0	0	0
MD-209	INT	BOHICKET CK	ORW	21	0	0	0	21	1	5	270
RT-052095	RT05	ADAMS CK	ORW	4	0	0	0	4	0	0	0
MD-210	SE	BOHICKET CK	ORW	4	0	0	0	4	0	0	0
RO-056093	RO05	OCELLA CK	ORW	4	0	0	0	4	0	0	0

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Waterbody Index

Waterbody Index

APPENDIX C.

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