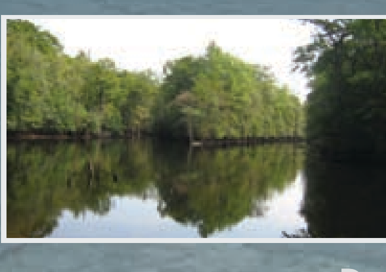
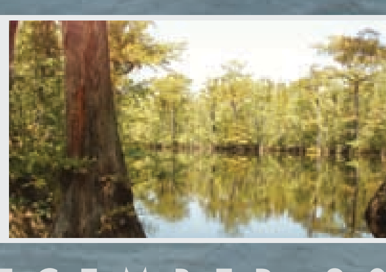
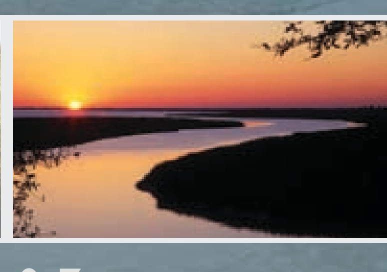
SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

WATERSHED WATER QUALITY ASSESSMENT

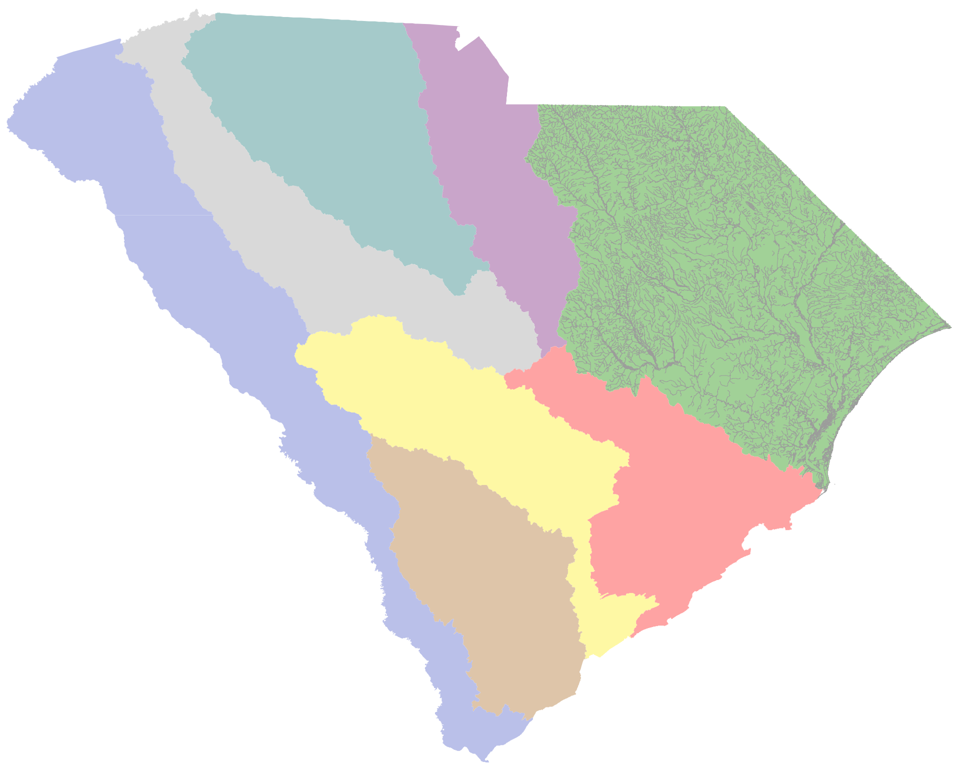
PEE DEE RIVER BASIN

DECEMBER 2007

Watershed Water Quality Assessment

Pee Dee River Basin



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 Pee Dee River Basin was collected during 1999 through 2003 and assessed during this third 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. A waterbody index 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 Pee Dee 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 strategy 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 Pee Dee River Basin Watershed Protection and Restoration Strategies can be found under that section on page 29, and more detailed information is located within the individual watershed evaluations.

A major change to this newest assessment is the use of the 2005 USDA NRCS 8-, 10-, 12-digit hydrologic unit code 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 Pee Dee 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 Pee Dee Basin, please contact:

Watershed Strategy Coordinator
SCDHEC Bureau of Water
2600 Bull St.
Columbia, SC 29201
(803) 898-4300
www.scdhec.gov/water

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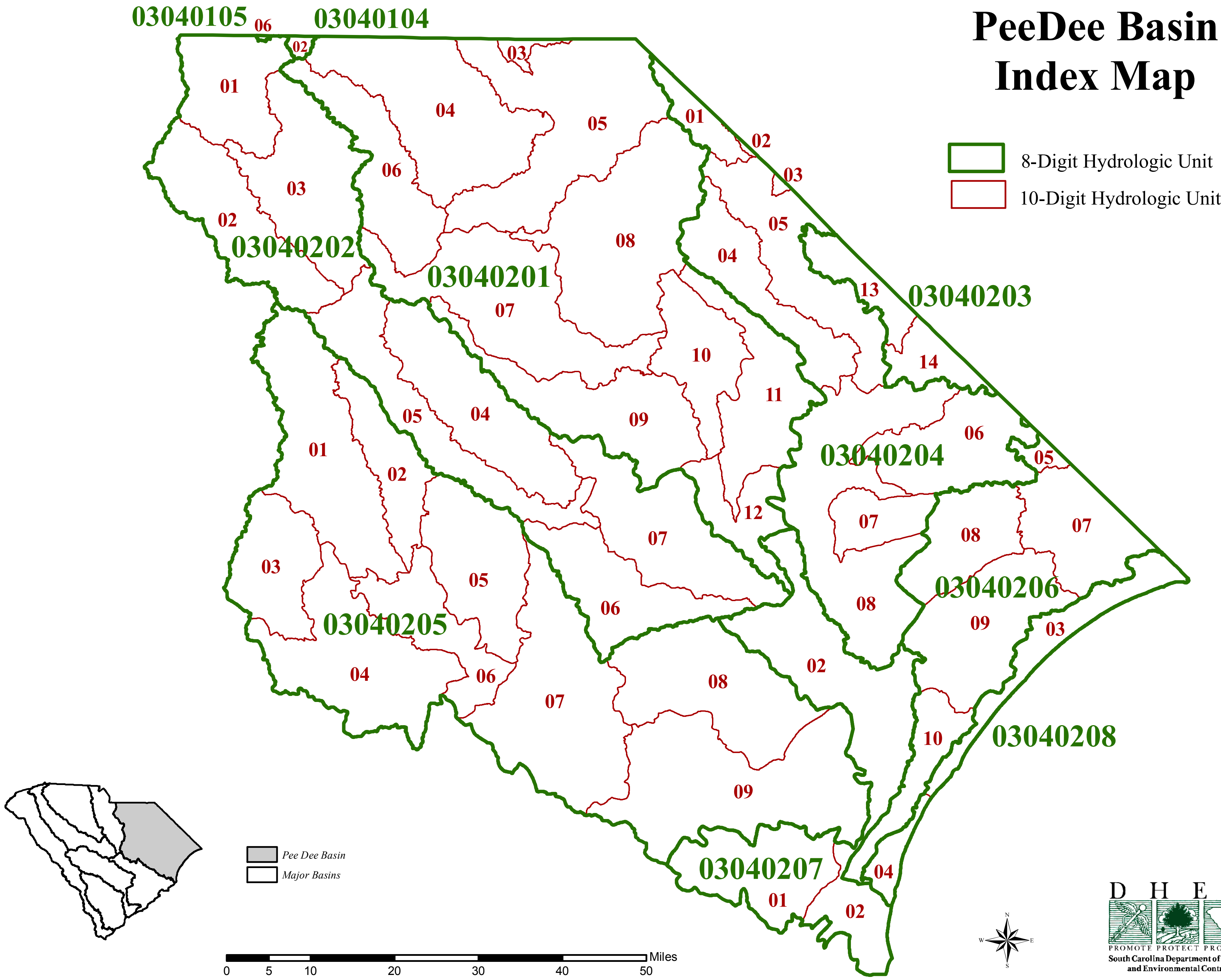
Contributing photographers to the front cover include:
SCDHEC– Little Pee Dee River
Christine Ellis, Waccamaw Riverkeeper – Waccamaw River
Tabby Shelton, Coastal Carolina University – Little River Inlet

This document should be cited as:

South Carolina Department of Health and Environmental Control. 2007. Watershed Water Quality Assessment: Pee Dee River Basin. Technical Report No.005-07. Bureau of Water, Columbia, S.C.

PeeDee Basin Index Map



Water Quality Assessment Summary

Pee Dee 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 acute aquatic life standard for any individual toxicant is not exceeded more than once, uses are ***fully supported***.

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

If the acute aquatic life standard is exceeded more than once (i.e.≥ 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 Pee Dee River Basin

***** = Station not evaluated for Recreational Support

Watershed	Waterbody Name	Station #	Improving Trends	Other Trends
03040202-01	Hills Creek	PD-366		
03040202-02	Little Lynches River	PD-109	Increasing Dissolved Oxygen; Decreasing Fecal Coliform	Increasing Turbidity, Total Nitrogen
		PD-343	Decreasing Total Phosphorus, Fecal Coliform	Increasing Total Nitrogen
	Haile Gold Mine Creek	PD-334	Decreasing BOD_5, Total Phosphorus	Increasing pH
	Cow Branch	PD-704*		
	Beaver Dam Creek	PD-678*		
03040202-03	Lynches River	PD-001	Decreasing Turbidity	Increasing Total Nitrogen; Decreasing pH
		PD-009	Increasing Dissolved Oxygen; Decreasing Total Phosphorus	Increasing BOD_5
03040202-04	Sparrow Swamp	PD-332	Decreasing BOD_5, Total Nitrogen	
	Lake Swamp	PD-345	Decreasing BOD_5	
03040202-05	Lynches River	PD-080	Increasing Dissolved Oxygen; Decreasing Total Phosphorus	
		PD-071	Decreasing BOD_5, Total Phosphorus, Total Nitrogen, Fecal Coliform	
03040202-06	Camp Branch	PD-346	Increasing Dissolved Oxygen	
	Lake Swamp	PD-085	Decreasing Turbidity, Fecal Coliform	
		PD-087		
	Singleton Swamp	PD-314	Decreasing BOD_5	
03040202-07	Lynches River	PD-041	Decreasing BOD_5, Total Phosphorus, Total Nitrogen	
	Big Swamp	PD-168	Decreasing Fecal Coliform	

Table 1. Fully Supported Sites in the Pee Dee River Basin

***** = Station not evaluated for Recreational Support

Watershed	Waterbody Name	Station #	Improving Trends	Other Trends
03040202-07 (continued)	Big Swamp Tributary	PD-631*		
03040205-01	Scape Ore Swamp	PD-201	Increasing Dissolved Oxygen; Decreasing BOD_5, Total Nitrogen	
	Rocky Bluff Swamp	PD-357	Decreasing Fecal Coliform	
03040205-02	Black River	PD-353	Decreasing Total Phosphorus, Fecal Coliform	
03040205-04	Pocotaligo River	PD-202	Increasing Dissolved Oxygen	Increasing Total Nitrogen, Total Suspended Solids, pH
		PD-115		Increasing Turbidity, Fecal Coliform, pH
		PD-043	Decreasing Turbidity	Increasing Total Nitrogen, Fecal Coliform, pH
03040205-05	Pudding Swamp	PD-157*		
		PD-203	Decreasing BOD_5, Total Phosphorus	
	Douglas Swamp	RS-01002		
		PD-695*		
03040205-06	Tearcoat Branch	RS-02477		
	Black River	PD-227	Decreasing BOD_5	Increasing Total Phosphorus
03040205-07	Clapp Swamp	PD-696*		
	Black River	PD-044	Decreasing BOD_5	
		PD-045	Decreasing BOD_5	
	Kingstree Swamp Canal	PD-358	Decreasing BOD_5, Turbidity	
	Dickie Swamp	PD-206*		
	Boggy Swamp	PD-697*		
	Ox Swamp	PD-629*		

Table 1. Fully Supported Sites in the Pee Dee River Basin

***** = Station not evaluated for Recreational Support

Watershed	Waterbody Name	Station #	Improving Trends	Other Trends
03040205-08	Paisley Swamp	PD-703*		
	Black Mingo Creek	PD-360	Decreasing BOD_5	
		PD-361	Decreasing BOD_5	Increasing Fecal Coliform
03040205-09	Black River	PD-359	Decreasing BOD_5	
	Burch Creek	PD-698*		
	Johnson Swamp	PD-694*		
03040201-04	Thompson Creek	PD-338		Increasing $BOD_{5,}$ Total Nitrogren
	Deep Creek	PD-671*		
	Juniper Lake	CL-088		
03040201-05	Whites Creek	PD-191	Decreasing Fecal Coliform	
	Great Pee Dee River	PD-012	Decreasing Turbidity, Total Phosphorus, Fecal Coliform	Increasing $BOD_{5,}$ pH
	Lake Wallace	RL-02324		
		CL-086		
	Crooked Creek	PD-107	Decreasing $BOD_{5,}$, Total Phosphorus; Increasing Dissolved Oxygen	
		PD-014	Decreasing $BOD_{5,}$, Turbidity	
		PD-063	Decreasing Fecal Coliform	
03040201-06	Black Creek	PD-674*		
		RS-03355		

Table 1. Fully Supported Sites in the Pee Dee River Basin

***** = Station not evaluated for Recreational Support

Watershed	Waterbody Name	Station #	Improving Trends	Other Trends
03040201-06 (continued)	Black Creek	PD-004	Decreasing Total Phosphorus; Increasing Dissolved Oxygen	Increasing BOD_5, pH
		PD-251	Decreasing Fecal Coliform	
	Little Black Creek	PD-676*		
	Skipper Creek	PD-613*		
	Lake Robinson	PD-327	Decreasing BOD_5, Total Phosphorus	Increasing pH
		CL-094		
03040201-07	Black Creek	PD-159	Decreasing BOD_5	Decreasing Dissolved Oxygen; Increasing Turbidity
		PD-330	Decreasing BOD_5, Turbidity, Fecal Coliform	Increasing pH
		PD-023	Decreasing BOD_5, Turbidity, Total Phosphorus, Total Nitrogen, Fecal Coliform	Increasing pH
		PD-024A		Decreasing Dissolved Oxygen, pH
		RS-03491		
		PD-027	Decreasing BOD_5, Total Phosphorus, Total Nitrogen	Increasing pH
		PD-078	Decreasing BOD_5, Turbidity	
	Lake Prestwood	PD-268	Increasing Dissolved Oxygen	
		PD-081	Decreasing BOD_5, Fecal Coliform	
	Snake Branch	PD-137	Increasing Dissolved Oxygen; Decreasing BOD_5	
	Little Boggy Swamp Trib	RS-02311		
	High Hill Creek	PD-103		

Table 1. Fully Supported Sites in the Pee Dee River Basin

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Watershed	Waterbody Name	Station #	Improving Trends	Other Trends
03040201-08	Great Pee Dee River	RS-02471		
		PD-028	Decreasing BOD_5, Turbidity, Total Nitrogen	Decreasing Dissolved Oxygen
	Hagins Prong	PD-336	Decreasing BOD_5, Turbidity, Fecal Coliform; Increasing Dissolved Oxygen	
	Three Creeks	PD-367		
03040201-09	Jeffries Creek	PD-255	Decreasing BOD_5, Turbidity, Total Phosphorus, Fecal Coliform	
		PD-035	Decreasing BOD_5, , Fecal Coliform	
		PD-231	Decreasing BOD_5, Turbidity, Total Phosphorus, Total Nitrogen, Fecal Coliform; Increasing Dissolved Oxygen	
	Polk Creek	RS-01003		
03040201-10	Great Pee Dee River	PD-337	Decreasing BOD_5, Turbidity, Total Nitrogen, Fecal Coliform	Decreasing Dissolved Oxygen
03040201-12	Great Pee Dee River	PD-076	Decreasing BOD_5, Turbidity, Total Nitrogen	Decreasing Dissolved Oxygen, Increasing pH
03040203-13	Ashpole Swamp	PD-347		
03040203-14	Lumber River	PD-038	Decreasing BOD_5, Total Nitrogen, Fecal Colilform	Decreasing Dissolved Oxygen; Increasing Total Phosphorus, pH
03040204-01	Panther Creek	PD-306	Decreasing BOD_5, Turbidity; Increasing Dissolved Oxygen	
		PD-016	Decreasing BOD_5; Increasing Dissolved Oxygen	
	McLaurins Mill Pond	PD-017A	Decreasing BOD_5, Fecal Colilform; Increasing Dissolved Oxygen	Increasing pH

Table 1. Fully Supported Sites in the Pee Dee River Basin

***** = Station not evaluated for Recreational Support

Watershed	Waterbody Name	Station #	Improving Trends	Other Trends
03040204-01 (continued)	Gum Swamp	PD-062		
03040204-04	Buck Swamp	PD-349		Increasing Fecal Coliform
03040204-05	Little Pee Dee River	PD-069	Decreasing BOD_5, Total Phosphorus, Total Nitrogen	
		PD-055	Decreasing BOD_5, Turbidity, Total Phosphorus, Fecal Coliform	
03040204-06	Lake Swamp	PD-176/ RS-04545		
03040204-07	Chinners Swamp	PD-177	Decreasing BOD_5, Fecal Coliform	
03040204-08	Cedar Creek	PD-351	Decreasing Turbidity	
	Dawsey Swamp	PD-701*		
	Little Pee Dee River	PD-189	Decreasing BOD_5, Total Phosphorus, Total Nitrogen	
		PD-350	Decreasing BOD_5, Total Nitrogen	
	Reedy Creek	RS-01042		
	Palmetto Swamp	PD-702*		
03040207-01	Sampit River	MD-074	Decreasing BOD_5	
03040207-02	Great Pee Dee River	PD-061	Decreasing BOD_5, Fecal Coliform	
	Winyah Bay	MD-080	Decreasing Total Nitrogen, Fecal Coliform	Increasing pH
		RO-02012		
		RO-01121		

Table 1. Fully Supported Sites in the Pee Dee River Basin

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Watershed	Waterbody Name	Station #	Improving Trends	Other Trends
03040207-02 (continued)	Winyah Bay	RO-01161		
		RO-02010		
	Winyah Bay Tributary	RS-03331		
03040206-07	Buck Creek	PD-362	Decreasing BOD_5	Increasing Fecal Coliform, pH
03040206-08	Kingston Lake Swamp	PD-699*		
	Whiteoak Swamp	PD-700*		
	Kingston Lake	MD-107	Decreasing Turbidity, Total Phosphorus	Increasing Fecal Coliform
03040206-09	Waccamaw River	RS-02481		
		MD-110		
	AIWW	MD-088	Decreasing Fecal Coliform	Increasing Turbidity
		MD-089		
		MD-127	Decreasing BOD_5, Total Nitrogen	Increasing Turbidity, Fecal Coliform, pH
03040208-03	Little River	MD-162	Decreasing Fecal Coliform	Increasing pH
	AIWW	MD-091		
		MD-085	Increasing Dissolved Oxygen	Increasing Turbidity, pH
		MD-087	Decreasing Total Nitrogen	Increasing Turbidity
	Allston Creek	RT-01655		
03040208-04	Cooks Creek	RT-01645		

Table 2. Impaired Sites in the Pee Dee River Basin

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 underway

Watershed	Waterbody Name	Station #	Use	Status	Water Quality Indicator	Improving Trends	Other Trends
03040202-01	Hills Creek	PD-333[TD]	AL	PS	Macroinvertebrates		Increasing BOD_5
			REC	NS	Fecal Coliform		
	Lynches River	PD-113 [TD]	AL	NS	Copper		Decreasing Dissolved Oxygen, pH; Increasing BOD_5
			REC	PS	Fecal Coliform		
	North Branch Wildcat Creek	PD-679*	AL	PS	Macroinvertebrates		
		PD-179 [TD]	REC	NS	Fecal Coliform		Decreasing Dissolved Oxygen, pH; Increasing BOD_5, Turbidity
	South Branch Wildcat Creek	PD-180/ [TD] RS-01058	AL	PS	Macroinvertebrates		Decreasing Dissolved Oxygen, pH; Increasing BOD_5
			REC	PS	Fecal Coliform		
	Flat Creek	PD-182*	AL	PS	Macroinvertebrates		
		PD-342 [TD]	AL	NS	Copper		Increasing Total Nitrogen
			REC	PS	Fecal Coliform		
03040202-02	Little Lynches River	PD-640*	AL	PS	Macroinvertebrates	Decreasing Total Phosphorus	Increasing BOD_5
		PD-006	AL	NS	Copper		
			REC	NS	Fecal Coliform		
		PD-632*	AL	PS	Macroinvertebrates		
	Little Lynches River	PD-344	AL	NS	pH	Increasing Dissolved Oxygen	Increasing Total Nitrogen; Decreasing pH

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Watershed	Waterbody Name	Station #	Use	Status	Water Quality Indicator	Improving Trends	Other Trends
03040202-02 (continued)	Horton Creek	PD-335	REC	PS	Fecal Coliform		Increasing BOD_5
	Todds Branch	PD-005	REC	NS	Fecal Coliform		Increasing BOD_5, Turbidity
	Lick Creek	PD-329 [TD]	REC	PS	Fecal Coliform	Decreasing Fecal Coliform	
	Hanging Rock Creek	PD-328 [TD]	REC	PS	Fecal Coliform		Increasing BOD_5
		PD-669*	AL	PS	Macroinvertebrates		
03040202-03	Lynches River	PD-066 [TD]	REC	PS	Fecal Coliform		Decreasing Dissolved Oxygen, pH; Increasing Fecal Coliform
	Little Fork Creek	PD-647*	AL	PS	Macroinvertebrates		
		PD-215	AL	NS	Copper		Increasing Total Phosphorus, Fecal Coliform
			REC	PS	Fecal Coliform		
	Fork Creek	PD-067 [TI]	REC	NS	Fecal Coliform		Decreasing Dissolved Oxygen; Increasing BOD_5, Fecal Coliform
		PD-068 [TI]	REC	NS	Fecal Coliform	Decreasing Turbidity, Total Phosphorus, Total Nitrogen	Increasing BOD_5; Deccreasing pH
03040202-04	Newman Swamp	PD-229	REC	PS	Fecal Coliform	Decreasing BOD_5, Fecal Coliform	
	Sparrow Swamp	PD-072	REC	PS	Fecal Coliform	Increasing Dissolved Oxygen; Decreasing BOD_5, Total Phosphorus	

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Watershed	Waterbody Name	Station #	Use	Status	Water Quality Indicator	Improving Trends	Other Trends
03040202-05	Lynches River	PD-364	AL	NS	pH	Decreasing BOD_5, Total Phosphorus, Total Nitrogen, Turbidity	Decreasing pH
		PD-319	AL	PS	pH	Decreasing BOD_5, Total Phosphorus, Total Nitrogen; Increasing Dissolved Oxygen	Decreasing pH
		PD-093	AL	PS	pH	Decreasing BOD_5, Total Phosphorus, Total Nitrogen, Turbidity; Increasing Dissolved Oxygen	Decreasing pH
	Cousar Branch	PD-112	AL	NS	pH	Decreasing BOD_5, Total Phosphorus, Fecal Coliform	Decreasing pH
03040202-06	Lake Swamp	PD-086A RS-02318	AL	NS	Dissolved Oxygen		Increasing BOD_5; Deccreasing pH
03040202-07	Lynches River	PD-281	AL	NS	Copper	Decreasing BOD_5, Total Phosphorus, Total Nitrogen, Turbidity	
	Big Swamp	PD-169 [TI]	REC	PS	Fecal Coliform	Decreasing Total Nitrogen; Increasing Dissolved Oxygen	Increasing Turbidity; Decreasing pH
03040205-01	Scape Ore Swamp	PD-355 [TI]	REC	PS	Fecal Coliform	Decreasing BOD_5, Total Phosphorus, Turbidity	Increasing Total Nitrogen
	McGrits Creek	RS-01017	AL	NS	Turbidity		

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Watershed	Waterbody Name	Station #	Use	Status	Water Quality Indicator	Improving Trends	Other Trends
03040205-01 (continued)			REC	NS	Fecal Coliform		
	Lake Ashwood	CL-077	AL	NS	Total Nitrogen, Chlorophyll-*a*		
	Mechanicsville Swamp	PD-356	AL	NS	Dissolved Oxygen	Decreasing Total Phosphorus	Decreasing Dissolved Oxygen; Increasing Total Nitrogen
03040205-02	Canal to Atkins Drainage Canal	PD-354	AL	NS	Dissolved Oxygen		Decreasing Dissolved Oxygen
03040205-03	Brunson Swamp	RS-03345	AL	PS	Macroinvertebrates		
			REC	NS	Fecal Coliform		
	Nasty Branch	PD-239 TD	AL	NS	Dissolved Oxygen	Decreasing Turbidity	Decreasing Dissolved Oxygen
			REC	PS	Fecal Coliform		
	Green Swamp	PD-039	AL	NS	Dissolved Oxygen	Decreasing Fecal Coliform	Decreasing Dissolved Oxygen
03040205-04	Pocotaligo River	PD-091	AL	NS	Dissolved Oxygen	Decreasing BOD_5, Fecal Coliform	Decreasing Dissolved Oxygen, pH
	Turkey Creek	PD-098 TD	REC	NS	Fecal Coliform	Decreasing Turbidity, Fecal Coliform	
		PD-040 TD	REC	PS	Fecal Coliform		
	Big Branch	PD-627*	AL	PS	Macroinvertebrates		
	Deep Creek	PD-693 RS-03347	AL	NS	Macroinvertebrates		
			REC	NS	Fecal Coliform		

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Watershed	Waterbody Name	Station #	Use	Status	Water Quality Indicator	Improving Trends	Other Trends
03040205-06	Black River	PD-116	AL	PS	Dissolved Oxygen	Decreasing Total Phosphorus	Decreasing Dissolved Oxygen, pH
03040205-07	Clapp Swamp	RS-02325	AL	NS	Dissolved Oxygen		
03040205-09	Black River	PD-170	AL	NS	Dissolved Oxygen, Copper	Decreasing BOD_5, Total Nitrogen	Decreasing Dissolved Oxygen; Increasing Total Phosphorus, pH
		PD-325	AL	PS	Dissolved Oxygen	Decreasing BOD_5, Total Nitrogen	Decreasing Dissolved Oxygen; Increasing pH
	Greens Creek	RS-03353	REC	PS	Fecal Coliform		
03040201-04	Clay Creek	RS-02305	AL	NS	Dissolved Oxygen		
	Thompson Creek	PD-673*	AL	PS	Macroinvertebrates		
		PD-246 [TI]	REC	NS	Fecal Coliform		Increasing BOD_5
		PD-247 [TI]	REC	NS	Fecal Coliform		Increasing BOD_5
	Deep Creek	RS-01013	AL	NS	Turbidity		
			REC	PS	Fecal Coliform		
	North Prong Creek	PD-677*	AL	PS	Macroinvertebrates		
	Eureka Lake	RL-03346	AL	NS	pH		
	Juniper Creek	PD-340	AL	NS	pH	Decreasing BOD_5, Total Phosphorus, Fecal Coliform	Increasing Total Nitrogen; Decreasing pH

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Watershed	Waterbody Name	Station #	Use	Status	Water Quality Indicator	Improving Trends	Other Trends
03040201-05	Westfield Creek	PD-339	AL	PS	Macroinvertebrates Dissolved Oxygen, pH	Decreasing Turbidity, Fecal Coliform	Decreasing Dissolved Oxygen, pH; Increasing Total Nitrogen
	Great Pee Dee River	PD-015	REC	PS	Fecal Coliform		Decreasing Dissolved Oxygen; Increasing pH
	Cedar Creek	PD-151	AL	NS	pH	Decreasing BOD_5, Total Phosphorus, Fecal Coliform	Increasing Total Nitrogen; Decreasing pH
03040201-06	Lake Robinson	RL-03342	AL	NS	pH		
03040201-07	Black Creek	PD-021	REC	PS	Fecal Coliform	Decreasing BOD_5, Total Nitrogen, Fecal Coliform	
		RS-01043	AL	NS	Copper		
		PD-025	REC	PS	Fecal Coliform	Decreasing BOD_5, Total Phosphorus, Total Nitrogen	Decreasing Dissolved Oxygen; Increasing Turbidity, pH
	Snake Branch	PD-258	AL	NS	pH	Decreasing BOD_5, Total Phosphorus, Fecal Coliform	Increasing pH
			REC	NS	Fecal Coliform		
	Boggy Swamp	RS-03507	REC	PS	Fecal Coliform		
	Tilefield to Swift Creek	PD-141	REC	NS	Fecal Coliform	Decreasing Total Phosphorus	Decreasing pH
	Swift C reek Trib	RS-01023	AL	NS	Copper		
			REC	PS	Fecal Coliform		

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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 underway

Watershed	Waterbody Name	Station #	Use	Status	Water Quality Indicator	Improving Trends	Other Trends
03040201-08	Three Creeks	PD-341	AL	NS	pH	Decreasing BOD_5, Total Phosphorus	Decreasing pH
03040201-09	Jeffries Creeks	PD-256	REC	NS	Fecal Coliform	Decreasing BOD_5	Increasing Fecal Coliform
	Gulley Branch	PD-065 [TD]	AL	PS	pH	Decreasing BOD_5, Total Nitrogen, Turbidity, Fecal Coliform	Decreasing pH
			REC	NS	Fecal Coliform		
	Middle Swamp	PD-230	AL	NS	Dissolved Oxygen		Decreasing Dissolved Oxygen
			REC	PS	Fecal Coliform		
	Willow Creek	PD-167	REC	PS	Fecal Coliform		
03040201-11	Smith Swamp	PD-320 [TD]	REC	NS	Fecal Coliform	Decreasing BOD_5, Total Phosphorus, Turbidity, Fecal Coliform	
		PD-187 [TD]	REC	PS	Fecal Coliform	Decreasing BOD_5, Total Nitrogen, Turbidity, Fecal Coliform	Decreasing pH
	Catfish Creek	PD-097	AL	NS	Dissolved Oxygen	Decreasing Turbidity, Total Nitrogen	Decreasing Dissolved Oxygen
03040203-13	Bear Swamp	PD-368	AL	NS	Dissolved Oxygen		Decreasing pH
03040204-01	Little Pee Dee River	PD-365	AL	NS	pH	Decreasing BOD_5, Total Phosphorus	Decreasing pH
03040204-04	Buck Swamp	PD-031	REC	PS	Fecal Coliform		

Table 2. Impaired Sites in the Pee Dee River Basin

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 underway

Watershed	Waterbody Name	Station #	Use	Status	Water Quality Indicator	Improving Trends	Other Trends
03040204-05	Little Pee Dee River	PD-029E TI	REC	PS	Fecal Coliform	Decreasing BOD_5, Total Phosphorus	
		PD-030A TD	AL	NS	Dissolved Oxygen	Decreasing BOD_5, Total Phosphorus	Decreasing Dissolved Oxygen
			REC	PS	Fecal Coliform		
		PD-348/ RS-01018	AL	NS	pH	Decreasing BOD_5	Decreasing Dissolved Oxygen, pH
		PD-052	AL	PS	Copper	Decreasing BOD_5, Total Phosphorus, Turbidity, Total Nitrogen, Fecal Coliform	
	Maple Swamp	PD-030 TD	REC	PS	Fecal Coliform	Decreasing BOD_5, Total Phosphorus; Increasing Dissolved Oxygen	
03040204-06	Loosing Swamp	RS-03513	AL	NS	Dissolved Oxygen		
03040204-07	Chinners Swamp	PD-352 TD	REC	PS	Fecal Coliform	Decreasing Total Phosphorus	Decreasing pH
03040204-08	White Oak Creek	PD-037 TD	AL	PS	Dissolved Oxygen	Decreasing Fecal Coliform	Decreasing Dissolved Oxygen, pH; Increasing BOD_5
			REC	PS	Fecal Coliform		
	Little Pee Dee River	PD-042	AL	NS	Dissolved Oxygen, pH	Decreasing BOD_5, Total Phosphorus	Decreasing Dissolved Oxygen, pH; Increasing Turbidity

Table 2. Impaired Sites in the Pee Dee River Basin

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 underway

Watershed	Waterbody Name	Station #	Use	Status	Water Quality Indicator	Improving Trends	Other Trends
03040207-01	Sampit River	MD-075	AL	NS	Dissolved Oxygen	Decreasing BOD_5	Decreasing Dissolved Oxygen
		MD-077	AL	PS	Dissolved Oxygen	Decreasing BOD_5, Total Nitrogen	Decreasing Dissolved Oxygen
		MD-073	AL	PS	Dissolved Oxygen	Decreasing BOD_5, Total Nitrogen	Decreasing Dissolved Oxygen
	Turkey Creek	MD-076N	AL	NS	pH	Decreasing Fecal Coliform	Increasing BOD_5; Decreasing pH
	Whites Creek	MD-149	AL	NS	Dissolved Oxygen, Copper	Decreasing BOD_5	Decreasing Dissolved Oxygen; Increasing Turbidity
03040207-02	Great Pee Dee River	PD-060	AL	NS	Copper	Decreasing BOD_5; Increasing Dissolved Oxygen	
		MD-275	AL	NS	Dissolved Oxygen		Decreasing Dissolved Oxygen
	Winyah Bay	MD-278	AL	PS	Dissolved Oxygen		Decreasing Dissolved Oxygen; Increasing Fecal Coliform
03040206-07	Waccamaw River	MD-124	AL	NS	Copper	Decreasing BOD_5	Increasing Turbidity, pH
	Simpson Creek	PD-363	AL	NS	Zinc	Decreasing BOD_5	
03040206-08	Crab Tree Swamp	MD-158	REC	PS	Fecal Coliform	Decreasing Total Phosphorus; Increasing Dissolved Oxygen	

Table 2. Impaired Sites in the Pee Dee River Basin

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 underway

Watershed	Waterbody Name	Station #	Use	Status	Water Quality Indicator	Improving Trends	Other Trends
03040206-09	Waccamaw River	PD-369	AL	PS	Dissolved Oxygen		Decreasing Dissolved Oxygen
		MD-111 TD	AL	NS	Dissolved Oxygen	Decreasing BOD_5, Total Phosphorus	Decreasing Dissolved Oxygen
		MD-145	AL	PS	Dissolved Oxygen	Decreasing Turbidity	Decreasing Dissolved Oxygen, pH
		MD-136 TD	AL	NS	Dissolved Oxygen	Decreasing BOD_5	Decreasing Dissolved Oxygen
	AIWW Tributary	RS-03332	REC	PS	Fecal Coliform		
03040206-10	Waccamaw River	MD-146 TD	AL	NS	Dissolved Oxygen	Decreasing BOD_5, Total Phosphorus	Decreasing Dissolved Oxygen
		MD-137 TD	AL	NS	Dissolved Oxygen	Decreasing Total Phosphorus	Decreasing Dissolved Oxygen; Increasing pH
		MD-138	AL	PS	Dissolved Oxygen	Decreasing BOD_5, Total Nitrogen	Decreasing Dissolved Oxygen; Increasing pH
		MD-142	AL	PS	Dissolved Oxygen	Decreasing Fecal Coliform	Decreasing Dissolved Oxygen
03040208-03	AIWW	MD-125 TD	AL	NS	Copper	Decreasing BOD_5	Increasing pH
	House Creek	MD-276	AL	NS	Copper, Dissolved Oxygen		Decreasing Dissolved Oxygen, pH
	Parsonnage Creek	MD-277	AL	PS	Dissolved Oxygen		Decreasing Dissolved Oxygen

Table 3. Changes in Use Support Status

Pee Dee River Basin Sites that Improved from 1999 to 2003

REC= Recreational; AL=Aquatic Life; FS=Fully Supported Standards; PS=Partially Supported Standards; NS=Nonsupported Standards

Watershed	Waterbody Name	Station #	Use	Status		Water Quality Indicator	
				1999	2003	1999	2003
03040202-02	Lynches River	PD-066	AL	NS	FS	Copper	
		PD-009	REC	PS	FS	Fecal Coliform	
	Horton Creek	PD-335	REC	NS	PS	Fecal Coliform	Fecal Coliform
	Little Lynches River	PD-343	REC	PS	FS	Fecal Coliform	
	Haile Gold Mine Creek	PD-334	AL	NS	FS	pH	
	Lick Creek	PD-329	REC	NS	PS	Fecal Coliform	Fecal Coliform
03040202-03	Fork Creek	PD-068	AL	NS	FS	Copper	
03040202-04	Newman Swamp	PD-229	AL	NS	FS	Dissolved Oxygen	
03040202-05	Lynches River	PD-080	AL	NS	FS	Zinc	
		PD-319	AL	NS	PS	Copper	pH
		PD-093	AL	NS	PS	Copper	pH
03040202-06	Camp Branch	PD-346	AL	NS	FS	Dissolved Oxygen	
	Lake Swamp	PD-086A	REC	PS	FS	Fecal Coliform	
	Singleton Swamp	PD-314	REC	PS	FS	Fecal Coliform	
03040202-07	Big Swamp	PD-168	AL	NS	FS	Dissolved Oxygen	
		PD-169	AL	NS	FS	Dissolved Oxygen	
03040205-01	Mechanicsville Swamp	PD-356	REC	PS	FS	Fecal Coliform	
03040205-02	Black River	PD-353	REC	PS	FS	Fecal Coliform	
03040205-04	Turkey Creek	PD-040	REC	NS	PS	Fecal Coliform	Fecal Coliform
	Pocotaligo River	PD-202	AL	NS	FS	Dissolved Oxygen	
		PD-115	AL	NS	FS	Dissolved Oxygen	
03040205-05	Pudding Swamp	PD-203	REC	PS	FS	Fecal Coliform	
03040205-07	Black River	PD-044	REC	PS	FS	Fecal Coliform	
03040205-08	Black Mingo Creek	PD-360	AL	NS	FS	Dissolved Oxygen	
03040201-04	Thompson Creek	PD-247	AL	PS	FS	Dissolved Oxygen	
		PD-338	REC	PS	FS	Fecal Coliform	

Pee Dee River Basin Sites that Improved from 1999 to 2003

REC= Recreational; AL=Aquatic Life; FS=Fully Supported Standards; PS=Partially Supported Standards; NS=Nonsupported Standards

Watershed	Waterbody Name	Station #	Use	Status		Water Quality Indicator	
				1999	2003	1999	2003
03040201-04 (continued)	Deep Creek	PD-671	AL	PS	FS	Macroinvertebrate	
03040201-05	Westfield Creek	PD-339	REC	PS	FS	Fecal Coliform	
	Great Pee Dee River	PD-012	REC	PS	FS	Fecal Coliform	
	Crooked Creek	PD-107	REC	PS	FS	Fecal Coliform	
03040201-07	Black Creek	PD-021	AL	NS	FS	Copper	
		PD-330	REC	PS	FS	Fecal Coliform	
		PD-023	REC	PS	FS	Fecal Coliform	
		PD-027	AL	NS	FS	Copper	
	Tilefield to Swift Creek	PD-141	AL	NS	FS	Dissolved Oxygen	
	High Hill Creek	PD-103	REC	PS	FS	Fecal Coliform	
03040201-08	Great Pee Dee River	PD-028	AL	NS	FS	Copper	
03040201-09	Gulley Branch	PD-065	AL	NS	PS	Copper, Zinc	pH
03040201-10	Great Pee Dee River	PD-337	AL	NS	FS	Chromium	
03040201-11	Smith Swamp	PD-187	AL	NS	FS	Copper	
	Catfish Creek	PD-097	REC	PS	FS	Fecal Coliform	
03040201-12	Great Pee Dee River	PD-076	AL	NS	FS	Copper	
03040204-05	Maple Swamp	PD-030	AL	NS	FS	Dissolved Oxygen	
03040204-08	White Oak Creek	PD-037	REC	NS	PS	Fecal Coliform	Fecal Coliform
	Cedar Creek	PD-351	REC	PS	FS	Fecal Coliform	
03040207-01	Turkey Creek	MD-076N	REC	PS	FS	Fecal Coliform	
03040207-02	Great Pee Dee River	PD-061	AL	NS	FS	Zinc	
03040206-08	Crab Tree Swamp	PD-158	REC	NS	PS	Fecal Coliform	Fecal Coliform
	Kingston Lake	MD-107	REC	NS	FS	Fecal Coliform	
03040206-09	Waccamaw River	MD-111	REC	PS	FS	Fecal Coliform	
	AIWW	MD-088	AL	NS	FS	Dissolved Oxygen	
			REC	NS	FS	Fecal Coliform	

Pee Dee River Basin Sites that Improved from 1999 to 2003

REC= Recreational; AL=Aquatic Life; FS=Fully Supported Standards; PS=Partially Supported Standards; NS=Nonsupported Standards

Watershed	Waterbody Name	Station #	Use	Status		Water Quality Indicator	
				1999	2003	1999	2003
03040206-09 (continued)	AIWW (continued)	MD-089	AL	NS	FS	Dissolved Oxygen	
			REC	PS	FS	Fecal Coliform	
		MD-127	AL	NS	FS	Dissolved Oxygen	
03040208-03	Little River	MD-162	AL	NS	FS	Copper	
	AIWW	MD-091	AL	NS	FS	Dissolved Oxygen	
			REC	NS	FS	Fecal Coliform	
		MD-085	AL	NS	FS	Dissolved Oxygen	
			REC	NS	FS	Fecal Coliform	
		MD-087	AL	NS	FS	Dissolved Oxygen Copper	
			REC	NS	FS	Fecal Coliform	

Table 4. Changes in Use Support Status

Pee Dee River Basin Sites that Degraded from 1999 to 2003

REC= Recreational; AL=Aquatic Life; FS=Fully Supported Standards; PS=Partially Supported Standards; NS=Nonsupported Standards

Watershed	Waterbody Name	Station #	Use	Status		Water Quality Indicator	
				1999	2003	1999	2003
03040202-01	Hills Creek	PD-333	AL	FS	PS		Macroinvertebrates
	Lynches River	PD-113	AL	FS	NS		Copper
			REC	FS	PS		Fecal Coliform
	South Branch Wildcat Creek	PD-180/ RS-01058	AL	FS	PS		Macroinvertebrates
	Flat Creek	PD-342	AL	FS	NS		Copper
03040202-02	Little Lynches River	PD-006	AL	FS	NS		Copper
			REC	PS	NS	Fecal Coliform	Fecal Coliform
		PD-632	AL	FS	PS		Macroinvertebrates
		PD-344	REC	PS	NS	Fecal Coliform	Fecal Coliform
03040202-03	Little Fork Creek	PD-647	AL	FS	PS		Macroinvertebrates
		PD-215	REC	FS	PS		Fecal Coliform
03040202-04	Newman Swamp	PD-229	REC	FS	PS		Fecal Coliform
	Sparrow Swamp	PD-072	REC	FS	PS		Fecal Coliform
03040202-05	Lynches River	PD-364	AL	FS	NS		pH
	Cousar Branch	PD-112	AL	PS	NS	pH	pH
03040202-07	Lynches River	PD-281	AL	FS	NS		Copper
03040205-01	Mechanicsville Swamp	PD-356	AL	FS	NS		Dissolved Oxygen
03040205-02	Canal to Atkins Drainage Canal	PD-354	AL	FS	NS		Dissolved Oxygen
03040205-09	Black River	PD-325	AL	FS	PS		Dissolved Oxygen
03040201-04	North Prong Creek	PD-677	AL	FS	PS		Macroinvertebrates
	Juniper Creek	PD-340	AL	FS	NS		pH
03040201-05	Westfield Creek	PD-339	AL	FS	PS		Macroinvertebrates Dissolved Oxygen, pH
	Great Pee Dee River	PD-015	REC	FS	PS		Fecal Coliform
	Cedar Creek	PD-151	AL	FS	NS		PH

Pee Dee River Basin Sites that Degraded from 1999 to 2003

REC= Recreational; AL=Aquatic Life; FS=Fully Supported Standards; PS=Partially Supported Standards; NS=Nonsupported Standards

Watershed	Waterbody Name	Station #	Use	Status 1999	Status 2003	Water Quality Indicator 1999	Water Quality Indicator 2003
03040201-07	Black Creek	PD-025	REC	FS	PS		Fecal Coliform
	Snake Branch	PD-258	AL	FS	NS		pH
03040201-08	Three Creeks	PD-341	AL	FS	NS		pH
03040201-09	Jeffries Creek	PD-256	REC	FS	NS		Fecal Coliform
	Middle Swamp	PD-230	AL	FS	NS		Dissolved Oxygen
	Willow Creek	PD-167	REC	FS	PS		Fecal Coliform
03040201-11	Smith Swamp	PD-320	REC	PS	NS	Fecal Coliform	Fecal Coliform
	Catfish Creek	PD-097	AL	FS	NS		Dissolved Oxygen
03040204-01	Little Pee Dee River	PD-365	AL	FS	NS		pH
03040204-03	Little Pee Dee River	PD-029E	REC	FS	PS		Fecal Coliform
		PD-030A	AL	FS	NS		Dissolved Oxygen
			REC	FS	PS		Fecal Coliform
		PD-348	AL	FS	NS		pH
03040204-04	Buck Swamp	PD-031	REC	FS	PS		Fecal Coliform
03040204-05	Little Pee Dee River	PD-052	AL	FS	PS		Copper
03040207-01	Sampit River	MD-075	AL	PS	NS	Dissolved Oxygen	Dissolved Oxygen
		MD-077	AL	FS	PS		Dissolved Oxygen
		MD-073	AL	FS	PS		Dissolved Oxygen
	Turkey Creek	MD-076N	AL	FS	NS		pH
03040207-02	Great Pee Dee River	PD-060	AL	FS	NS		Copper
03040206-07	Simpson Creek	PD-363	AL	FS	NS		Zinc
03040206-09	Waccamaw River	MD-111	AL	FS	NS		Dissolved Oxygen
03040206-10	Waccamaw River	MD-137	AL	FS	NS		Dissolved Oxygen
		MD-138	AL	FS	PS		Dissolved Oxygen
03040208-03	AIWW	MD-125	AL	PS	NS	Dissolved Oxygen	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. Areawide plans were completed in the late 1970's for the five designated areas of the State and for the nondesignated remainder of the State. The updated versions serve as information sources and guides for water quality management. The Continuing Planning Process, watershed assessments, and 208 plans are elements of South Carolina's overall water quality management plan. The Bureau of Water emphasizes watershed planning 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 SCDHEC, 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 Departments Pee Dee River Basin includes the Lynches River Basin, the Black River Basin, the Waccamaw River Basin, the Great Pee Dee River Basin, and the Pee Dee Coastal Frontage Basin incorporating the Little River, the Atlantic Intracoastal Waterway, and North Inlet. The ***Lynches River Basin*** is subdivided into 7 watersheds or hydrologic units within South Carolina and includes the Lynches River and its major tributaries (the Little Lynches River, Sparrow Swamp, Lake

Swamp) before draining into the Great Pee Dee River. The ***Black River Basin*** is subdivided into 9 watersheds or hydrologic units within South Carolina and includes the Black River and its major tributaries (Scape Ore Swamp, Cane Savannah Creek, the Pocotaligo River, Black Mingo Creek) before draining into the Great Pee Dee River. The ***Waccamaw River Basin*** is subdivided into 5 watersheds or hydrologic units within South Carolina and includes the Waccamaw River and its major tributaries (Kingston Lake, Socastee Swamp/AIWW) before draining into the Great Pee Dee River. The ***Great Pee Dee River Basin*** is subdivided into 22 watersheds or hydrologic units within South Carolina and includes the Great Pee Dee River and its major tributaries, which include Thompson Creek, Crooked Creek, Cedar Creek, Three Creeks, Black Creek, Jeffries Creek, Catfish Creek, the Lynches River Basin, the Little Pee Dee River, the Black River Basin, and the Waccamaw River Basin. The Great Pee Dee River flows through Winyah Bay to the Atlantic Ocean. The ***Pee Dee Coastal Frontage Basin*** is subdivided into 2 watersheds or hydrologic units within South Carolina and includes the Little River/AIWW and North Inlet, which drain to the Atlantic Ocean.

The hydrologic units used are from the 2005 USDA NRCS 8-, 10-, 12-Digit Hydrologic Unit Code for South Carolina. All water quality related evaluations are made at the 10-digit watershed level. The stream names used are derived from USGS topographic maps. The National Hydrography Dataset (NHD) was the system used in the development of the digital hydrography and stream length estimates. NHD is based on the content of the USGS 1:100,000 scale Digital Line Graph (DLG) hydrography data, integrated with reach (stream) related information from the USEPA Reach File Version 3.0 (RF3) data. Based on the blue line streams of the USGS topo maps, it is likely that portions of the stream network in terms of perennial, intermittent, and ephemeral streams are not 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.

These assessments are geographically based documents that describe, at the watershed level, water quality related activities that may potentially have an adverse impact on water quality. The Watershed 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.

Factors Assessed in Watershed Evaluations

Surface Water Quality

SCDHEC's Bureau of Water and Bureau of Environmental Services 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.

Extensive revisions to SCDHEC's ambient water quality monitoring network were implemented in 2001. One of the primary purposes of the changes was to establish a network of permanent sites with a greater focus on watersheds. Another goal was to establish a more consistent sampling frequency and parameter coverage at the permanent sites. Thus while most of the previous sampling locations were maintained, the sampling frequency and parameter coverage at each may have changed. The previous monitoring design was comprised of four main station types: primary (P), secondary (S), watershed (W), and biological (BIO) stations. The new station types include: Integrator (INT), Special Purpose (SPRP), Summer-Only (SUMM), Sediment-Only (SEDM), Random Stream for year ## (RS##), Random Lake for year ## (RL##), Random Tide Creek for year ## (RT##), or Random Open Water for year ## (RO##). The station descriptions depicting any transition in station types and/or coverage during the study period are located in each watershed evaluation.

Primary stations are sampled on a monthly basis year round. The static primary station network is operated statewide, and receives the most extensive parameter coverage, thus making it best suited for detecting long-term trends. Integrator Sites are the approximate equivalent under the new design. Integrator Sites 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, fixed-location sites, but represent locations of special interest to the Department that do not meet the location criteria of Integrator Sites.

Secondary stations are sampled monthly from May through October, a period critical to aquatic life, and characterized by higher water temperatures and lower flows. Secondary stations are located in areas where specific monitoring is warranted due to point source discharges, or in areas with a history of water quality problems. Secondary station parameter coverage is less extensive and more flexible than primary or watershed station coverages. The number and locations of secondary stations have greater annual variability than do those in the primary station network, and during a basin's target year may have parameter coverage and sampling frequency duplicating that of primary or watershed stations. Summer-Only Sites are the equivalent under the new design. 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. Additional watershed stations may be sampled monthly from May through October to augment the secondary station network. 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 primary stations. Under the new design, 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 new 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.

Aquatic sediments represent a historical record of chronic conditions existing in the water column, and sediment samples are analyzed at selected monitoring sites. Pollutants bind to particulate organic matter in the water column and settle to the bottom where they become part of the sediment "record". Accumulated sediments not only reflect the impact of point source discharges, but also incorporate nonpoint source pollution washed into the stream during rain events. As a result, contaminant concentrations originating from irregular and highly variable sources are recorded in the sediment. The sediment concentrations at a particular location do not vary as rapidly with time as do the water column concentrations. Thus, the sediment record may be read at a later time, unrelated to the actual release time. Lakes act as settling basins for materials entering the lake system directly from a discharge or indirectly from the land surface washed into streams. Therefore, it is not unusual for lake sediment concentrations to be higher than sediment concentrations found in streams.

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 from 238 stations were reviewed for the Pee Dee River Basin, 51 from the Lynches River Basin, 44 for the Black River Basin, 113 for the Great Pee Dee River Basin (Lumber River, Little Pee Dee River, Sampit River), 21 for the Waccamaw River Basin, and 9 for the Pee Dee Coastal Frontage 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. 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 A were freshwaters that were suitable for primary contact recreation. This class was also suitable for uses listed as Class B. As of April 1992, Class A and Class B waters were reclassified as Class FW, which protects for primary contact recreation.

Class B were freshwaters that were suitable for secondary contact recreation and as a source for drinking water supply, after conventional treatment, in accordance with the requirements of the Department. These waters were suitable for fishing, and the survival and propagation of a balanced indigenous aquatic community of fauna and flora. This class was also suitable for industrial and agricultural uses. The main difference between the Class A and B freshwater was the fecal coliform standard. Class A waters were not to exceed a geometric mean of 200/100ml, based on 5 consecutive samples during any 30 day period; nor were more than 10% of the total samples during any 30 day period to exceed 400/100ml. Class B waters were not to exceed a geometric mean of 1000/100ml, based on 5 consecutive samples during any 30 day period; nor were more than 20% of the total samples during any 30 day period to exceed 2000/100ml. As of April 1992, Class A and Class B waters were reclassified as Class FW, which protects for primary contact recreation.

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 SFH, or "shellfish harvesting" waters, are tidal saltwaters protected for shellfish harvesting, and are suitable also for uses listed in Classes SA and SB.

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.

Shellfish Harvesting Waters

South Carolina's coastal area consists of approximately 578,000 acres of surface water with an assigned classification designated for the harvest of molluscan shellfish. This coastal area is divided into 25 shellfish management areas with a total of 465 active monitoring stations. The purpose of this monitoring network is to provide data, which accurately reflects the sanitary conditions of coastal shellfish and shellfish growing waters in South Carolina to ensure that the health of shellfish consumers is protected. These data are used in the preparation of the biennial §305(b) report to Congress, which summarizes the State's water quality with respect to attainment of classified uses by comparing monitoring network data to the State Water Quality Standards. All shellfish waters receive one of the following harvest classifications:

Approved area classification shall be determined upon a sanitary survey, which includes water samples collected from stations in the designated area adjacent to actual or potential sources of pollution. Growing areas shall be classified “approved” when the sanitary survey concludes that fecal material, pathogenic microorganisms, and poisonous or deleterious substances are not present in concentrations, which render shellfish unsafe for human consumption.

Conditionally Approved growing areas are subject to temporary conditions of actual or potential pollution. When such events are predictable as in the malfunction of wastewater treatment facilities, nonpoint source pollution from rainfall runoff, discharge of a major river, potential discharges from dock or harbor facilities that may affect water quality, a management plan describing conditions under which harvesting will be allowed shall be adopted by the Department, prior to classifying an area as "conditionally approved." Shellfish shall not be directly marketed from a "conditionally approved" area until conditions for an "approved" classification have been met for a time that should insure the shellfish are safe for consumption. Shellstock from "conditionally approved" areas, which have been subjected to temporary conditions of actual or potential pollution, may be relayed to "approved" areas for purification or depurated through controlled purification operations only by special permit issued by the Department.

Restricted growing areas show a limited degree of pollution or the presence of deleterious or poisonous substances to a degree, which may cause the water quality to fluctuate unpredictably or at such a frequency that a "conditionally approved" area classification is not feasible. Shellfish may be harvested from areas classified as "restricted" only for the purposes of relaying or depuration and only by special permit issued by the Department and under Department supervision.

Conditionally Restricted growing areas are subject to temporary conditions of actual or potential pollution. When such events are predictable as in the malfunction of wastewater treatment facilities, nonpoint source pollution from rainfall runoff, discharge of a major river, potential discharges from dock or harbor facilities that may affect water quality, a management plan describing conditions under which harvesting will be allowed shall be prepared by the Department, prior to classifying an area as "conditionally restricted". Shellfish may be harvested from areas classified as "conditionally restricted" only for the purposes of relaying or depuration and only by permit issued by the Department and under Department supervision.

Prohibited growing areas include those for which there is no current sanitary survey, or for which monitoring data show unsafe levels of fecal material, pathogenic microorganisms, or poisonous or deleterious substances in the growing area, or indicate that such substances could potentially reach quantities which could render shellfish unfit or unsafe for human consumption.

Shellfish management areas 1-5 are located within the Pee Dee River Basin. This area consists of 43,497 acres of surface waters with a classification designated for the harvest of molluscan shellfish. There are 74 active shellfish program monitoring sites in the Pee Dee River Basin and are described in appropriate watershed evaluations, and located on the watershed maps. Evaluation of growing areas is conducted annually; routine monitoring is conducted monthly. For current information on growing area classifications, contact SCDHEC's Shellfish Sanitation Program at 803-898-4300 or visit our website at www.scdhec.gov/environment/water/shellfish.htm.

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. Copies of the Standard Operating Procedures used for these measurements are available from the Department's Bureau of Water and the Bureau of Environmental Services. The current State of S.C. Monitoring Strategy is available on our website at www.scdhec.gov/eqc/admin/html/eqcpubs.html#wqreports and describes what parameters are sampled, where they are sampled, and how frequently.

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 (e.g. 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. Significant revisions to South Carolina's Water Quality Standards were effective on June 22, 2001. USEPA approved these standards for use in implementing the Clean Water Act on November 28, 2001. 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 Appendices A through E.

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. At most stations sampled by boat, dissolved oxygen and temperature are sampled as a water column profile, with measurements being made at a depth of 0.3 meters below the water surface and at one-meter intervals to the bottom or at 0.3 meters, mid-depth, and bottom. At stations sampled from bridges, these parameters are measured only at a depth of 0.3 meters. 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 (1999 - 2003).

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 aquatic life criterion for any individual **toxicant (e.g. heavy metals, priority pollutants, ammonia)** is exceeded more than once in five years, representing more than 10 percent of the samples collected, the criterion is not supported. If the acute 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 USEPA criteria to protect aquatic life for most toxicants are specified as a four-day average and a one-hour average, and have been adopted as state criteria. Because samples are collected as grab samples, and because of sampling frequency, comparisons to chronic toxicity criteria (four-day average concentration) are considered inappropriate; therefore, only the acute criterion (one-hour average) for the protection of aquatic life is used in the water quality assessment.

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.

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 25 percent of the samples or less, 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.

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 sources 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 procedures in the WQHYDRO computer package developed by Eric Aroner of WQHYDRO Consulting. 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 1989 through 2003. In 1992, a phosphate detergent ban was instituted in South Carolina; therefore, for total phosphorus, a second trend assessment is included for the available data from 1992 through 2003, and it is this second time period that is reported in the text.

SEDIMENT SCREENING

There are no sediment standards; therefore, in order to identify sediments with elevated metals concentrations, percentiles are constructed using five years of statewide sediment data. Only values greater than the detection limit were used for chromium, copper, nickel, lead, and zinc. Because so few concentrations of cadmium and mercury are measured above the detection limit, all samples were pooled for these metals. A sediment metal concentration is considered to be high if it is in the top 10% of the pooled results, and very high if it is in the top 5%. Any analytical result above detection limits is flagged for pesticides, PCBs, and other priority pollutants. Sites with noted high metals concentrations or the occurrence of other contaminants above detection limits are prioritized for the collection of biological data, or additional monitoring and investigation, to verify the true situation.

For saltwater sediments, national studies have been conducted by the National Oceanic and Atmospheric Administration (NOAA) and the State of Florida that have developed Sediment Quality Guidelines (SQGs) for the United States and the southeastern region. These SQGs summarize all published toxicology and biomonitoring studies for a given contaminant and ranked them from lowest to highest concentration where an adverse effect was observed. The tenth percentile of the ranked data, from all published studies that reported an adverse effect, is termed the Effects Range Low (ERL) or Threshold Effects Level (TEL) and represents the threshold concentration for toxicity to occur. The median concentration where adverse effects in benthos are observed (the fiftieth percentile) is termed the Effects Range Median (ERM) or Probable Effects Levels (PEL). Measured sediment contaminant levels may be compared with ERLs/ERMs or TELs/PELs to predict potential probability for sediment bound contaminants to cause toxicity in benthic faunal communities. Saltwater sediment contaminant levels were compared with existing sediment quality guidelines by individual compound. Sites with sediments which had individual chemical contaminant concentrations which exceeded ERL/TEL and ERM/PEL guideline levels are identified to indicate that trace metal, pesticide, PAH or PCB concentrations exceeded levels potentially toxic to estuarine organisms.

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 Pee Dee Basin were drilled into one of three aquifers. All the wells above the fall line are completed in the Piedmont Bedrock Aquifer while wells below the Fall Line are completed in the Middendorf Aquifer and Black Creek Aquifer. 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.

Piedmont Bedrock Aquifer

The Piedmont Bedrock Aquifer extends from the Fall Line to the Blue Ridge Mountains. The Piedmont bedrock consists of fractured crystalline rock overlain by a saprolitic regolith, and limited alluvial valley fill deposits. Most public and private wells are completed in the fractured crystalline bedrock. Yields from crystalline bedrock vary greatly among wells, depending primarily upon the existence of joints and fractures within the rock. The overlying saprolite is hydraulically connected with the underlying bedrock and provides the primary source of recharge water to the bedrock aquifer. Yields of 4 to 170 gallons per minute (gpm) from the 30 network wells in the Piedmont bedrock have been recorded. This broad range in yield is an indicator of the great variability in the occurrence, size and interconnection of joints and other fractures that exist in this aquifer.

Analysis of three samples obtained from wells completed in the Piedmont Bedrock Aquifer in the Pee Dee basin show close agreement in geochemical composition. All samples display a neutral pH tendency (7.0-7.7), and low total dissolved solids (TDS). Calcium was the dominant cation while bicarbonate was the most abundant anion. All samples displayed a tendency towards a moderately hard state. As in other samples from the crystalline bedrock, concentrations of silica were high when compared to samples from other aquifers in the Pee Dee basin.

Middendorf Aquifer

The Middendorf Aquifer overlies the crystalline bedrock and associated saprolite and stretches from the upper coastal plain beyond the Atlantic coastline where it is buried by younger coastal plain sediments at maximum depths of over 3000 feet. In the upper coastal plain, the Middendorf Aquifer provides groundwater to numerous domestic, municipal, and industrial users; however, it is tapped by only a few wells in the middle and lower coastal plain regions. The lower usage toward the coast is primarily a result of the presence of shallower, more economically developed aquifers such as the

Black Creek and Tertiary Limestone (Floridan) Aquifers. Middendorf sediments are comprised of fine to coarse quartzitic and arkosic sands, with discontinuous interbeds of sandy clays, kaolins and gravel. Since the Middendorf Aquifer of the upper coastal plain is comprised of clean quartz sands that have been thoroughly leached, only a minimum concentration of ions are present in its water. The Middendorf Aquifer wells sampled in the upper coastal plain can be described as generally soft, acidic, and low in dissolved solids, with locally high iron content. In contrast, lower coastal plain water from the Middendorf Aquifer is often highly mineralized. The downdip increase in ion concentration is thought to be largely a function of the residence time of the water in the aquifer (flow is from the updip recharge area in the upper coastal plain toward downdip, coastal area), as well as from the possible mixing of more mineralized water from adjacent aquifers.

Ambient groundwater samples from wells open to the Middendorf Formation in the Pee Dee basin are predominantly soft sodium bicarbonate waters with total dissolved solids (TDS) and specific conductivity from the sodium and potassium content. Analysis of this sample returned results similar to rainwater or with a pH of 5.2 and low TDS, which is consistent with other samples from the Middendorf aquifer near the recharge area.

Black Creek Aquifer

The Black Creek Aquifer is present in the majority of the Pee Dee watershed and, for nearly a century, has been an important source of groundwater. Within the Black Creek Formation, several permeable zones exist that have historically been referred to as the Black Creek Aquifer, the Principle Sand Aquifer, and the Black Creek Aquifer System. Each individual permeable zone possesses its own unique hydraulic characteristics and water quality. All permeable zones present in the Black Creek Formation are collectively referred to as the Black Creek Aquifer. This aquifer consists of medium to coarse-grained glauconitic and phosphatic quartz sands interbedded with lenses of lignitic and micaceous clays.

Similar to the Middendorf Aquifer, Black Creek Aquifer water chemistry also indicates a relationship between distance from recharge area and certain chemical concentrations. The high fluoride values in the Black Creek may be attributable to the presence of fluorapatite from the abundant fossilized shark teeth in the formation. Values of pH in the Black Creek Aquifer are generally alkaline, with a much less distinct trend toward higher downdip values than those observed in the Middendorf Aquifer.

On a statewide basis, samples obtained from the Black Creek aquifer display high variability in their composition, and samples from the recharge areas through the middle coastal plain often show no dominant ionic affinity. With increased distance from the recharge area, Black Creek waters become more buffered and are typically a sodium bicarbonate type. Proximal to the coast, samples from the Black Creek become increasingly sodium chloride-type waters.

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 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 (biological 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. Additional activities proposed for general permits include ready-mix concrete/concrete products and concentrated animal feeding operations. State Land application systems for land disposal and lagoons are also permitted.

Wasteload Allocation Process

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 Water Quality Modeling Section, 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 are designated 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 requirements, controls the permit limits. The Department's Water Quality Modeling Section develops limits for numerous parameters including ammonia nitrogen (NH3-N), dissolved oxygen (DO), and five-day biochemical oxygen demand (BOD5). 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 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, cost share funds from USDA under EQIP, and CRP 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. Sixty-six percent, or 12.6 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. 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. S.C. Forestry Commission provides monthly courtesy exams to SCDHEC's Division of Water Quality and to forest industries. 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 usage, pet wastes, leaves, grass clippings, and faulty septic tanks. Petroleum hydrocarbons result mostly from automobile sources. In the 1980's, the average statewide population growth was 11.7 percent, while the coastal counties had an increase of 22 percent, nearly double the State rate 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. 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

Potential adverse environmental impacts associated with marinas include dissolved oxygen deficiencies, high concentrations of toxic metals in aquatic organisms, and the potential to cause bacterial contamination of shellfish harvesting areas. In addition, marina construction activities can lead to the physical destruction of sensitive ecosystems and bottom-dwelling aquatic communities. Presently, there are more than 100 marinas in South Carolina, with 68 of them in the coastal zone. 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. At the end of FY 2005-2006, there were 547 mining operations in South Carolina affecting more than 28,627 acres. There were 513 acres of mine land reclaimed during this same fiscal year, which brings the cumulative total of mine land reclaimed since the beginning of the mining and reclamation program to 15,740 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

Twenty-three percent of South Carolina is covered by 4.5 million 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. The Wetlands Reserve Program, administered by the NRCS, is designed to restore and protect wetlands. At the state level, the primary focus of wetland regulation is the §401 Water Quality Certification. In the §401 certification process, 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 through restoration, enhancement, preservation, or creation and protected in perpetuity. Future development would be prohibited in these mitigated and legally protected 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

Although modern solid waste disposal sites are considered point sources of pollution and regulated, leachate from sanitary landfills and dumps have the potential to pollute large portions of adjacent groundwater aquifers. Toxic compounds are commonly a part of the overall composition of landfill leachate, especially when the landfill has been used for the disposal of toxic chemicals. There are currently 140 permitted landfills in South Carolina. This total represents 35 municipal solid waste landfills (MSWLF), 62 industrial waste landfills, 41 construction and demolition (C&D) landfills, one sludge monofill, and one ash monofill. Regulatory authority over solid waste disposal activities resides with SCDHEC's Bureau of Land and Waste Management. All active and closed industrial and municipal 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 Quality Section conducts a program to prevent, monitor, and correct 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 or groundwater over 3 million gallons in any month is required to be reported to the Department (per the *Surface Water Withdrawal and Reporting Act* 49-4-10 and the *Groundwater Use and Reporting Act* 49-5-10). These data are compiled into an annual report of total water usage in the state (see SCDHEC's South Carolina Water Use Report). The report also breaks down water usage into categories of interest such as water supply, hydropower, agriculture, and irrigation. In Capacity Use Areas, which are of concern due to the significant groundwater use and subsequent lowering of groundwater levels in major aquifers, withdrawals over 3 million gallons in any month must receive a permit from the Department. Currently, no quantity permit is required for surface water withdrawals.

Interbasin Transfer of Water

According to The State Interbasin Transfer of Water Act, an interbasin transfer of water permit is required when any entity desires to withdraw, divert, pump, or cause directly the transfer of either 5% of the 7Q10 (seven day, ten year low flow), or one million gallons or more of water a day on any day, whichever is less, from one river basin and use or discharge all or any part of the water in a different river basin. The SCDHEC Board is empowered to negotiate agreements, accords, or compacts on behalf of and in the name of the State of South Carolina with other states or the United States, or both, with any agency, department, or commission of either, or both, relating to transfers of water that impact waters of this State, or are connected to or flowing into those waters. The Board is further empowered to represent this State in connection with water withdrawals, diversions, or transfers occurring in other states, which may affect this State.

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. Georgetown and Horry Counties and the "neck" of Marion County make up the Waccamaw Capacity Use Area in the Pee Dee River Basin.

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.

SCDHEC's Strategic Plan for 2000-2005 (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, greenspaces, 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 Santee 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. The §208 Areawide Water Quality Management Plans were completed in great detail during the 1970's and have recently been updated. Information from the updated reports is used in the individual watershed evaluations. South Carolina's water quality management plans support consolidation of wastewater treatment facilities into larger regional systems.

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.

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. 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 Watershed 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 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 presents administrative and technical guidance for the water quality certification program and 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 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. In an effort to facilitate watershed restoration where appropriate, mitigation for unavoidable wetland impacts is encouraged in areas that improve §303(d) listed waters.

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 Stormwater and Agricultural Permitting Section 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.

The 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. Erosion and Sediment Reduction Act of 1983 addresses construction on state owned or managed land. 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. Until a local government becomes delegated, SCDHEC's Office of Ocean and Coastal Resource Management is delegated the State Sediment and Erosion Control Program in the coastal area. The Stormwater and Agricultural Permitting Section manages the NPDES Stormwater Program in all areas of the state and the State Sediment and Erosion Control Program in the areas of the state where the program is not delegated to another entity.

Regulation 61-9 requires a compilation of all existing State water quality data with STORET data being used as a baseline. If analysis indicates a decrease in water quality then corrective measures must be taken. The permittee 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 municipal separate storm sewer system (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.

Permits for municipal systems allow communities to design stormwater management programs that are suited for controlling pollutants in their jurisdiction. There are three population-based categories of municipal separate storms sewers: large municipal (population of 250,000 or greater), medium municipal (population of 100,000 or more but less than 250,000), and small municipal (population less than 100,000). Large and medium MS4s have been regulated since the 1990s. Those small MS4s within the boundaries of an urbanized area are called Regulated Small MS4s and were required to submit MS4 NPDES applications on or before March 10, 2003. MS4 NPDES Permits are required for all large, medium, and regulated small MS4s.

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. While previously, there were no federally defined concentrated animal feeding operations (CAFOs) in operation in South Carolina, EPA modified the definition of a CAFO in the NPDES regulations in December 2002. These regulations have now been adopted in S.C. Based on the new federal CAFO definition, S.C. has approximately 200 CAFOs that require NPDES permits. 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.

Sanitary 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 will occur. Sanitary 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 evaluators 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.

Referral Strategy for Effluent Violations

The Department has developed referral effluent violation guidelines to specifically address discharges into impaired waters. The goal of the referral guidelines is to reduce pollutant discharges into impaired waters in order to ultimately restore them to their full potential usage. To achieve this goal, enforcement actions are initiated earlier in an effort to improve the quality of waters that do not meet standards. If a stream is impaired by a pollutant and the permit limit for that pollutant is exceeded more than once in a running annual reporting period, formal enforcement action will be initiated against the discharger.

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) provides authority to protect 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, the 14-digit Hydrologic Unit Code watershed 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 will be a critical factor in the success of the SWAP, and local government, 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 will occur at the local level, and local authorities may wish to base zoning and land-use planning on the source water assessments. The SWAP will be a key part of the Department's watershed management approach. To avoid duplication, information gathered from existing regulatory programs and/or watershed protection efforts will be 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. It is believed that educated consumers are more likely to protect their drinking water sources. 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 Education

The goal of the Nonpoint Source Outreach Program is to educate the citizens of South Carolina about the sources of polluted runoff and techniques that can be used to reduce this runoff. The Program provides presentations on runoff pollution to community, church, civic, or professional groups; a variety of technical and nontechnical publications on runoff pollution and reduction techniques; *Turning the Tide*, a free Nonpoint Source newsletter; and teacher training that includes the *Action for a Cleaner Tomorrow* curriculum and information on reducing polluted runoff. To arrange a presentation, order publications, or ask questions, contact the Nonpoint Source Education coordinator at 803-898-4300 or visit our website.

South Carolina Water Watch

South Carolina Water Watch is a unique effort to involve the public and local communities in water quality protection. The Water Watch program was developed to encourage South Carolina's citizens to become stewards of the State's lakes, rivers, streams, estuaries, and wetlands. Volunteers select a water resource on which to focus and perform activities aimed at protecting water quality, such as shoreline surveys, public education, and litter cleanups. The Water Watch coordinator assists participants with materials and training to help make projects successful. SCDHEC invites individuals, school groups, civic organizations, businesses, and local governments to learn about and protect the quality of our waterways by contacting the Water Watch coordinator at 803-898-4300 or visit our website.

Champions of the Environment

Champions of the Environment is a student recognition program that raises awareness of environmental issues. Nationally recognized for its innovative approach to environmental education, the program promotes hands-on learning by recognizing students working on exemplary environmental projects beyond the realm of the classroom. With scholarships and media coverage, Champions of the Environment encourages student initiative and self-esteem. The program promotes environmental awareness, leadership, conservation, creativity, and self-confidence through activities such as group projects, public speaking, and environmental research. Champions of the Environment is jointly sponsored by Dupont, International Paper, WIS-TV, and SCDHEC. For more information contact the Champions of the Environment coordinator at 803-898-4300 or visit our website.

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, contact the State Revolving Fund coordinator at 803-898-4300 or visit our website.

Citizen-Based Watershed Stewardship Programs

Throughout the Pee Dee 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 Pee Dee River Basin are described below.

Lynches River Advisory Council

The Lynches River Advisory Council consists of a varied group of individuals interested in protecting the Lynches River including landowners and representatives of industry, state agencies, grass roots environmental groups, and local governments. The council was formed after a 54-mile segment of the river, from Rt. 15 in Bishopville to Lynches River County Park was designated as a State Scenic River in 1994. In 1997, the council published the Lynches River Management Plan, which contains recommendations to address specific issues within the scenic river segment. The council is implementing the plan using a management program focused around three components: outreach/education, water quality, and recreation. Plans for a canoe trail along the scenic river segment are currently underway.

Black Scenic River Advisory Council

The Williamsburg Hometown Chamber Quality of Place Committee requested the SCDNR to consider the Black River for designation as a State Scenic River in 1999. The Williamsburg, Clarendon, and Georgetown County Councils adopted resolutions of support for the designation. The 75-mile segment was designated a State Scenic River in 2001. This longest SC scenic river segment begins at County Road 40 in Clarendon County and extends southeast through Williamsburg County to Pea House Landing at the end of County Road 38 in Georgetown County. The Black Scenic River Advisory Council represents local landowners, river users, community interests, and the SCDNR. The mission of the Advisory Council is to educate, protect, conserve, and be an advocate for the river through open communication with individuals and corporate partners. The council is to promote stewardship and long range planning for the sustainable development of wildlife habitats in order to enhance the natural beauty of the area.

Great Pee Dee River Advisory Council

The Georgetown County Historical Society, the SC Coastal Conservation League and a number of riparian landowners requested the SCDNR seek State Scenic River designation for the Great Pee Dee River in June 2001. Within a year, the river segment running from the US 378 bridge between Florence and Marion Counties and the US 17 bridge in Georgetown was designated a scenic river. The Great Pee Dee River Advisory Council represents local landowners, river users, community interests, and the SCDNR. Their first task is to create a management plan using an open community-based process where local citizens identify their vision and goals for the river, discuss and define issues of concern, and seek resolutions to achieve their vision. The management plan will be the guide for ongoing activities for the advisory council.

Little Pee Dee River Advisory Council

The Dillon County Council and Friends of the Little Pee Dee requested the SCDNR to consider the Little Pee Dee River in Dillon County for designation as a State Scenic River in 2004. The 48-mile segment was designated a State Scenic River in 2005. The focus of the Little Pee Dee River Advisory Council will be conservation, utilization, awareness, and protection and enhancement of the river’s resources. The council is developing a scenic river management plan, which is intended to define community goals for the river and outline a plan of action for the advisory council. Citizen involvement is encouraged.

Winyah Bay Focus Area

Formed in 1992 under the aegis of the North American Plan, the Winyah Bay Focus Area Task Force was to quantify and qualify the significant habitats within the Winyah Bay area. This effort has resulted in the protection of 8,000 acres of private lands under conservation easements, the establishment of the Waccamaw National Wildlife Refuge, and the perpetual protection of 17,000 acres, including Sandy Island. The Task Force continues in its efforts to protect the Waccamaw River and Pee Dee River watersheds within the Focus Area's boundaries.

Waccamaw Waterwatch

The Waccamaw Waterwatchers are a group of high school students and teachers from Horry and Georgetown Counties interested in coastal water issues. Funded by a National Science Foundation grant awarded to Coastal Carolina University and a Clean Air Clean Water grant from the Wal-Mart Corporation, the group gets assistance from Coastal Carolina University's Environmental Quality Lab, as well as the Waccamaw Science and Math Hub. Their primary activity is monitoring water quality and biota along the rivers of the Pee Dee River Watershed.

Waccamaw Riverkeeper Program

The Waccamaw Riverkeeper focuses on promoting the ecological, social, and economic health and integrity of the Waccamaw River and its watershed. The watershed extends from its headwaters in North Carolina down to Winyah Bay in South Carolina. The riverkeeper networks with concerned citizens for the protection and revitalization of the Waccamaw River and its watershed. To achieve this, the riverkeeper advocates for compliance with environmental lawa, identifies problems that affect the river and devises appropriate remedies, educates citizens and policy makers on the best ways to assure an apply supply of clean water that supports traditional and beneficial uses. The Waccamaw Riverkeeper Program is sponsored by the Winyah Rivers Foundation.

Winyah Rivers Foundation

The Winyah Rivers Foundation is a nonprofit 501(c) (3) organization whose mission is to protect, preserve, monitor, and revitalize the health of the lands and waters of the greater Winyah Bay watershed, focusing on local activism through the Waccamaw Riverkeeper program. The foundation seeks to ensure that the land and water uses in the watershed support a high quality of life for all human and natural uses.

The Winyah Rivers Foundation services the Waccamaw, Lynches, Lumber, Little Pee Dee, Black, Great Pee Dee, and Sampit Rivers, which drain into Winyah Bay.

Murrells Inlet 2007

Murrells Inlet 2007 is a nonprofit, community revitalization group established in 1997 with the 10-yesar plan of making the historic fishing village of Murrells Inlet, South Carolina a more enjoyable place to live, work, and do business. Murrells Inlet 2007 has won national and state awards for it service to the community. Some of the accomplishments include: building a boardwalk over the march, acquiring creek front property to use as a public park with a public crabbing dock (Morse Landing Park), erecting community wide signs, partnering with local schools to teach water quality, beautification of the area, promoting area businesses, and hosting community forums.

Coastal Waccamaw Stormwater Education Consortium

In 2005, the Coastal Waccamaw Stormwater Education Consortium (CWSEC) began to offer communities in northeastern South Carolina a watershed approach to educating citizens about managing stormwater runoff quality and quantity. Six regional agencies jointly serve as core education providers for six coastal municipalities. The Consortium's goals are to: maximize efficiency of stormwater education efforts by using a regional watershed approach; help local SMS4s meet NPDES Phase II permit requirements for education and outreach; facilitate collaboration among local service providers to best meet local educational needs; develop a regional stormwater education plan; and create a model for collaborative stormwater education that can be presented and applied throughout the state and beyond. More information on CWSEC can be found at http://www.northinlet.sc.edu/training/stormwater_education/.

Lynches River Basin Description

The ***Lynches River Basin (hydrologic unit 03040202)*** is located in Lancaster, Chesterfield, Kershaw, Lee, Darlington, Sumter, Florence, and Williamsburg Counties, and encompasses 1,412.3 square miles with geographic regions that extend from the Piedmont to the Sandhills, and to the Upper and Lower Coastal Plains. The Lynches River Basin encompasses 7 watersheds and 903,879 acres, of which 38.5% is agricultural land, 33.4% is forested land, 20.1% is forested wetland (swamp), 5.4% is urban land, 2.0% is scrub/shrub land, 0.3% is water, 0.2% is nonforested wetland (marsh), and 0.1% is barren land. The urban land percentage is comprised chiefly of the City of Lake City. This predominantly rural area has approximately 1,807 stream miles and 1,310 acres of lake waters. The Lynches River originates in North Carolina and accepts drainage from the Little Lynches River, Sparrow Swamp, and Lake Swamp before draining into the Great Pee Dee River.

Physiographic Regions

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

The **Piedmont** is an area of gently rolling to hilly slopes with narrow stream valleys dominated by forests, farms, and orchards; elevations range from 375 to 1,000 feet.

The **Sandhills** 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.

Land Use/Land Cover

General land use/land cover mapping for South Carolina was derived from the U.S. Geological Survey's National Land Cover Data (NLCD), 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, as well as vegetated portions of urban areas.

Agricultural/Grass land is characterized by cropland, pasture, and orchards and may include some grass cover in urban, scrub/shrub, and forest areas.

Scrub/Shrub land is adapted from the western Rangeland classification to represent the "fallow" condition of the land (currently unused, yet vegetated), and is most commonly found in the dry Sandhills region including areas of farmland, sparse pines, regenerating forest lands, and recently harvested timber lands.

Forest land is characterized by deciduous and evergreen trees not including forests in wetland settings.

Forested Wetland (swampland) is the saturated bottomland, mostly hardwood forests that are primarily composed of wooded swamps occupying river floodplains and isolated low-lying wet areas, primarily located in the Coastal Plain.

Nonforested Wetland (marshland) is dependent on soil moisture to distinguish it from Scrub/Shrub since both classes contain grasses and low herbaceous cover; nonforested wetlands are most common along the coast and isolated freshwater areas found in the Coastal Plain.

Barren land is characterized by an unvegetated condition of the land, both natural (rock, beaches and unvegetated 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 and tidal waters.

Soil Types

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

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

Badin soils are moderately deep, well drained, moderately permeable, clayey soils that formed in material weathered from Carolina Slate or other fine grained rock, on ridgetops and side slopes.

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.

Blanton soils are excessively drained soils that have loamy subsoil or are sandy throughout.

Bonneau soils are deep, moderately well drained soils with loamy subsoil on ridges.

Candor soils are somewhat excessively drained soils that formed in sandy and loamy marine sediments on broad flats, narrow ridges, and side slopes.

Cantey soils are moderately well drained soils with a loamy surface layer and a clayey or loamy subsoil and poorly drained soils with a loamy surface layer and a clayey subsoil.

Cecil soils are deep, well drained, gently sloping to sloping soils that have red subsoil.

Chastain soils are poorly drained to well drained soils that are clayey or loamy throughout and are subject to flooding.

Foreston soils are moderately well drained soils that formed in loamy marine sediments in upland areas of the Coastal Plain, and on high ridges and slight rises within broad flats.

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

Gilead soils are gently sloping to sloping, moderately well drained, moderately deep soils underlain by a compact, brittle substratum, in beds of unconsolidated sand and clay.

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

Goldston soils are dominantly sloping to steep, well drained to excessively drained soils.

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

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

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

Norfolk soils are deep, well drained soils, with loamy subsoil, nearly level and gently sloping elevated uplands.

Pacolet soils are well drained, moderately steep soils with clayey subsoil, moderately deep.

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

Tatum soils are dominantly sloping to steep, well drained to excessively drained soils, with a loamy subsoil, moderately deep or shallow to weathered rock.

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

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

Whitestone soils are deep and very deep, moderately well drained soils on Piedmont uplands, and formed in weathered triassic materials.

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 Lynches River Basin is from 0.10 to 0.38.

Fish Consumption Advisory

At the time of publication, a fish consumption advisory issued by SCDHEC is in effect for the ***Lynches River,*** from US Hwy 15 to the Great Pee Dee River, advising people to limit the amount of some types of fish consumed from these waters. Fish consumption advisories are updated annually in March. For background information and the most current advisories please visit www.scdhec.gov/fish. For more information or a hard copy of the advisories, call SCDHEC's Division of Health Hazard Evaluation toll-free at (888) 849-7241.

Climate

Normal yearly rainfall in the Lynches River area during the period of 1971 to 2000 was 47.25 inches, according to South Carolina's **30-year** climatological record. Data compiled from National Weather Service stations in Bishopville, Florence, Florence Airport, Lake City, Pageland, Kershaw, and Effingham were used to determine the general climate information for this portion of the State. The highest seasonal rainfall occurred in the summer with 14.72 inches; 10.27, 11.47, and 10.80 inches of rain fell in the fall, winter, and spring, respectively. The average annual daily temperature was 62.5 °F. Winter temperatures averaged 45.6°F, spring temperatures averaged 62.1 °F and summer and fall mean temperatures were 78.7 °F and 63.6 °F, respectively.

Watershed Evaluations

03040202-01

(Lynches River)

General Description

The South Carolina portion of 03040202-01 (formerly 03040202-010, 03040202-020, 03040202-030, and 03040202-040) is located in Lancaster and Chesterfield Counties and consists primarily of the ***Lynches River*** and its tributaries from where it enters South Carolina to Flat Creek. The watershed occupies 110,538 acres of the Piedmont region of South Carolina. Land use/land cover in the watershed includes: 61.6% forested land, 30.5% agricultural land, 5.0% urban land, 1.4% scrub/shrub land, 1.3% forested wetland, and 0.2% water.

The Lynches River originates in North Carolina, and accepts drainage also originating in North Carolina including Polecat Creek (Otter Creek, Silver Run), Buffalo Creek (Raccoon Branch Creek), and Dead Pine Creek. Hills Creek originates near the Town of Pageland and accepts the drainage of Mangum Branch, Cow Head Branch, and Conway Branch before flowing into the Lynches River. Mill Creek originates near the headwaters of Mangum Creek and flows into North Carolina. South Branch Wildcat Creek accepts drainage from Sutton Branch, North Branch Wildcat Creek, and Long Branch before flowing into the river. Turkey Creek enters the river next, followed by Arant Branch, Shop Branch, Belk Branch (Horton Spring Branch), Cedar Falls Branch, and Rocky Branch. Flat Creek accepts drainage from Baker Creek (Ellis Creek), Childers Creek (Mine Branch), Big Double Branch (Little Double Branch), Lick Creek, Lick Run (Mill Branch), and Dry Creek before draining into the river at the bottom of the watershed. An additional natural resource is the Heritage Trust Preserve surrounding Flat Creek and a tributary downstream from Lick Creek. There are a total of 288.3 stream miles and 105.1 acres of lake waters in this watershed, all classified FW.

Surface Water Quality

Station #	Type	Class	Description
PD-333	S/W/BIO	FW	HILLS CREEK AT S-13-105
PD-366	INT	FW	HILLS CREEK AT S-13-545
PD-113	P/INT	FW	LYNCHES RIVER AT SC 9 WEST OF PAGELAND
PD-679	BIO	FW	NORTH BRANCH WILDCAT CREEK AT SR 178
PD-179	S/W	FW	N. BRANCH WILDCAT CREEK AT S-29-39 1 MI S OF TRADESVILLE
PD-180	S/W/BIO	FW	S. BRANCH WILDCAT CREEK AT S-29-39 2 MI S OF TRADESVILLE
RS-01058	S/W/BIO	FW	S. BRANCH WILDCAT CREEK AT S-29-39 2 MI S OF TRADESVILLE
PD-182	BIO	FW	FLAT CREEK AT SR 601
PD-342	W/INT	FW	FLAT CREEK AT S-29-123
(PD-001)	W/INT/BIO	FW	LYNCHES RIVER AT SC 265

Hills Creek* -** There are two SCDHEC monitoring sites along Hills Creek. At the upstream site (PD-333***), aquatic life uses are partially supported based on macroinvertebrate community data. There is also a significant increasing trend in five-day biochemical oxygen demand. Recreational uses are not supported at this site due to fecal coliform bacteria excursions. At the downstream site ***(PD-366)***, aquatic life and recreational uses are fully supported.

Lynches River (PD-113)* -** Aquatic life uses are not supported due to occurrences of copper in excess of the aquatic life acute criterion. There is also a significant increasing trend in five-day biochemical oxygen demand and a decreasing trend in dissolved oxygen concentration. There is a significant decreasing trend in pH. Very high concentrations of cadmium were measured in the 2001 and 2003 sediment samples. Recreational uses are partially supported due to fecal coliform bacteria excursions. Station ***PD-001 is physically located in 03040202-03, but also reflects the influence from this watershed drainage. Aquatic life and recreational uses are fully supported at PD-001; however, there is a significant increasing trend in total nitrogen. There is a significant decreasing trend in pH. A significant decreasing trend in turbidity suggests improving conditions for this parameter.

North Branch Wildcat Creek* -** There are two SCDHEC monitoring sites along North Branch Wildcat Creek. At the upstream site (PD-679***), aquatic life uses are partially supported based on macroinvertebrate community data. At the downstream site (***PD-179***), aquatic life uses are fully supported; however, there is a significant decreasing trend in dissolved oxygen concentration and increasing trends in five-day biochemical oxygen demand and turbidity. There is a significant decreasing trend in pH. Recreational uses are not supported at this site due to fecal coliform bacteria excursions.

***South Branch Wildcat Creek (PD-180/RS-01058)* -** Aquatic life uses are partially supported based on macroinvertebrate community data. There is also a significant decreasing trend in dissolved oxygen concentration and an increasing trend in five-day biochemical oxygen demand. There is a significant decreasing trend in pH. A very high concentration of cadmium was measured in the 2001 sediment sample. Recreational uses are partially supported due to fecal coliform bacteria excursions.

Flat Creek* -** There are two SCDHEC monitoring sites along Flat Creek. This is a blackwater system, characterized by naturally low pH conditions. At the upstream site ***(PD-182), aquatic life uses are partially supported based on macroinvertebrate community data. At the downstream site ***(PD-342)***, aquatic life uses are not supported due to occurrences of copper in excess of the aquatic life acute criterion. There is also a significant increasing trend in total nitrogen concentration. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Recreational uses are partially supported at this site due to fecal coliform bacteria excursions.

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-111	GB	PIEDMONT BEDROCK	WHITE BLUFF BAPTIST CHURCH

NPDES Program

Active NPDES Facilities

RECEIVING STREAM — ***NPDES#***
FACILITY NAME — ***TYPE***
PERMITTED FLOW @ PIPE (MGD) — ***COMMENT***

RECEIVING STREAM / FACILITY NAME / PERMITTED FLOW @ PIPE (MGD)	NPDES# / TYPE / COMMENT
HILLS CREEK TOWN OF PAGELAND/NORTHWEST PLANT PIPE #: 001 FLOW: 0.3	SC0021504 MINOR DOMESTIC
LYNCHES RIVER TRIBUTARY HANSON AGGREGATES SE/JEFFERSON PIPE #: 001 FLOW: 1.5	SCG730062 MINOR INDUSTRIAL
LYNCHES RIVER TRIBUTARY BUCKHORN MATERIALS, LLC PIPE #: 001, 004 FLOW: M/R	SC0048445 MINOR INDUSTRIAL
CEDAR FALLS BRANCH TRIBUTARY BUCKHORN MATERIALS, LLC PIPE #: 002-007 FLOW: M/R	SC0048445 MINOR INDUSTRIAL
NORTH BRANCH WILDCAT CREEK BUFORD HIIGH SCHOOL/LANCASTER PIPE #: 001 FLOW: 0.035	SC0030210 MINOR DOMESTIC
CHILDERS CREEK MINERAL MINING CORP. PIPE: 001 FLOW: M/R	SCG730049 MINOR INDUSTRIAL

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME ***FACILITY TYPE***	***PERMIT #*** ***STATUS***
MINING ROAD C&D LANDFILL CONSTRUCTION	292440-1201 INACTIVE
MINING ROAD INDUSTRIAL SW LANDFILL INDUSTRIAL	292440-1601 ACTIVE
KINLAW COMPOSTING SITE COMPOSTING	132442-3001 INACTIVE

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
HANSON AGGREGATES SE, INC. JEFFERSON PLANT	0093-25 GRANITE

Growth Potential

There is a low to moderate potential for growth in this watershed, which includes a portion of the Town of Pageland. The northeast corner of the watershed is the edge of the Charlotte Metroplex and future growth is expected. Pageland and the area immediately outside of the town have water and sewer service. In addition, water service has recently been extended to the Lynches River Industrial Park, located along the S.C. Hwy. 151/U.S. Hwy. 601 corridor. Wal-Mart has constructed a food distribution center in the park and is currently expanding it, and spillover development from the park is expected. The remainder of the watershed is predominately rural with forested land and rangeland.

Watershed Restoration and Protection

Total Maximum Daily Loads (TMDLs)

A TMDL was developed by SCDHEC and approved by EPA for ***Hills Creek*** water quality monitoring site ***PD-333*** to determine the maximum amount of fecal coliform bacteria it can receive from nonpoint sources and still meet water quality standards. The most likely sources of elevated fecal coliform concentrations include leaking sewers, sanitary sewer overflows (SSOs), wildlife, animal feeding operations(AFOs), cattle with direct access to creeks, and land application of manure. The TMDL states that a 93% reduction in fecal coliform loading is necessary for the stream to meet the water quality standard.

A TMDL was developed by SCDHEC and approved by EPA for the ***Lynches River*** water quality monitoring site ***PD-113*** to determine the maximum amount of fecal coliform bacteria it can receive from nonpoint sources and still meet water quality standards. The primary sources of fecal coliform appear to be cattle with direct access to streams, pets, wildlife, AFO land application areas, and failing OSWD systems. The TMDL states that an 81% reduction in fecal coliform loading is necessary for the stream to meet the water quality standard.

A TMDL was developed by SCDHEC and approved by EPA for ***North Branch Wildcat Creek*** water quality monitoring site ***PD-179*** to determine the maximum amount of fecal coliform bacteria it can receive and still meet water quality standards. Sources of fecal coliform are primarily nonpoint sources such as cattle, pets, wildlife, and AFO land application areas, with failing OSWD systems expected to be negligible. While only 1 percent of the watershed for PD-179 is urbanized land use, the town of Tradesville is very close to the WQM station. As a result, urban runoff from Tradesville may be contributing to fecal coliform exceedances. The TMDL states that an 85% reduction in fecal coliform loading is necessary for the stream to meet the water quality standard.

A TMDL was developed by SCDHEC and approved by EPA for ***South Branch Wildcat Creek*** water quality monitoring site ***PD-180*** to determine the maximum amount of fecal coliform bacteria it can receive and still meet water quality standards. The absence of point source discharges within the watershed indicates that nonpoint sources of fecal coliform appear to originate from turkeys and poultry as well as wildlife, while cattle, pets, land application of manure, and failing OSWD systems appear to be negligible. The TMDL states that a 51% reduction in fecal coliform loading is necessary for the stream to meet the water quality standard.

A TMDL was developed by SCDHEC and approved by EPA for ***Flat Creek*** water quality monitoring site ***PD-342*** to determine the maximum amount of fecal coliform bacteria it can receive and still meet water quality standards. The absence of point sources indicates that nonpoint sources of fecal coliform include turkey AFOs, land application of manure, and wildlife, with negligible contributions from cattle, pets, and failing OSWD systems. Fecal coliform concentrations in this watershed do not appear related to precipitation, which is substantiated by the designated hydrologic critical condition of "dry." The TMDL states that a 57% reduction in fecal coliform loading is necessary for the stream to meet the water quality standard

03040202-02

(Little Lynches River)

General Description

Watershed 03040202-02 (formerly 03040202-070 and 03040202-080) is located in Lancaster and Kershaw Counties and consists primarily of the ***Little Lynches River*** and its tributaries. The watershed occupies 126,832 acres of the Piedmont and Sand Hills regions of South Carolina. Land use/land cover in the watershed includes: 54.5% forested land, 30.0% agricultural land, 9.2% forested wetland, 5.1% urban land, 0.7% scrub/shrub land, 0.2% barren land, 0.2% water, and 0.1% nonforested wetland.

Baskins Creek (Lyles Branch, Falls Branch, Bend Creek) is joined by Blackmon Branch to form the headwaters of the Little Lynches River. The Little Lynches River accepts drainage from Horton Creek (Little Lynches Creek, Sunrise Lake, Beckham Branch, Mobley Branch), Mill Creek, Camp Branch, Todds Branch, Haile Gold Mine Creek (Ledbetter Reservoir), and Neds Creek. Hanging Rock Creek (Lick Creek) flows past the City of Kershaw to join the Little Lynches River downstream of Neds Creek, followed by Gates Ford Branch, Shirley Creek, Cow Branch, Mill Creek (Bakers Millpond), Beaverdam Creek, and Bell Branch. The Little Lynches River Watershed flows into the Lynches River. There are a total of 257.5 stream miles and 171.9 acres of lake waters in this watershed, all classified FW.

Surface Water Quality

Station #	Type	Class	Description
PD-640	BIO	FW	LITTLE LYNCHES RIVER AT S-29-88
PD-335	S/W	FW	HORTON CREEK AT S-29-95
PD-005	S/W	FW	TODDS BRANCH AT S-29-564 1.5 MI NE OF KERSHAW
PD-006	P/W	FW	LITTLE LYNCHES RIVER AT US 601 2 MI E KERSHAW
PD-334	S/W	FW	HAILE GOLD MINE CREEK AT S-29-188
PD-632	BIO	FW	LITTLE LYNCHES RIVER AT SC 157
PD-109	P/W	FW	LITTLE LYNCHES RIVER AT SC 341, 4 MI SE OF KERSHAW
PD-329	S/W	FW	LICK CREEK AT S-29-13 ABOVE KERSHAW PLANT
PD-328	S/W	FW	HANGING ROCK CREEK OFF S-29-84 1.6 MI S OF KERSHAW
PD-669	BIO	FW	HANGING ROCK CREEK AT SR 770
PD-704	BIO	FW	COW BRANCH AT SPEARS ROAD
PD-343	W/INT	FW	LITTLE LYNCHES RIVER AT S-28-42
PD-678	BIO	FW	BEAVERDAM CREEK AT SR 59
PD-344	W/INT	FW	LITTLE LYNCHES RIVER AT SC 341, 3.5 MI SE OF BETHUNE

Little Lynches River - There are six SCDHEC monitoring sites along the Little Lynches River. This is a blackwater system, characterized by naturally low pH conditions. At the furthest upstream site ***(PD-640)***, aquatic life uses are partially supported based on macroinvertebrate community data. At the next site downstream ***(PD-006)***, aquatic life uses are not supported due to occurrences of copper in excess of the aquatic life acute criterion. There is also a significant increasing trend in five-day biochemical oxygen demand. A significant decreasing trend in total phosphorus concentration suggests improving conditions for this parameter. Recreational uses are not supported at this site due to fecal coliform bacteria excursions. Further downstream ***(PD-632)***, aquatic life uses are partially supported based on macroinvertebrate community data.

At the next site ***(PD-109)***, aquatic life uses are fully supported; however, there are significant increasing trends in turbidity and total nitrogen concentration. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. A significant increasing trend in dissolved oxygen concentration suggests improving conditions for this parameter. A very high concentration of cadmium was measured in the 2003 sediment sample. Recreational uses are fully supported and a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter.

Further downstream ***(PD-343),*** aquatic life uses are fully supported; however, there is a significant increasing trend in total nitrogen concentration. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. A significant decreasing trend in total phosphorus 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.

At the furthest downstream site ***(PD-344)***, aquatic life uses are not supported due to pH excursions. There are also significant increasing trends in total nitrogen concentration. There is a significant decreasing trend in pH. A significant increasing trend in dissolved oxygen concentration suggests improving conditions for this parameter. Recreational uses are fully supported at this site.

Horton Creek (PD-335) – Aquatic life uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. Recreational uses are partially supported due to fecal coliform bacteria excursions.

Todds Branch (PD-005) – Aquatic life uses are fully supported; however, there are significant increasing trends in five-day biochemical oxygen demand and turbidity. Recreational uses are not supported due to fecal coliform bacteria excursions.

***Haile Gold Mine Creek (PD-334)* -** Aquatic life uses are fully supported and significant decreasing trends in five-day biochemical oxygen demand and total phosphorus concentration suggest improving conditions for these parameters. 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. There is a significant increasing trend in pH. Recreational uses are fully supported.

***Lick Creek (PD-329)* -** Aquatic life uses are fully supported. Recreational uses are partially supported due to fecal coliform bacteria excursions; however, a significant decreasing trend in fecal coliform bacteria suggests improving conditions for this parameter.

Hanging Rock Creek* –** There are two SCDHEC monitoring sites along Hanging Rock Creek. At the upstream site ***(PD-328), aquatic life uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. Recreational uses are partially supported due to fecal coliform bacteria excursions. At the downstream site ***(PD-669)***, aquatic life uses are partially supported based on macroinvertebrate community data.

***Cow Branch (PD-704)* -** Aquatic life uses are fully supported based on macroinvertebrate community data.

***Beaverdam Creek (PD-678)* -** Aquatic life uses are fully supported based on macroinvertebrate community data.

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-037	GB	MIDDENDORF	BETHUNE

NPDES Program

Active NPDES Facilities

RECEIVING STREAM FACILITY NAME PERMITTED FLOW @ PIPE (MGD)	NPDES# TYPE COMMENT
BECKHAM BRANCH TOWN OF HEATH SPRINGS/WWTF PIPE #: 001 FLOW: 0.15	SC0040118 MINOR DOMESTIC
HAILE GOLD MINE CREEK HAILE MINING CO., INC. PIPE #: 002, 02A FLOW: 0.792	SC0040479 MINOR INDUSTRIAL
HAILE GOLD MINE CREEK MINERAL MINING/HILLTOP II PIT PIPE #: 001 FLOW: M/R	SCG730398 MINOR INDUSTRIAL
HANGING ROCK CREEK TOWN OF KERSHAW WWTP PIPE #: 001 FLOW: 0.8	SC0025798 MINOR DOMESTIC

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME / ***FACILITY TYPE***	***PERMIT #*** / ***STATUS***
BETHUNE DUMP MUNICIPAL	--------- CLOSED
TOWN OF HEATH SPRINGS COMPOSTING FACILITY COMPOSTING	291002-3001 ACTIVE
TOWN OF HEATH SPRINGS C&D LANDFILL C&D	291002-1701 ACTIVE

Mining Activities

MINING COMPANY / ***MINE NAME***	***PERMIT #*** / ***MINERAL***
JIM LINEBERG GRADING & PAVING PARKER/BLACKWELL PIT	0440-57 SAND
HAILE MINING CO., INC. HAILE MINE	0601-57 GOLD ORE
MINERAL MINING CORP. HILLTOP MINE	0214-57 SERICITE

Growth Potential

There is a low to moderate potential for growth in this watershed, which contains the Towns of Kershaw and Heath Springs, and a portion of the Town of Bethune. A rail line connects the Town of Kershaw to the Cities of Lancaster and Camden along U.S. Hwy 521, and may provide some future growth.

Watershed Restoration and Protection

Total Maximum Daily Loads (TMDLs)

A TMDL was developed by SCDHEC and approved by the EPA for ***Hanging Rock Creek*** and ***Lick Creek*** to determine the maximum amount of fecal coliform bacteria they can receive from nonpoint sources and still meet water quality standards. Lick Creek (monitoring site PD-329) is a tributary of Hanging Rock Creek (PD-328), which is a tributary of the Little Lynches River. The primary source of fecal coliform to the streams was determined to be runoff from pastureland. The TMDL states that an 84% and 67% reduction in current fecal coliform loading from pastureland to the streams, respectively, is needed to meet the recreational use standard.

03040202-03

(Lynches River)

General Description

Watershed 03040202-03 (formerly 03040202-050 and 03040202-060) is located in Lancaster, Kershaw, and Chesterfield Counties and consists primarily of the ***Lynches River*** and its tributaries from Flat Creek to the Little Lynches River. The watershed occupies 145,278 acres of the Piedmont and Sandhills regions of South Carolina. Land use/land cover in the watershed includes: 45.0% forested land, 36.6% agricultural land, 11.1% forested wetland, 5.3% urban land, 0.9% scrub/shrub land, 0.5% water, 0.3% barren land, and 0.3% nonforested wetland.

This section of the Lynches River accepts drainage from its upper reaches. Fork Creek accepts drainage from Canal Branch (Shady Slash Branch), Gum Branch (Dry Branch, Clark Mill Branch), Mill Branch, Meeting House Branch, Joes Branch, and Little Fork Creek (Reedy Fork, Lake Terry, Mose Branch, Canal Branch, Brazzell Branch) before draining into the Lynches River. The river then accepts drainage from Rocky Creek (Long Branch, Little Rocky Creek, Fox Branch, Sycamore Pond), Buffalo Creek (Little Buffalo Creek, South Buffalo Creek, Raley Millpond), Big Sandy Creek (Sevenmile Branch, Oxpen Branch), and Little Sandy Creek. Further downstream, Jumping Gully (Horton Pond) enters the river followed by Swift Creek (North Prong, Rocky Prong, South Prong), Red Oak Camp Creek, Cedar Creek (McGee Branch, Park Pond, Sexton Pond), Hammond Branch (Beard Branch), and Blackwell Mill Stream. The Carolina Sandhills National Wildlife Refuge extends across Big Sandy Creek down to McGee Branch. The Sand Hills State Forest extends across the lower portion of the watershed below the wildlife refuge. There are a total of 273.8 stream miles and 446.9 acres of lake waters in this watershed, all classified FW.

Surface Water Quality

Station #	Type	Class	Description
PD-001	W/INT/BIO	FW	LYNCHES RIVER AT SC 265
PD-647	BIO	FW	LITTLE FORK CREEK AT COUNTY RD 39
PD-215	S/INT	FW	LITTLE FORK CREEK AT S-13-265 1.5 MI SW JEFFERSON
PD-067	S/W	FW	FORK CREEK AT SC 151
PD-068	S/INT	FW	FORK CREEK AT UNNUMBERED ROAD 1.5 MI SW JEFFERSON
PD-066	S/W	FW	LYNCHES RIVER AT S-28-42
PD-009	S/INT	FW	LYNCHES RIVER AT US 1
(PD-080)	P/W	FW	LYNCHES RIVER AT S-28-15 4.5 MI SE BETHUNE

Lynches River – There are three SCDHEC monitoring sites along this section of the Lynches River. At the furthest upstream site ***(PD-001)***, aquatic life and recreational uses are fully supported; however, there is a significant increasing trend in total nitrogen concentration. There is a significant decreasing trend in pH. A significant decreasing trend in turbidity suggests improving conditions for this parameter. Further downstream ***(PD-066)***, aquatic life uses are fully supported; however, there is a significant decreasing trend in dissolved oxygen concentration. There is a significant decreasing trend in pH. Recreational uses are partially supported due to fecal coliform bacteria excursions, which are compounded by a significant increasing trend in fecal coliform bacteria at this site.

At the next site downstream ***(PD-009)***, 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 and a decreasing trend in total phosphorus concentration suggest improving conditions for these parameters. Recreational uses are fully supported at this site. ***PD-080*** is physically located downstream in 03040202-05, but reflects the influence from this watershed drainage. Aquatic life and recreational uses are fully supported at this site. A significant increasing trend in dissolved oxygen concentration and decreasing trend in total phosphorus concentration suggest improving conditions for these parameters. 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.

Little Fork Creek - There are two SCDHEC monitoring sites along Little Fork Creek. At the upstream site ***(PD-647)***, aquatic life uses are partially supported based on macroinvertebrate community data. At the downstream site ***(PD-215)***, aquatic life uses are not supported due to occurrences of copper in excess of the aquatic life acute criterion. There is also a significant increasing trend in total phosphorus concentration. Recreational uses are partially supported at this site due to fecal coliform bacteria excursions, which are compounded by a significant increasing trend in fecal coliform bacteria concentration.

Fork Creek - There are two SCDHEC monitoring sites along Fork Creek. At the upstream site ***(PD-067)***, aquatic life uses are fully supported; however, there is a significant decreasing trend in dissolved oxygen concentration and an increasing trend in five-day biochemical oxygen demand. 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 downstream site ***(PD-068)***, 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, total phosphorus concentration, and total nitrogen concentration suggest improving conditions for these parameters. Recreational uses are not supported due to fecal coliform excursions.

NPDES Program

Active NPDES Facilities

RECEIVING STREAM	***NPDES#***
FACILITY NAME	***TYPE***
PERMITTED FLOW @ PIPE (MGD)	***COMMENT***
LYNCHES RIVER	SC0001341
AHLSTROM NONWOVENS LLC/BETHUNE	MINOR INDUSTRIAL
PIPE #: 001 FLOW: 0.89	

BUFFALO CREEK MARTIN MARIETTA MAT., INC./CHESTERFIELD PIPE #: 1AA-5AA FLOW: M/R	SCG730982 MINOR INDUSTRIAL
MOSE BRANCH LOAMY LLC./KERSHAW SAND MINE PIPE #: 001 FLOW: M/R	SCG730343 MINOR INDUSTRIAL
BRAZZELL BRANCH TOWN OF JEFFERSON WWTP PIPE #: 001 FLOW: 0.15	SC0024767 MINOR DOMESTIC

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME ***FACILITY TYPE***	***PERMIT #*** ***STATUS***
KENDALL COMPANY INDUSTRIAL	IWP-169 CLOSED

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
APAC-CAROLINA, INC. ASPHALT PLANT #10	0082-25 SAND
APAC-CAROLINA, INC. ASPHALT PLANT #8	0084-25 SAND
BUFFALO CREEK MINING CO. BUFFALO CREEK MINE #1	1306-55 SAND/GRAVEL
MARTIN MARIETTA MATERIALS CHESTERFIELD QUARRY	1062-25 GRANITE

Growth Potential

There is a low to moderate potential for growth in this watershed, which contains the Town of Jefferson, portions of the Towns of Bethune and McBee, and is adjacent to the Town of Pageland. S.C. Hwy 151, a major travel corridor from Charlotte to Florence and Myrtle Beach, has been widened to four lanes and a bipass completed around Jefferson. Additional commercial and industrial development is expected along this route. The Town of McBee has water service and has extended it along S.C. Hwy. 151 to the north of town. McBee also has a limited sewer system, which serves some of the industry in the area. Water service is provided for Jefferson and the area immediately surrounding it, along with a well water line running from Lake Terry to Pageland. Water service may be extended along S.C. Hwy 151 between Pageland and Jefferson, which could encourage growth. The remainder of the watershed is rural with agricultural and timberland uses.

Watershed Restoration and Protection

Total Maximum Daily Loads (TMDLs)

A TMDL was developed by SCDHEC and approved by the EPA for ***Fork Creek*** (monitoring sites ***PD-067*** and ***PD-068***) to determine the maximum amount of fecal coliform bacteria it can receive from nonpoint sources and still meet water quality standards. The nonpoint sources that have been determined to be contributors to the Fork Creek impairment include wildlife; grazing livestock and livestock defecating directly into streams; land application of poultry litter; failed, malfunctioning, and/or operational septic systems; and urban runoff from the Town of Jefferson. To achieve compliance with water quality standards, the TMDL recommends fecal coliform loads be reduced from livestock sources and runoff from poultry litter application by 45 and 20 percent at PD-067, and by 38 and 20 percent at monitoring station PD-068. The implementation of these load reduction allocation scenarios would result in an overall reduction of fecal coliform bacteria loading of 44% at PD-067 and 38% at PD-068, which are the amounts necessary for the stream to achieve compliance at the two water quality monitoring sites.

A TMDL was developed by SCDHEC and approved by EPA for the ***Lynches River*** water quality monitoring site ***PD-066*** to determine the maximum amount of fecal coliform bacteria it can receive and still meet water quality standards. Sources of fecal coliform loading could originate from nonpoint sources such as turkeys and land application from turkey AFOs. Other nonpoint sources include wildlife, cattle, pets, and failing OSWD systems (given their low density), which represent only a minor source of loading. The close proximity of the town of Jefferson upstream of WQM station PD-066 suggests that urban runoff may be contributing to fecal coliform exceedances. The TMDL states that an 81% reduction in fecal coliform loading is necessary for the stream to meet the water quality standard.

Special Projects

Fecal Coliform Bacteria TMDL Study and Implementation for the Fork Creek Watershed

The Pee Dee Resource Conservation and Development Council (RC&D) along with the Chesterfield Soil and Water Conservation District, the Department of Natural Resources and the Town of Jefferson have developed and are implementing a fecal coliform bacteria TMDL for the Fork Creek watershed. DHEC monitoring stations PD-067 and PD-068 were impaired for fecal coliform bacteria. The RC&D and its cooperators used their local knowledge to assist a contractor with the development of a TMDL. This included an identification of potential pollution sources within the watershed. Following TMDL approval, project cooperators targeted homeowners with failing septic systems in an effort to recruit cost-share participants. Those with failing systems are assisted with repair or replacement of their system. Additionally, the cooperators visited agricultural operations throughout the watershed to identify landowners interested in installing best management practices (BMPs) on their property. These BMPs are designed to exclude animals from creeks and streams and to control animal waste effectively.

03040202-04

(Sparrow Swamp)

General Description

Watershed 03040202-04 (formerly 03040202-100 and 03040202-110) is located in Darlington, Florence, and Lee Counties and consists primarily of ***Sparrow Swamp*** and its tributaries. The watershed occupies 142,565 acres of the Upper and Lower Coastal Plain regions of South Carolina. Land use/land cover in the watershed includes: 53.1% agricultural land, 26.4% forested wetland, 12.1% forested land, 6.4% urban land, 1.6% scrub/shrub land, 0.2% water, and 0.2% nonforested wetland.

Sparrow Swamp originates near the City of Hartsville, and accepts drainage from Burnt Branch before flowing through Smith Pond and Marco Millpond. Gully Run flows through Bell Pond and joins Sparrow Swamp in Marco Millpond. Long Branch enters the swamp downstream, followed by Harris Branch and Screeches Branch. Boggy Gully Swamp (The Bay, Big Cypress Bay, Little Cypress Bay, Boggy Gully Bay, Bees Wax Bay) also originates near Hartsville, and flows through Harolds Millpond and Andrews Millpond before draining into Sparrow Swamp. Sparrow Swamp then accepts drainage from McCalls Branch, Newman Swamp, Boyds Pond, Long Branch, Deep Hole Swamp (Camel Branch, Bay Branch, Bay Lake, Poplar Branch), and Magnolia Branch. Lake Swamp (Dargans Bay, Jacks Branch, Horse Branch) enters the system next followed by Long Branch (Meadow Prong) at the base of the watershed. The Sparrow Swamp Watershed flows into the Lynches River. Sparrow Swamp, Newman Swamp, and Lake Swamp are classified FW* (Dissolved oxygen not less than 4 mg/l and pH between 5.0 and 8.5) and the remaining streams in the watershed are classified FW. There are a total of 346.6 stream miles and 227.1 acres of lake waters in this watershed, all classified FW.

Surface Water Quality

Station #	Type	Class	Description
PD-229	S/W	FW*	NEWMAN SWAMP AT S-16-449 0.9 MI NE OF LAMAR
PD-072	S/W	FW*	SPARROW SWAMP AT S-16-697 2.5 MI E OF LAMAR
PD-345	W/INT	FW*	LAKE SWAMP AT S-21-38
PD-332	P/INT	FW*	SPARROW SWAMP AT S-21-55 NEAR JOHNSONS CROSSROADS

***Newman Swamp (PD-229)* –** This is a blackwater system, characterized by naturally low dissolved oxygen concentration conditions. 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, and a significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter. 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.

Sparrow Swamp – There are two SCDHEC monitoring sites along Sparrow Swamp. This is a blackwater system, characterized by naturally low dissolved oxygen concentration conditions. At the upstream site ***(PD-072)***, aquatic life uses are fully supported. A significant increasing trend in dissolved oxygen concentration and decreasing trends in five-day biochemical oxygen demand and total phosphorus concentration suggest improving conditions for these parameters. 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 at this site due to fecal coliform bacteria excursions. At the downstream site ***(PD-332)***, aquatic life and recreational uses are fully supported. Significant decreasing trends in five-day biochemical oxygen demand and total nitrogen concentration suggest improving conditions for these parameters.

Lake Swamp (PD-345) – Aquatic life and recreational uses are fully supported, and a significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter.

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-033	GB	MIDDENDORF	HARTSVILLE #4
AMB-034	GB	MIDDENDORF	TIMMONSVILLE #2

NPDES Program

Active NPDES Facilities

RECEIVING STREAM FACILITY NAME PERMITTED FLOW @ PIPE (MGD)	NPDES# TYPE COMMENT
SPARROW SWAMP TOWN OF TIMMONSVILLE WWTP PIPE #: 001 FLOW: 1.29 (HCR)	SC0025356 MAJOR DOMESTIC
LAKE SWAMP MCCUTCHEON CONSTR./MCCUTCHEON #3 PIPE #: 001 FLOW: M/R	SCG730545 MINOR INDUSTRIAL
LAKE SWAMP WILLIS CONSTRUCTION/HUGGINS PIT PIPE #: 001 FLOW: M/R	SCG730709 MINOR INDUSTRIAL
MAGNOLIA BRANCH T & E CONSTRUCTION, LLC/RUTLAND MINE PIPE #: 001 FLOW: M/R	SCG731006 MINOR INDUSTRIAL

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME ***FACILITY TYPE***	***PERMIT #*** ***STATUS***
LEE COUNTY COMPOSTING FACILITY COMPOSTING	312640-3001 ACTIVE
LEE COUNTY C&D LANDFILL C&D	312640-2001 ACTIVE

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
RE GOODSON CONSTRUCTION CO., INC. RE GOODSON MINE	1200-41 SAND; SAND/CLAY
WILLIS CONSTRUCTION COMPANY HUGGINS PIT	1577-41 SAND
MCCUTCHEON CONSTRUCTION CO., INC. MCCUTCHEON MINE #3	1515-41 SAND

Growth Potential

There is a moderate potential for growth in this watershed, which contains the Towns of Lydia and Lamar, and a portion of the Town of Timmonsville. U.S. Hwy. 76 and a rail line cross the watershed at Timmonsville connecting the Cities of Sumter and Florence, and U.S. Hwy. 401 crosses the watershed at the Town of Lamar. Water and sewer services are provided for Timmonsville and Lamar and the immediate surrounding area. Improved water and sewer systems in these areas hold the potential for future industrial growth in the area. Interstates I-20 and I-95 cross the watershed, and an expansion of the Timmonsville Water and Sewer System along S.C. 403 to I-95 will encourage growth. The expansion of the Honda plant at the I-95/CR21-83 should spur future growth. There are plans to widen U.S. Hwy. 76 east of Timmonsville to I-95, which would bring about commercial growth.

03040202-05

(Lynches River)

General Description

Watershed 03040202-05 (formerly 03040202-090) is located in Chesterfield, and Kershaw, Darlington, Lee, Florence, and Sumter Counties consists primarily of the ***Lynches River*** and its tributaries from the Little Lynches River to Sparrow Swamp. The watershed occupies 126,827 acres of the Sandhills and the Upper and Lower Coastal Plain regions of South Carolina. Land use/land cover in the watershed includes: 40.4% agricultural land, 30.1% forested wetland, 22.0% forested land, 4.6% urban land, 2.6% scrub/shrub land, 0.2% water, and 0.1% nonforested wetland.

This portion of the Lynches River accepts drainage from its upper reaches, together with Turkey Creek, Merchants Mill Creek, and Bells Branch. The river then accepts drainage from Cousar Branch near the City of Bishopville and Lee State Park followed by Mill Branch, another Mill Branch, Rose Branch, and Back Swamp. Further downstream, Back Swamp drains into the river followed by Polecat Branch (Mill Bay). The Lynches River County Park is located near the confluence of the Lynches River and Sparrow Swamp. The portion of the river from the park upstream to U.S. 15 crossing is designated as a scenic river. There are a total of 246.5 stream miles and 159.3 acres of lake waters in this watershed, all classified FW.

Surface Water Quality

Station #	Type	Class	Description
PD-080	P/W	FW	Lynches River at S-28-15 4.5 mi SE Bethune
PD-071	P/W	FW	Lynches River at US 15/SC 34
PD-112	S/W	FW	Cousar Branch 1/4 mi below Bishopville Finishing Co.
PD-364	P/SPRP	FW	Lynches River at US 401
PD-319	P/W	FW	Lynches River at SC 403
PD-093	P/INT	FW	Lynches River at S-21-55

Lynches River* -** There are five SCDHEC monitoring sites along this section of the Lynches River. This is a blackwater system, characterized by naturally low pH conditions. Recreational uses are fully supported at all sites. At the furthest upstream site ***(PD-080,) aquatic life uses are fully supported. A significant increasing trend in dissolved oxygen concentration and decreasing trend in total phosphorus concentration suggest improving conditions for these parameters. Further downstream ***(PD-071)***, aquatic life uses are again fully supported. Significant decreasing trends in five-day biochemical oxygen demand, total phosphorus concentration, total nitrogen concentration, and fecal coliform bacteria concentration suggest improving conditions for these parameters. Although pH excursions occurred at the furthest two upstream sites, they were typical of values seen in blackwater systems and were considered natural, not standards violations.

Further downstream ***(PD-364)***, aquatic life uses are not supported due to pH excursions. There is a significant decreasing trend in pH. Significant decreasing trends in five-day biochemical oxygen demand, turbidity, total phosphorus concentration, and total nitrogen concentration suggest improving conditions for these parameters. At the next site downstream ***(PD-319)***, aquatic life uses are partially supported due to pH excursions. There is a significant decreasing trend in pH. Significant decreasing trends in five-day biochemical oxygen demand, total phosphorus concentration, and total nitrogen concentration and increasing trends in dissolved oxygen concentration suggest improving conditions for these parameters. At the furthest downstream site ***(PD-093)***, aquatic life uses are partially supported due to pH excursions. There is a significant decreasing trend in pH. Significant decreasing trends in five-day biochemical oxygen demand, turbidity, total phosphorus concentration, and total nitrogen concentration and increasing trends in dissolved oxygen concentration suggest improving conditions for these parameters.

Cousar Branch (PD-112) - Aquatic life uses are not supported due to pH excursions. There is a significant decreasing trend in pH. Significant decreasing trends in five-day biochemical oxygen demand and total phosphorus concentration suggest improving conditions for these parameters. Recreational uses are fully supported at this site and a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter.

A fish consumption advisory has been issued by the Department for mercury and includes the ***Lynches River*** *within this watershed* *(see advisory p.43).*

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-039	GB	MIDDENDORF	BISHOPVILLE #4

NPDES Program

Active NPDES Facilities

RECEIVING STREAM ***FACILITY NAME*** ***PERMITTED FLOW @ PIPE (MGD)***	***NPDES#*** ***TYPE*** ***COMMENT***
LYNCHES RIVER CITY OF BISHOPVILLE WWTP PIPE #: 001 FLOW: 2.5	SC0035378 MAJOR DOMESTIC
LYNCHES RIVER TOWN OF LYNCHBURG WWTP PIPE #: 001 FLOW: 0.107	SC0042676 MINOR DOMESTIC
LYNCHES RIVER TOWN OF LAMAR WWTP PIPE #: 001 FLOW: 0.65	SC0043702 MINOR DOMESTIC

LYNCHES RIVER SUMTER COUNTY PIPE #: 001 FLOW: 0.2, 0.5	PROPOSED MINOR DOMESTIC
LYNCHES RIVER TRIBUTARY SC PRESTRESS/SAND PLANT 2 PIPE #: 001 FLOW: M/R	SCG730713 MIN0R INDUSTRIAL
BACK SWAMP TOWN OF LYNCHBURG WTP PIPE #: 001 FLOW: M/R	SCG645019 MIN0R INDUSTRIAL

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME ***FACILITY TYPE***	***PERMIT #*** ***STATUS***
LEE COUNTY LANDFILL MUNICIPAL	311001-1101 CLOSED

Land Application Sites

LAND APPLICATION SYSTEM ***FACILITY NAME***	***PERMIT #*** ***TYPE***
SPRAYFIELD FOUNTAINS LANDROMAT	ND0000671 DOMESTIC

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
SC PRESTRESS CORP. PRESTRESS MINE	1212-41 SAND
MCCUTCHEON CONSTRUCTION CO., INC. MCCUTCHEON MINE	1183-41 SAND; SAND/CLAY

Growth Potential

There is a low to moderate potential for growth in this watershed, which contains the Town of Lynchburg and portions of the City of Bishopville and the Town of Cartersville. U.S. Hwy. 76 and a rail line cross the watershed south of Lynchburg connecting the Cities of Sumter and Florence. Interstates I-20 and I-95 also cross the watershed and some growth may be seen around the interchanges. An additional source of future growth is the Lee Correctional Institution. The Darlington County Water and Sewer Authority may extend water lines into the area east of the Lynches River, which could precipitate residential growth, but no significant commercial or industrial growth. The remainder of the watershed is rural with agricultural and timberland uses.

03040202-06

(Lake Swamp)

General Description

Watershed 03040202-06 (formerly 03040202-140, 03040202-150, 03040202-160, and 03040202-170) is located in Florence and Williamsburg Counties and consists primarily of ***Lake Swamp*** and its tributaries. The watershed occupies 105,066 acres of the Lower Coastal Plain region of South Carolina. Land use/land cover in the watershed includes: 40.8% agricultural land, 31.0% forested wetland, 16.7% forested land, 7.3% urban land, 3.8% scrub/shrub land, 0.2% nonforested wetland, and 0.1% water.

Twomile Branch (Cypress Branch, Sandy Run Branch, Spring Run) merges with Camp Branch near the City of Lake City to form the headwaters of Lake Swamp. Smith Swamp (Spring Bay, Grahams Mill Branch, Graham Branch) and McNamee Swamp join to form Singleton Swamp, which accepts drainage from Long Branch before draining into Lake Swamp. There are a total of 152.9 stream miles and 71.1 acres of lake waters in this watershed. Lake Swamp is classified FW* (Dissolved oxygen not less than 4.0 mg/l and pH between 5.0 and 8.5) and the remaining streams are classified FW.

Surface Water Quality

Station #	Type	Class	Description
PD-346	W/INT	FW	CAMP BRANCH AT S-21-278
PD-085	S/W	FW*	LAKE SWAMP AT US 378
PD-086A	S/INT	FW*	LAKE SWAMP ON SC 341
RS-02318	RS02	FW*	LAKE SWAMP ON SC 341
PD-314	W/INT	FW	SINGLETON SWAMP AT S-21-67
PD-087	S/INT	FW*	LAKE SWAMP AT SC 341 2.6 MI W OF JOHNSONVILLE

Camp Branch (PD-346) - Aquatic life and recreational uses are fully supported. This is a blackwater system, characterized by naturally low pH and dissolved oxygen concentration conditions. Although pH and dissolved oxygen excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. A significant increasing trend in dissolved oxygen concentration suggests improving conditions for this parameter.

Lake Swamp – There are three SCDHEC monitoring stations along Lake Swamp. This is a blackwater system, characterized by naturally low dissolved oxygen concentration conditions. At the upstream site ***(PD-085)***, aquatic life and recreational uses are fully supported, and significant decreasing trends in turbidity and fecal coliform bacteria concentration suggest improving conditions for these parameters. Although dissolved oxygen excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Further downstream ***(PD-086A/RS-02318)***, aquatic life uses are not supported due to dissolved oxygen excursions. There is also a significant increasing trend in five-day biochemical oxygen demand. There is a significant decreasing trend in pH. Recreational uses are fully supported at this site. At the furthest downstream site ***(PD-087)***, aquatic life and recreational 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.

Singleton Swamp (PD-314) – Aquatic life and recreational uses are fully supported, and a significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter. This is a blackwater system, characterized by naturally pH and low dissolved oxygen concentration conditions. Although pH and dissolved oxygen excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations.

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-007	GB	BLACK CREEK	JOHNSONVILLE

NPDES Program

Active NPDES Facilities

RECEIVING STREAM ***FACILITY NAME*** ***PERMITTED FLOW @ PIPE (MGD)***	***NPDES#*** ***TYPE*** ***COMMENT***
LONG BRANCH NAN YA PLASTICS CORP. AMERICA PIPE #: 001 FLOW: M/R	SCG250092 MIN0R INDUSTRIAL

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME ***FACILITY TYPE***	***PERMIT #*** ***STATUS***
CITY OF LAKE CITY DUMP MUNICIPAL	----------- CLOSED
CITY OF LAKE CITY C&D LANDFILL C&D	451002-1201 ACTIVE
CITY OF LAKE CITY LANDFILL MUNICIPAL	211002-1201 CLOSED
CITY OF LAKE CITY C&D LANDFILL C&D	PROPOSED ------------

Growth Potential

There is a low to moderate potential for growth in this watershed, which contains the Town of Scranton, and a portion of the City of Lake City and the Town of Johnsonville. Water and sewer services are limited to the urban areas of Lake City and Scranton. The sewer system in Scranton and the wastewater system in Lake City are currently undergoing an expansion. U.S. Hwy. 52, a four-lane highway, is the main corridor between the Cities of Florence and Charleston. This highway corridor contains the NanYa Industrial Complex and a surrounding multi-county industrial park, making this a prime industrial growth corridor in the region. The Florence County Industrial Park at Lake City and the expanded water and sewer capacity of the City of Lake City should also encourage industrial growth. A rail line parallels the road corridor between Lake City and Florence. There are no plans to widen U.S. Hwy. 378, but it is a major beach access highway. Additional commercial development is possible along U.S. Hwy. 52 and at the U.S. Hwy. 52/U.S. Hwy. 378 intersection.

Watershed Protection and Restoration Strategies

Special Projects

Fecal Coliform Bacteria TMDL Development and Implementation and Dissolved Oxygen Characterization for the Big Swamp and Singleton Swamp Watersheds

The Santee-Wateree Resource Conservation and Development Council (RC&D), along with the Williamsburg and Florence Soil and Water Conservation Districts, Williamsburg and Florence Natural Resource Conservation Services, and the Department of Natural Resources have developed and are implementing a fecal coliform bacteria TMDL for the Big Swamp and Singleton Swamp watersheds. The TMDL addresses fecal coliform excursions at SCDHEC water quality monitoring station PD-169. The RC&D and its cooperators used their local knowledge to assist a contractor with the development of a TMDL and the identification of potential pollution sources that negatively effect dissolved oxygen levels within the watershed. Following TMDL approval, project cooperators implemented a series of best management practices (BMPs) in cooperation with local homeowners. These BMPs were designed to reduce the loading of fecal coliform bacteria into the respective watersheds. Along with repairing failing septic tanks in the area, RC&D focused their attention on local ‘Hobby Farms”. These are places where a landowner may have several animals that are not utilized as income in a traditional farming or animal agriculture sense. RC&D identified cattle, horses, goats, donkeys, llamas, and even camels in the watershed. In cooperation with these landowners BMPs, including fencing, watering wells, heavy use protection areas, and filter strips were implemented to prevent these animals and their waste from accessing local streams. Through these BMPs and the upgrade of the Town of Pamplico wastewater treatment facility, SCDHEC hopes to begin seeing significant reductions of fecal coliform and increases in dissolved oxygen throughout the watersheds.

03040202-07

(Lynches River)

General Description

Watershed 03040202-07 (formerly 03040202-120, 03040202-130) is located in Florence County and consists primarily of the ***Lynches River*** and its tributaries from Sparrow Swamp to its confluence with the Pee Dee River. The watershed occupies 146,773 acres of the Lower Coastal Plain region of South Carolina. Land use/land cover in the watershed includes: 36.0% agricultural land, 30.4% forested wetland (swamp), 24.9% forested land, 4.7% urban land, 3.2% scrub/shrub land, 0.4% water, and 0.4% nonforested wetland (marsh).

This segment of the Lynches River accepts drainage from its upstream reaches together with Mill Branch, Carter Creek (Big Branch), Bay Branch (Polecat Branch), McCall Branch (Taylor Branch), and Ward Mill Branch. Further downstream, Cypress Branch enters the river followed by Green Spring Branch (Cox Bay Branch, Horse Branch), Millpond Branch, High Hill Drainage Canal, and Big Swamp. Big Swamp Branch (Gum Branch) and Buck Branch join to form Big Swamp, near the Town of Pamplico, which accepts drainage from Cypress Branch and Little Swamp before draining into the Lynches River. Deep Creek and the Lake Swamp Watershed enter the river at the base of the watershed. The Lynches River County Park extends across the upper portion of the watershed. The portion of the river below the park to the Great Pee Dee River is a proposed scenic river corridor. There are a total of 241.5 stream miles and 128.3 acres of lake waters in this watershed. Big Swamp is classified FW* (dissolved oxygen not less than 4.0 mg/l and pH between 5.0 and 8.5) and the remaining streams in the watershed are classified FW.

Surface Water Quality

Station #	Type	Class	Description
PD-041	P/W	FW	LYNCHES RIVER AT US 52 NEAR EFFINGHAM
PD-281	P/INT	FW	LYNCHES RIVER AT S-21-49 5 MI NW OF JOHNSONVILLE
PD-168	S/W	FW*	BIG SWAMP AT S-21-360 1.1 MI W OF PAMPLICO
PD-631	BIO	FW	TRIBUTARY TO BIG SWAMP AT SR 164
PD-169	S/INT	FW*	BIG SWAMP AT US 378 & SC 51 0.9 MI W OF SALEM

Lynches River - There are two SCDHEC monitoring stations along this section of the Lynches 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 ***(PD-041)***, aquatic life and recreational uses are fully supported. Significant decreasing trends in five-day biochemical oxygen demand, total phosphorus concentration, and total nitrogen concentration suggest improving conditions for these parameters. At the downstream site ***(PD-281)***, aquatic life uses are not supported due to occurrences of copper in excess of the aquatic life acute criterion. Significant decreasing trends in five-day biochemical oxygen demand, turbidity, total phosphorus concentration, and total nitrogen concentration suggest improving conditions for these parameters. Recreational uses are fully supported at this site.

Big Swamp - There are two SCDHEC monitoring stations along Big Swamp. This is a blackwater system, characterized by naturally low dissolved oxygen conditions. Although dissolved oxygen 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 ***(PD-168)***, aquatic life and recreational uses are fully supported, and a significant decreasing trend in fecal coliform bacteria suggests improving conditions for this parameter. At the downstream site ***(PD-169)***, aquatic life uses are fully supported; however, there is a significant increasing trend in turbidity. There is a significant decreasing trend in pH. Significant decreasing trends in total nitrogen concentration and increasing trends in dissolved oxygen concentration suggest improving conditions for this parameter. Recreational uses are partially supported at this site due to fecal coliform bacteria excursions.

Big Swamp Tributary (PD-631) – Aquatic life uses are fully supported based on macroinvertebrate community data.

A fish consumption advisory has been issued by the Department for mercury and includes the ***Lynches River*** *within this watershed* *(see advisory p.43).*

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-010	GB	BLACK CREEK	PAMPLICO #1

NPDES Program

Active NPDES Facilities

RECEIVING STREAM FACILITY NAME PERMITTED FLOW @ PIPE (MGD)	NPDES# TYPE COMMENT
LYNCHES RIVER CITY OF JOHNSONVILLE/EAST PLT PIPE #: 001 FLOW: 4.5	SC0025933 MAJOR DOMESTIC
LYNCHES RIVER MCCALL FARMS INC. PIPE #: 001, 01A FLOW: 0.288	SC0039284 MINOR INDUSTRIAL
LYNCHES RIVER CITY OF LAKE CITY/LAKE SWAMP WWTP PIPE #: 001 FLOW: 5.2 (MARCH-OCTOBER) PIPE #: 001 FLOW: 6.0 (NOVEMBER-FEBRUARY)	SC0046311 MAJOR DOMESTIC

LYNCHES RIVER RE GOODSON/RE GOODSON MINE PIPE #: 001 FLOW: M/R	SCG730613 MINOR INDUSTRIAL
HIGH HILL DRAINAGE CANAL JERRY HAYES EXCAVATION PIPE #: 001 FLOW: M/R	SCG730365 MINOR INDUSTRIAL

Nonpoint Source Management Program

Land Disposal Activities

Landfill Activities

SOLID WASTE LANDFILL NAME ***FACILITY TYPE***	***PERMIT #*** ***STATUS***
FLORENCE COUNTY LANDFILL MUNICIPAL	DWP-021 CLOSED
WELLMAN INC. LANDFILL INDUSTRIAL	IWP-092 INACTIVE

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
CAROLINA SAND, INC. JOHNSONVILLE PLANT	0648-41 SAND
JERRY HAYES EXCAVATION J. HAYES	1202-41 SAND; SAND/CLAY
JERRY HAYES EXCAVATION HAYES EXCAVATION	1343-41 SAND; SAND/CLAY

Growth Potential

There is a low potential for growth in this watershed, which contains the Towns of Coward and Pamplico, and portions of the Towns of Scranton and Salem. Water and sewer service are available in Pamplico and Scranton, and water service is available in Coward. The watershed is bisected by U.S. Hwy. 52 and a rail line running north/south and by U.S. Hwy. 378 running east/west. U.S. Hwy. 52 is a major highway route from the City of Florence to the City of Charleston. Portions not already widened to four lanes are expected to be within 10-15 years, which could encourage industrial growth. The remainder of the watershed is rural with agricultural uses.

Watershed Restoration and Protection

Total Maximum Daily Loads (TMDLs)

A TMDL was developed by SCDHEC and approved by the EPA for ***Big Swamp*** (monitoring site ***PD-169)*** to determine the maximum amount of fecal coliform bacteria it can receive from nonpoint sources and still meet water quality standards. The sources of fecal coliform were determined to be wildlife, grazing livestock, malfunctioning septic systems, and the Town of Pamplico Waste Water

Treatment Plant (WWTP). The Town of Pamplico is in the process of upgrading the treatment system and transferring all discharge to the adjacent Pee Dee River; therefore the TMDL focuses predominantly on nonpoint sources of fecal coliform. To achieve compliance with water quality standards, the TMDL recommends fecal coliform loads be reduced by approximately 67.6% from livestock sources, 84.2% from the WWTP during the interim discharge period, and 100% from failing septic systems.

Special Projects

Fecal Coliform Bacteria TMDL Development and Implementation and Dissolved Oxygen Characterization for the Big Swamp and Singleton Swamp Watersheds

The Santee-Wateree Resource Conservation and Development Council (RC&D), along with the Williamsburg and Florence Soil and Water Conservation Districts, Williamsburg and Florence Natural Resource Conservation Services, and the Department of Natural Resources have developed and are implementing a fecal coliform bacteria TMDL for the Big Swamp and Singleton Swamp watersheds. The TMDL addresses fecal coliform excursions at SCDHEC water quality monitoring station PD-169. The RC&D and its cooperators used their local knowledge to assist a contractor with the development of a TMDL and the identification of potential pollution sources that negatively effect dissolved oxygen levels within the watershed. Following TMDL approval, project cooperators implemented a series of best management practices (BMPs) in cooperation with local homeowners. These BMPs were designed to reduce the loading of fecal coliform bacteria into the respective watersheds. Along with repairing failing septic tanks in the area, RC&D focused their attention on local 'Hobby Farms". These are places where a landowner may have several animals that are not utilized as income in a traditional farming or animal agriculture sense. RC&D identified cattle, horses, goats, donkeys, llamas, and even camels in the watershed. In cooperation with these landowners BMPs, including fencing, watering wells, heavy use protection areas, and filter strips were implemented to prevent these animals and their waste from accessing local streams. Through these BMPs and the upgrade of the Town of Pamplico wastewater treatment facility, SCDHEC hopes to begin seeing significant reductions of fecal coliform and increases in dissolved oxygen throughout the watersheds.

Black River Basin Description

The ***Black River Basin (hydrologic unit 03040205)*** is located in Kershaw, Lee, Sumter, Clarendon, Florence, Williamsburg, and Georgetown Counties, and encompasses 2,060 square miles with geographic regions extending from the Sandhills to the Upper and Lower Coastal Plains and into the Coastal Zone. The Black River Basin encompasses 18 watersheds, some 1.3 million acres of which 26.3% is forested land, 35.0% is agricultural land, 4.6% is scrub/shrub land, 27.1% is forested wetland, 6.1% is urban land, 0.4% is nonforested wetland, 0.1% is barren land, and 0.4% is water. The urban land percentage is comprised chiefly of the City of Sumter. There are approximately 2,143 stream miles, 2,332 acres of lake waters, and 763 acres of estuarine areas in the Black River Basin. The Black River originates near the City of Bishopville and accepts drainage from Rocky Bluff Swamp, the Pocotaligo River, Pudding Swamp, Kingstree Swamp Canal, and Black Mingo Creek before merging with the Great Pee Dee River.

Physiographic Regions

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

The **Sandhills** 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 U.S. Geological Survey's National Land Cover Data (NLCD), 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, as well as vegetated portions of urban areas.

Agricultural/Grass land is characterized by cropland, pasture, and orchards and may include some grass cover in urban, scrub/shrub, and forest areas.

Scrub/Shrub land is adapted from the western Rangeland classification to represent the "fallow" condition of the land (currently unused, yet vegetated), and is most commonly found in the dry Sandhills region including areas of farmland, sparse pines, regenerating forest lands, and recently harvested timber lands.

Forest land is characterized by deciduous and evergreen trees not including forests in wetland settings.

Forested Wetland (swampland) is the saturated bottomland, mostly hardwood forests that are primarily composed of wooded swamps occupying river floodplains and isolated low-lying wet areas, primarily located in the Coastal Plain.

Nonforested Wetland (marshland) is dependent on soil moisture to distinguish it from scrub/shrub since both classes contain grasses and low herbaceous cover; nonforested wetlands are most common along the coast and isolated freshwater areas found in the Coastal Plain.

Barren land is characterized by an unvegetated condition of the land, both natural (rock, beaches and unvegetated 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 and tidal waters.

Soil Types

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

Bladen soils are poorly drained soils on low, nearly level areas, and low ridges.

Bonneau soils are deep, moderately well drained soils with loamy subsoil on ridges.

Emporia soils are well drained, gently sloping soils with surface and subsoils of loamy fine sand.

Foreston soils are moderately well drained soils that formed in loamy marine sediments in upland areas of the Coastal Plain, and on high ridges and slight rises within broad flats.

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.

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

Levy soils are nearly level, very poorly drained soils, mucky throughout or loamy and underlain with clayey layers, rarely or frequently flooded with fresh water.

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

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

Norfolk soils are deep, well drained soils, with loamy subsoil, nearly level and gently sloping elevated uplands.

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

Paxville soils are somewhat to very poorly drained soils, with loamy subsoil, on low ridges and in depressions.

Pelion soils are well drained and moderately well drained soils that have a sandy surface layer and a loamy subsoil, many with a fragipan in the subsoil.

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

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.

Wahee soils are poorly drained soils on low, nearly level areas and low ridges.

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

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

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 Black River Basin is from 0.10 to 0.20.

Fish Consumption Advisory

At the time of publication, a fish consumption advisory issued by SCDHEC is in effect for the ***Black River, Black Mingo Creek, and the Pocotaligo River*** advising people to limit the amount of some types of fish consumed from these waters. Fish consumption advisories are updated annually in March.

For background information and the most current advisories please visit www.scdhec.gov/fish. For more information or a hard copy of the advisories, call SCDHEC's Division of Health Hazard Evaluation toll-free at (888) 849-7241.

Climate

Normal yearly rainfall in the Black River area during the period of 1971 to 2000 was 48.14 inches, according to South Carolina's **30-year** climatological record. Data compiled from National Weather Service stations in Andrews, Bishopville, Kingstree, Manning, Sumter, Wedgefield, and Pageland were used to determine the general climate information for this portion of the State. The highest seasonal rainfall occurred in the summer with 15.12 inches; 10.49, 11.72, and 10.81 inches of rain fell in the fall, winter, and spring, respectively. The average annual daily temperature was 63.0 ^{o}F. Winter temperatures averaged 46.4^{o}F, spring temperatures averaged 62.6 ^{o}F and summer and fall mean temperatures were 78.8 ^{o}F and 64.0 ^{o}F, respectively.

Watershed Evaluations

03040205-01

(Scape Ore Swamp)

General Description

Watershed 03040205-01 (formerly 03040205-030, 03040205-040, 03040205-050, 03040205-060, and a portion of 03040205-070) is located in Lee, Kershaw, and Sumter Counties and consists primarily of ***Scape Ore Swamp*** and its tributaries. The watershed occupies 178,979 acres of the Sandhills and Upper Coastal Plain regions of South Carolina. Land use/land cover in the watershed includes: 46.2% agricultural land, 24.8% forested land, 21.9% forested wetland, 5.2% urban land, 1.5% scrub/shrub land, 0.2% water, 0.1% nonforested wetland, and 0.1% barren land.

Timber Creek (Grassy Bottom Branch, Maple Branch, Long Branch, Nancy Branch, Pates Mill Branch, Fuzzy Branch) and Black Creek join to form Scape Ore Swamp. Downstream of the confluence, Scape Ore Swamp accepts drainage from Cedar Creek, Cedar Creek Pond, Gum Springs Branch and Beaverdam Creek. McGrits Creek flows through McGrits Millpond and Ashwood Lake before flowing into Mechanicsville Swamp, which drains into Scape Ore Swamp. Further downstream, Scape Ore Swamp accepts drainage from Long Branch (Little Long Branch) and Rocky Bluff Swamp.

Rocky Bluff Swamp accepts drainage from Lee Swamp (Ardis Pond), Whites Millpond, Brunson Branch (Mile Branch, Mulberry Branch), and Cowpen Swamp before draining into Scape Ore Swamp. Alligator Branch and Concord Branch enter the swamp at the base of the watershed. There are a total of 339.7 stream miles and 441.1 acres of lake waters in this watershed. Rocky Bluff Swamp and Lee Swamp are classified FW* (Dissolved oxygen not less than 4.0 mg/l and pH between 5.0 and 8.0) and the remaining streams in the watershed are classified FW.

Surface Water Quality

Station #	Type	Class	Description
PD-355	W/INT	FW	SCAPE ORE SWAMP AT S-31-108
RS-01017	W-RS01	FW	MCGRITS CREEK AT CR 73, 7.5M SW OF BISHOPVILLE
CL-077	W/W	FW	LAKE ASHWOOD , FOREBAY EQUIDISTANT FROM DAM AND SHORE LINES
PD-356	W/INT	FW	MECHANICSVILLE SWAMP AT S-31-500
PD-357	W/INT	FW*	ROCKY BLUFF SWAMP AT US 76
PD-201	W/INT	FW	SCAPE ORE SWAMP AT S-43-41

Scape Ore Swamp* -** There are two SCDHEC monitoring stations along Scape Ore Swamp. This is a blackwater system, characterized by naturally low pH and dissolved oxygen conditions. At the upstream site ***(PD-355), aquatic life uses are fully supported; however, there is a significant increasing trend in total nitrogen concentration. Although pH and dissolved oxygen excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Significant decreasing trends in five-day biochemical oxygen demand, turbidity, and total phosphorus concentration suggest improving conditions for these parameters. Recreational uses are partially supported at this site due to fecal coliform bacteria excursions. At the downstream site ***(PD-201)***, aquatic life and recreational 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. Significant increasing trends in dissolved oxygen concentration and decreasing trends in five-day biochemical oxygen demand and total nitrogen concentration suggest improving conditions for these parameters.

McGrits Creek (RS-01017) – This is a blackwater system, characterized by naturally low pH and dissolved oxygen conditions. Although pH and dissolved oxygen excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Aquatic life uses are not supported due to turbidity excursions and recreational uses are not supported due to fecal coliform bacteria excursions.

Lake Ashwood (CL-077) – This is a blackwater system, characterized by naturally low pH and dissolved oxygen conditions. Although pH and dissolved oxygen excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Aquatic life uses are not supported due to total nitrogen and chlorophyll-a excursions. Recreational uses are fully supported.

Mechanicsville Swamp (PD-356) – 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 not supported due to dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. There is also a significant increasing trend in total nitrogen concentration. A significant decreasing trend in total phosphorus concentration suggests improving conditions for this parameter. Recreational uses are fully supported.

Rocky Bluff Swamp (PD-357) – This is a blackwater system, characterized by naturally low dissolved oxygen conditions. Although dissolved oxygen 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, and a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter.

NPDES Program

Active NPDES Facilities

RECEIVING STREAM ***FACILITY NAME*** ***PERMITTED FLOW @ PIPE (MGD)***	***NPDES#*** ***TYPE*** ***COMMENT***
BLACK CREEK CAROLINA GAS TRANSMISSION CORP. PIPE #: 001 FLOW: M/R	SCG670001 MINOR INDUSTRIAL
SCAPE ORE SWAMP TRIBUTARY LEE COUNTY BORROW PIT PIPE #: 001 FLOW: M/R	SCG730694 MINOR INDUSTRIAL
BEAVERDAM CREEK JAMES L. CORBITT/CORBITT PIT PIPE #: 001 FLOW: M/R	SCG730461 MINOR INDUSTRIAL
SCAPE ORE SWAMP JAY & J CONSTRUCTION/HOUSER MINE PIPE #: 001 FLOW: M/R	SCG730995 MINOR INDUSTRIAL
ROCKY BLUFF SWAMP RE GOODSON/KIRVEN MINE PIPE #: 001 FLOW: M/R	SCG730996 MINOR INDUSTRIAL

Nonpoint Source Management Program

Land Disposal Activities

Landfill Activities

SOLID WASTE LANDFILL NAME ***FACILITY TYPE***	***PERMIT #*** ***STATUS***
ASHWOOD DUMP MUNICIPAL	---------- CLOSED
SUMTER COUNTY LANDFILL MUNICIPAL	431001-1101 CLOSED
SUMTER COUNTY TRANSFER STATION MUNICIPAL	431001-6001 ACTIVE
SUMTER COUNTY LANDFILL MUNICIPAL	----------- CLOSED
SUMTER COUNTY C&D LANDFILL CONSTRUCTION	431001-1201, -1202, -1203 ACTIVE
UNION CAMP LAND APPLICATION	433313-8001 INACTIVE

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
LEE COUNTY LEE COUNTY BORROW PIT	1042-61 SAND/CLAY
JAMES L. CORBITT CORBITTS PIT	1301-61 SAND; SAND/CLAY
RICHARDSON CONSTRUCTION CO. LOWRY BORROW PIT	1612-85 SAND
WR MCLEOD MCCLEOD MINE	1304-85 SAND; SAND/CLAY

Growth Potential

There is a moderate to high potential for growth in this watershed around the City of Sumter. Residential, commercial, and industrial growth is expected in the area fringing the City of Sumter. Growth is also expected along the corridor of U.S. Hwy. 76 en route from Sumter to the City of Florence, and I-20 which crosses the watershed south of the City of Bishopville. U.S. Hwys. 15, 521, and 378 also bisect the watershed, along with two rail lines. There is a low potential for growth in the remainder of the watershed. Some growth may occur surrounding the interchanges of I-95 and the U.S. Hwy. 378 corridor. The remainder of the watershed is rural with agricultural and timberland uses.

Watershed Restoration and Protection

Total Maximum Daily Loads (TMDLs)

A TMDL was developed by SCDHEC and approved by the EPA for ***Scape Ore Swamp*** (monitoring site ***PD-355***) to determine the maximum amount of fecal coliform bacteria it can receive from nonpoint sources and still meet water quality standards. The nonpoint sources that have been determined to be contributors to the Scape Ore Swamp impairment include wildlife, grazing livestock and livestock defecating directly into streams, land application of poultry litter, and failed or malfunctioning septic systems. To achieve compliance with water quality standards, the TMDL recommends fecal coliform bacteria loads contributed by livestock sources and runoff from poultry litter application be reduced by approximately 58%, and existing fecal coliform bacteria loads contributed by failing septic systems be reduced by 100%.

Special Projects

Fecal Coliform Bacteria TMDL Development and Implementation for the Scape Ore Swamp Watershed

The Santee-Wateree Resource Conservation and Development Council (RC&D), along with the Lee and Kershaw Soil and Water Conservation Districts, Lee and Kershaw Natural Resource Conservation Services, and the Department of Natural Resources have developed and implemented a fecal coliform bacteria TMDL for the Scape Ore Swamp watershed. The TMDL addresses the impairment at SCDHEC station PD-355, potential sources of pollution, and the amount of reduction needed to meet water quality standards. During the implementation phase of this project, RC&D staff identified homeowners and agriculture operations that could potentially contribute to the impairment. Through voluntary agreements and cost share assistance, a series of best management practices (BMPs) were installed to address fecal coliform loading in the watershed. These BMPs were designed to reduce the loading of fecal coliform into the respective watersheds. These BMPs included replacing or repairing failing septic tanks, fencing out livestock from streams, and providing alternative water sources for livestock. Additionally, RC&D identifies several local farmers who applied poultry litter as fertilizer for their crops. By establishing nutrient management plans and installing waste storage facilities, the project managers were able to significantly reduce the runoff of bacteria getting into local streams. Because of these BMPs, SCDHEC has begun to see fecal coliform reductions at PD-355 that, if continued, will ultimately result in the attainment of water quality standards in Scape Ore Swamp.

03040205-02

(Black River)

General Description

Watershed 03040205-02 is (formerly 03040205-010, 03040205-020, and a portion of 03040205-070) is located in Lee and Sumter Counties and consists primarily of the ***Black River*** and its tributaries from its origin to Scape Ore Swamp. The watershed occupies 71,890 acres of the Sandhills and the Upper and Lower Coastal Plain regions of South Carolina. Land use/land cover in the watershed includes: 62.6% agricultural land, 20.6% forested wetland, 8.3% forested land, 5.6% urban land, 2.2% scrub/shrub land, 0.5% barren land, 0.1% water, and 0.1% nonforested wetland.

The Black River originates near the City of Bishopville and accepts drainage from Gin Branch (Laws Branch), Broad Branch, Church Branch (Meadow Branch), and Casual Branch. Further downstream, Stony Run Branch (Little Stony Run Branch) enters the river followed by Nancy Branch, the Atkins Drainage Canal, and Church Branch. There are 173.5 stream miles and 67.6 acres of lake waters in this watershed. The Black River is classified FW* (Dissolved oxygen not less than 4.0 mg/l and pH between 5.0 and 8.5) and the remaining streams in the watershed are classified FW.

Surface Water Quality

Station #	Type	Class	Description
PD-353	S/INT	FW*	BLACK RIVER AT S-43-57
PD-354	W/INT	FW	CANAL TO ATKINS DRAINAGE CANAL AT SC 527 (.75 MI N OF US 76)

Black River (PD-353) – This is a blackwater system, characterized by naturally low dissolved oxygen conditions. Although dissolved oxygen 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. Significant decreasing trends in total phosphorus concentration and fecal coliform bacteria concentration suggest improving conditions for these parameters.

Canal to Atkins Drainage Canal (PD-354) – 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 not supported due to dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. Recreational uses are fully supported.

*A fish consumption advisory has been issued by the Department for mercury and includes the **Black River** within this watershed (see advisory p.72).*

NPDES Program

Active NPDES Facilities

RECEIVING STREAM	***NPDES#***
FACILITY NAME	***TYPE***
PERMITTED FLOW @ PIPE (MGD)	***COMMENT***
BLACK RIVER TRIBUTARY	SCG730597
THE BURKE COMPANY/BURKE MINE	MINOR INDUSTRIAL
PIPE #: 001 FLOW: M/R	

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME	***PERMIT #***
FACILITY TYPE	***STATUS***
LEE COUNTY LANDFILL	312411-1101
MUNICIPAL	ACTIVE
LEE COUNTY LANDFILL	312411-3001
COMPOSTING	INACTIVE

Land Application Sites

LAND APPLICATION SYSTEM	***ND#***
FACILITY NAME	***TYPE***
SPRAYFIELD	ND0069787
TOWN OF MAYESVILLE	DOMESTIC

Growth Potential

There is a low to moderate potential for growth in this watershed, which contains a portion of the City of Bishopville and the Town of Mayesville, together with portions of I-20, U.S. Hwy. 15, and U.S. Hwy. 76. Residential, commercial, and industrial growth is expected surrounding the municipal areas and major road corridors. The remainder of the watershed is rural with agricultural and timberland uses.

03040205-03

(Cane Savannah Creek)

General Description

Watershed 03040205-03 (formerly 03040205-080 less the Pocotaligo River headwaters) is located in Sumter County and consists primarily of ***Cane Savannah Creek*** and its tributaries. The watershed occupies 88,077 acres of the Upper Coastal Plain region of South Carolina. Land use/land cover in the watershed includes: 35.8% agricultural land, 21.3% forested land, 20.2% urban land, 18.5% forested wetland, 2.9% scrub/shrub land, 0.6% water, 0.4% barren land, and 0.3% nonforested wetland.

Hatchet Camp Branch (McCray Lake) and Brunson Swamp (Elliott Lake, Burnt Gin Lake) merge to form Cane Savannah Creek. Nasty Branch (Red Oak Branch, Bush Bay, Bush Branch, Bethel Creek, Cain Millpond) enters Cane Savannah Creek next followed by Green Swamp. Green Swamp accepts drainage from Horsepen Branch, Mush Swamp (Suicide Branch, Frierson Pond, Bluffhead Branch, Loring Millpond, Spann Branch, Long Branch, Booths Pond, Sawmill Pond, Cypress Bay, Second Millpond), and Shot Pouch Branch (Swan Lake) before draining into Cane Savannah Creek. The headwaters of Brunson Swamp are within the Manchester State Forest, and Shaw Air Force Base lies between Mush Swamp and Long Branch. There are a total of 129.7 stream miles and 614.0 acres of lake waters in this watershed. Green Swamp is classified FW* (Dissolved oxygen not less than 4.0 mg/l and pH between 5.0 and 8.0) and the remaining streams in the watershed are classified FW.

Surface Water Quality

Station #	Type	Class	Description
RS-03345	RS03/BIO	FW	BRUNSON SWAMP AT S-43-251, 9.25 MI SW OF SUMTER
PD-239	S/W	FW	NASTY BRANCH AT S-43-251 7.5 MI SW OF SUMTER
PD-039	S/W	FW*	GREEN SWAMP AT S-43-33

Brunson Swamp (RS-03345) – This is a blackwater system, characterized by naturally low pH and dissolved oxygen conditions. Although pH and dissolved oxygen excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Aquatic life uses are partially supported based on macroinvertebrate community data. Recreational uses are not supported due to fecal coliform bacteria excursions.

Nasty Branch (PD-239) – 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 not supported due to dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. A significant decreasing trend in turbidity suggests improving conditions for this parameter. Recreational uses are partially supported due to fecal coliform bacteria excursions.

Green Swamp (PD-039) – Aquatic life uses are not supported due to dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. Recreational uses are fully supported, and a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter.

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-049	GB	MIDDENDORF	SUMTER PLANT 1- #3

NPDES Program

Active NPDES Facilities

RECEIVING STREAM FACILITY NAME PERMITTED FLOW @ PIPE (MGD)	NPDES# TYPE COMMENT
CANE SAVANNAH CREEK CITY OF SUMTER/TWIN LAKES SD PIPE #: 001 FLOW: 0.035	SC0023647 MINOR DOMESTIC
CANE SAVANNAH CREEK PILGRIMS PRIDE CORP./POULTRY PROC. PLT PIPE #: 002 FLOW: 0.104	SC0000795 MAJOR INDUSTRIAL
MUSH SWAMP USAF/SHAW AIR FORCE BASE PIPE #: 007 FLOW: 0.578	SC0024970 MINOR INDUSTRIAL
MUSH SWAMP TRIBUTARY HIGH HILLS RURAL/HARWOOD MHP PIPE #: 001 FLOW: 0.0072	SC0031704 MINOR DOMESTIC
MUSH SWAMP BURGESS GLEN MHP I PIPE #: 001 FLOW: 0.018	SC0031925 MINOR DOMESTIC
MUSH SWAMP BURGESS GLEN MHP II PIPE #: 001 FLOW: 0.018	SC0032239 MINOR DOMESTIC
MUSH SWAMP CAROLINA MOBILE COURT WWTP PIPE #: 001 FLOW: 0.030	SC0032212 MINOR DOMESTIC
MUSH SWAMP JOE SINGLETON MINE #4 PIPE #: 001 FLOW: M/R	SCG730171 MINOR INDUSTRIAL
MUSH SWAMP CLAUDE NEWMAN & SONS/CNS MINE PIPE #: 001 FLOW: M/R	SCG730197 MINOR INDUSTRIAL

MUSH SWAMP GLASSCOCK COMPANY, INC. PIPE #: 001, 01A FLOW: 0.64	SC0040088 MINOR INDUSTRIAL
NASTY BRANCH DYSON LANDSCAPING/CAINS MILL MINE PIPE #: 001 FLOW: M/R	SCG730152 MINOR INDUSTRIAL
NASTY BRANCH PHIBRO-TECH INC. PIPE #: 001 FLOW: 0.11	SC0034860 MINOR INDUSTRIAL
SPANN BRANCH BRIARCLIFF MHP PIPE #: 001 FLOW: 0.026	SC0031844 MINOR DOMESTIC

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME ***FACILITY TYPE***	***PERMIT #*** ***STATUS***
G&K TANK SERVICE LAND APPLICATION	432752-8001 ACTIVE
S.C.R. COMPOSTING SITE COMPOSTING	432661-3001 ACTIVE
PHIBRO TECH INC. INDUSTRIAL	---------- CLOSED
TOWN OF WEDGEWOOD DUMP MUNICIPAL	---------- CLOSED
BURGESS BROGDEN C&D DUMP CONSTRUCTION	---------- CLOSED
SUMTER COUNTY WOOD PROCESSING FACILITY COMPOSTING	431001-3001 ACTIVE
CARTER COMPANY C&D LF C&D	---------- PROPOSED

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
SUMTER COUNTY SAND SMG, INC. PIT	0646-85 SAND
JOE SINGLETON CO. SINGLETON MINE #4	1008-85 SAND/CLAY
CLAUDE NEWMAN & SONS LLC LEE CONSTRUCTION MINE #1	0878-85 SAND/CLAY

HISTORIC HILLS OF STATESBURG SUMMIT MINE	1411-85 SAND
DYSON LANDSCAPING CAINS MILL MINE	0418-85 SAND/CLAY

Growth Potential

There is a high potential for residential, commercial, and industrial growth in this watershed, which contains the majority of the City of Sumter and Shaw Air Force Base. Several major U.S. highways intersect in Sumter and increase the urban sprawl in every direction outside of the city. There are also several industrial parks and three rail lines.

Watershed Restoration and Protection

Total Maximum Daily Loads (TMDLs)

A TMDL was developed by SCDHEC and approved by EPA for ***Nasty Branch*** water quality monitoring site ***PD-239*** to determine the maximum amount of fecal coliform bacteria it can receive and still meet water quality standards. Nonpoint sources of fecal coliform are poultry AFOs, land application of manure, possible failing OSWD systems, wildlife, and cattle with direct access to creeks. The TMDL states that a 5% reduction in fecal coliform loading is necessary for the stream to meet the water quality standard.

03040205-04

(PocotaligoRiver)

General Description

Watershed 03040205-04 (formerly 03040205-090 plus the Pocotaligo River headwaters) is located in Sumter and Clarendon Counties and consists primarily of the headwaters of the ***Pocotaligo River*** and its tributaries. The watershed occupies 171,667 acres of the Upper Coastal Plain region of South Carolina. Land use/land cover in the watershed includes: 43.3% agricultural land, 25.4% forested wetland, 23.2% forested land, 6.0% urban land, 1.8% scrub/shrub land, 0.2% nonforested wetland, and 0.1% water.

Green Swamp and Cane Savannah Creek join to form the headwaters of the Pocotaligo River near the City of Sumter, which then accepts drainage from Pocalla Creek (DesChamps Pond), Turkey Creek, Briar Branch, Boots Branch, Sammy Swamp (Boggy Swamp, Broadway Branch, Hungary Hall Branch, DesChamps Branch, Home Branch, Guckolds Branch), and Big Branch. Further downstream, another Big Branch enters the river followed by Bell Branch and Ox Swamp (Hog Branch, Lemon Branch, Fellowship Branch, Davis Branch, Loss Branch) near the City of Manning. Bear Creek enters the river next, followed by Deep Creek (Elwood Bay, Hog Bay, White Pond, Joes Branch), Juneburn Branch (Lightwood Knot Branch), Peddlers Branch, and Lakewood Creek (Lakewood Pond). The Pocotaligo River Watershed drains into the Black River. The western portion of the watershed is within the Manchester State Forest. There are a total of 313.1 stream miles and 336.6 acres of lake waters in this watershed. The Pocotaligo River, Pocalla Creek, and Turkey Creek are classified FW* (Dissolved oxygen not less than 4.0 mg/l and pH between 5.0 and 8.0) and the remaining streams in the watershed are classified FW.

Surface Water Quality

Station #	Type	Class	Description
PD-091	P/INT	FW*	POCOTALIGO RIVER AT US 15, 3.5 MI S OF SUMTER
PD-098	S/W	FW*	TURKEY CREEK AT LIBERTY ST IN SUMTER BY SANTEE PRINT WORKS
PD-040	W	FW*	TURKEY CREEK AT US 521
PD-202	P/W	FW*	POCOTALIGO RIVER AT S-43-32, 9 MI SE OF SUMTER
PD-627	BIO	FW	BIG BRANCH AT SC 261
PD-115	S/W	FW*	POCOTALIGO RIVER AT THIRD BRIDGE N OF MANNING ON US 301
PD-693	BIO	FW	DEEP CREEK AT S-14-25, 1.2 MI NE OF BLOOMSVILLE
RS-03347	RS03	FW	DEEP CREEK AT S-14-25, 1.2 MI NE OF BLOOMSVILLE
PD-043	P/INT	FW*	POCOTALIGO RIVER AT S-14-50, 9.5 MI NE OF MANNING

Pocotaligo River* -** There are four SCDHEC monitoring stations along the Pocotaligo River. This is a blackwater system, characterized by naturally low dissolved oxygen concentration conditions. At the furthest upstream site ***(PD-091), aquatic life uses are not supported due to dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. There is a significant decreasing trend in pH. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter. DDD (a metabolite of DDT) was detected in the 2003 sediment sample. Although the use of DDT was banned in 1973, it is very persistent in the environment. 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 next site downstream ***(PD-202),*** aquatic life and recreational uses are fully supported; however, there are significant increasing trends in total nitrogen concentration and total suspended solids. Although dissolved oxygen excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. There are significant increasing trends in pH. A significant increasing trend in dissolved oxygen concentration suggests improving conditions for this parameter. DDT, DDD, DDE, and dibutyl phthalate were detected in the 1999 sediment sample, and benzo(a)anthracene, chrysene, fluoranthene, phenanthrene, pyrene, DDT, DDD, and DDE were detected in the 2000 sample.

Further downstream ***(PD-115),*** aquatic life and recreational uses are fully supported; however, there are significant increasing trends in turbidity and fecal coliform bacteria concentration. Although dissolved oxygen excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. There are significant increasing trends in pH. At the furthest downstream site ***(PD-043)***, aquatic life and recreational uses are fully supported; however, there are significant increasing trends in total nitrogen concentration and fecal coliform bacteria concentration. 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. A significant decreasing trend in turbidity suggests improving conditions for this parameter. DDT, DDD, and DDE were detected in the 1999 sediment sample.

Turkey Creek – There are two SCDHEC monitoring stations along Turkey Creek. This is a blackwater system, characterized by naturally low dissolved oxygen concentration conditions. At the upstream site ***(PD-098)***, aquatic life uses are fully supported and a significant decreasing trend in turbidity suggests improving conditions for this parameter. Recreational uses are not supported at this site due to fecal coliform bacteria excursions; however, a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter. At the downstream site ***(PD-040)***, 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. Recreational uses are partially supported due to fecal coliform bacteria excursions.

Big Branch (PD-627) – Aquatic life uses are partially supported based on macroinvertebrate community data.

Deep Creek **(PD-693/RS-03347)** Aquatic life uses are not supported based on macroinvertebrate community data. Recreational uses are not supported due to fecal coliform bacteria excursions. This is a blackwater system, characterized by naturally low pH and dissolved oxygen concentration conditions. Although pH and dissolved oxygen excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations.

A fish consumption advisory has been issued by the Department for mercury and includes the ***Pocotaligo River*** *within this watershed* *(see advisory p.72).*

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-105	GB	TERTIARY SANDS	PINKNEY ESTATES

NPDES Program

Active NPDES Facilities

RECEIVING STREAM FACILITY NAME PERMITTED FLOW @ PIPE (MGD)	NPDES# TYPE COMMENT
POCOTALIGO RIVER CWS/POCALLA VILLAGE BELK SD PIPE #: 001 FLOW: 0.104	SC0030724 MINOR DOMESTIC
POCOTALIGO RIVER CITY OF SUMTER/POCOTALIGO RIVER PLANT PIPE #: 001 FLOW: 15.0	SC0027707 MAJOR DOMESTIC
POCOTALIGO RIVER CITY OF MANNING WWTP PIPE #: 001 FLOW: 2.50	SC0020419 MAJOR DOMESTIC
POCOTALIGO RIVER TRIBUTARY MCCUTCHEN FARMS/CALLOWAY PIT PIPE #: 001 FLOW: M/R	SCG730552 MINOR INDUSTRIAL
POCOTALIGO RIVER TRIBUTARY L. DEAN WEAVER CONSTR./BLACKWOOD PIT PIPE #: 001 FLOW: M/R	SCG730683 MINOR INDUSTRIAL
BIG BRANCH L. DEAN WEAVER CONSTR./WL COKER PIT PIPE #: 001 FLOW: M/R	SCG730685 MINOR INDUSTRIAL
POCALLA CREEK PILGRIMS PRIDE CORP./POULTRY PROC. PLT PIPE #: 001 FLOW: 1.04	SC0000795 MAJOR INDUSTRIAL
POCALLA CREEK COOPER INDUSTRIES, INC. PIPE #: 001 FLOW: 0.400	SCG250157 MINOR INDUSTRIAL

POCALLA CREEK KAYDON CORPORATION PIPE #: 001 FLOW: M/R	SCG250132 MINOR INDUSTRIAL
TURKEY CREEK GIANT RESOURCE RECOVERY/SUMTER PIPE #: 001 FLOW: M/R	SCG250058 MINOR INDUSTRIAL

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME ***FACILITY TYPE***	***PERMIT #*** ***STATUS***
GA PACIFIC CORP. C/C LANDFILL CONSTRUCTION	143304-1201, 143304-1601 INACTIVE
BOB SPRINGERS LANDFILL INDUSTRIAL	IWP-183 INACTIVE
GIANT RESOURCES RECOVERY INDUSTRIAL	432675-2001 ACTIVE
SOUTHEASTERN CHEMICAL & SOLVENT CO. INDUSTRIAL	432675-7301, 432675-7101 ACTIVE
CAMPBELL SOUP CO., INC. INDUSTRIAL	---------- INACTIVE
EAST COAST INDUSTRIAL SERVICES, INC. INDUSTRIAL	142348-5201 ACTIVE
CITY OF MANNING DUMP MUNICIPAL	--------- CLOSED
TOWN OF PINEWOOD DUMP MUNICIPAL	--------- CLOSED
CLARENDON COUNTY LANDFILL MUNICIPAL	141001-1103, 141001-1101 CLOSED
CLARENDON COUNTY C&D LANDFILL CONSTRUCTION	141001-1203 ACTIVE
CLARENDON COUNTY SW TRANSFER STATION CONSTRUCTION	141001-6001 ACTIVE

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
MCCUTCHEN FARMS CALLOWAY PIT, MINE #2	0831-27 SAND

Growth Potential

There is a moderate to high potential for growth in this watershed, which includes the City of Manning and the Towns of Paxville and Pinewood. I-95 crosses the watershed near Manning, and other major roads running through Manning include U.S. Hwys. 15, 521, 301, and S.C. Hwys. 261 and 260. Besides the rail line connecting the Cities of Manning and Sumter, the Clarendon County Industrial Park should encourage future industrial growth. The remainder of the watershed is rural with agricultural and timberland uses. There are plans for water to service the Towns of Pinewood and Paxville and the S.C. Hwy. 261 and U.S. Hwy. 15 corridors, which should encourage all forms of growth.

Watershed Restoration and Protection

Total Maximum Daily Loads (TMDLs)

A TMDL was developed by SCDHEC and approved by EPA for **Turkey Creek** water quality monitoring site ***PD-040*** to determine the maximum amount of fecal coliform bacteria it can receive and still meet water quality standards. This portion of the watershed contains 469 OSWD systems with an average density of 11 per 100 acres, which is considered excessive and a potentially significant source of fecal coliform loading. Because of the SSOs and high OSWD system density, it is anticipated that human sources play a major role in fecal coliform loadings in this watershed. The TMDL states that a 75% reduction in fecal coliform loading is necessary for the stream to meet the water quality standard.

A TMDL was also developed by SCDHEC and approved by EPA for **Turkey Creek** water quality monitoring site **PD-098** to determine the maximum amount of fecal coliform bacteria it can receive and still meet water quality standards. This portion of the watershed contains 59 OSWD systems with an average density of three per 100 acres, which is much lower than PD-040 and is regarded as relatively minor. Because of the possibility of SSOs and moderate OSWD system density, it is anticipated that human sources may play a role in fecal coliform loadings in this watershed. Other nonpoint sources of fecal coliform include wildlife and pets. The TMDL states that a 94% reduction in fecal coliform loading is necessary for the stream to meet the water quality standard.

03040205-05

(Pudding Swamp)

General Description

Watershed 03040205-05 (formerly 03040205-110) is located in Lee, Sumter, and Clarendon Counties and consists primarily of ***Pudding Swamp*** and its tributaries. The watershed occupies 119,869 acres of the Lower Coastal Plain region of South Carolina. Land use/land cover in the watershed includes: 15.7% forested land, 0.3% nonforested wetland, 7.9% urban land, 0.3% water, 28.3% forested wetland, 1.7% scrub/shrub land, and 45.8% agricultural land.

Pudding Swamp accepts drainage from Hope Swamp (Threemile Branch), Trustless Branch, and Horse Branch (Fuller Bay, Cypress Lake) before merging with Douglas Swamp. Douglas Swamp flows past Woods Bay State Park and accepts drainage from Woods Bay, Cypress Branch (Bushy Branch), Burnt Branch, and Rose Creek. Downstream of the confluence, Newman Branch (Cain Branch) flows into Pudding Swamp. Pudding Swamp drains into the Black River. There are a total of 210.1 stream miles and 175.8 acres of lake waters in this watershed. Pudding Swamp, Douglas Swamp, and Cypress Branch are classified FW* (Dissolved oxygen not less than 4.0 mg/l and pH between 5.0 and 8.0) and the remaining streams in the watershed are FW.

Surface Water Quality

Station #	Type	Class	Description
PD-157	BIO	FW*	Pudding Swamp at US 301
RS-01002	RS01	FW*	Douglas Swamp off Thigpen Rd, 3.5 mi E of Turbeville
PD-695	BIO	FW*	Douglas Swamp at US 378
PD-203	S/INT	FW*	Pudding Swamp at SC 527 8.1 mi NW of Kingstree

Pudding Swamp – There are two SCDHEC monitoring sites along Pudding Swamp. This is a blackwater system, characterized by naturally low dissolved oxygen concentration conditions. At the upstream site ***(PD-157),*** aquatic life uses are fully supported based on macroinvertebrate community data. At the downstream site ***(PD-203)***, aquatic life and recreational 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. Significant decreasing trends in five-day biological oxygen demand and total phosphorus concentration suggest improving conditions for these parameters.

Douglas Swamp - There are two SCDHEC monitoring sites along Douglas Swamp. This is a blackwater system, characterized by naturally low dissolved oxygen concentration conditions. At the upstream site ***(RS-01002),*** aquatic life and recreational 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. At the downstream site ***(PD-695),*** aquatic life uses are fully supported based on macroinvertebrate community data.

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-009	GB	BLACK CREEK	OLANTA

NPDES Program

Active NPDES Facilities

RECEIVING STREAM FACILITY NAME PERMITTED FLOW @ PIPE (MGD)	NPDES# TYPE COMMENT
PUDDING SWAMP SUMTER COUNTY/REST AREA I-95 PIPE #: 001 FLOW: 0.04	SC0038962 MINOR DOMESTIC
PUDDING SWAMP SPRINGFIELD REALTY/DOUBLE K MINE PIPE #: 001 FLOW: M/R	SCG730201 MINOR INDUSTRIAL
PUDDING SWAMP US GROUP INC./BARRINEAU PIT PIPE #: 001 FLOW: M/R	SCG730691 MINOR INDUSTRIAL

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME FACILITY TYPE	PERMIT # STATUS
TOWN OF TIMMONSVILLE C&D	211003-1701 ACTIVE

Land Application Sites

LAND APPLICATION SYSTEM FACILITY NAME	ND# TYPE
SPRAYFIELD TOWN OF TURBEVILLE	ND0085014 DOMESTIC

Growth Potential

There is a low to moderate potential for growth in this watershed, which contains the Towns of Turbeville and Olanta, and portions of the I-95 and U.S. Hwy. 378 corridors. The I-95/US Hwy 378 interchange has water and sewer service and is expected to see moderate to high growth. Water and sewer services are available in and around the Towns of Olanta and Turbeville, and should encourage growth. The remainder of the watershed is rural with agricultural and timberland uses.

03040205-06

(Black River)

General Description

Watershed 03040205-06 (formerly 03040205-100, and a portion of 03040205-070) is located in Lee, Sumter, Clarendon, and Williamsburg Counties and consists primarily of the ***Black River*** and its tributaries from Scape Ore Swamp to Pudding Swamp. The watershed occupies 84,708 acres of the Upper and Lower Coastal Plain regions of South Carolina. Land use/land cover in the watershed includes: 34.8% forested wetland, 33.4% agricultural land, 23.7% forested land, 4.1% urban land, 3.6% scrub/shrub land, 0.3% nonforested wetland, and 0.1% water.

This upper section of the Black River accepts drainage from its upstream reach together with the Scape Ore Swamp Watershed, Mill Branch, Tearcoat Branch (Davis Branch, Pen Branch), Breakfast Branch (Crow Bay), the Pocotaligo River Watershed, Broad Branch, another Mill Branch (Conyers Bay), and another Mill Branch. The river flows through the Black River Swamp throughout the watershed. There are a total of 190.7 stream miles and 122.9 acres of lake waters in this watershed. The Black River is classified FW* (Dissolved oxygen not less than 4.0 mg/l and pH between 5.0 and 8.0) and the remaining streams are classified FW.

Surface Water Quality

Station #	Type	Class	Description
RS-02477	RS02	FW	TEARCOAT BRANCH AT S-14-50
PD-116	S/INT	FW*	BLACK RIVER AT S-14-40 E OF MANNING
PD-227	P/INT	FW*	BLACK RIVER AT S-45-35 8.6 MI NW OF KINGSTREE

Tearcoat Branch (RS-02477) - This is a blackwater system, characterized by naturally low pH and dissolved oxygen concentration conditions. Although pH and dissolved oxygen 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. DDE was detected in the 2002 sediment sample. Although the use of DDT was banned in 1973, it is very persistent in the environment.

Black River - There are two SCDHEC monitoring sites along this section of the Black River. At the upstream site ***(PD-116)***, aquatic life uses are partially supported due to dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. There is a significant decreasing trend in pH. A significant decreasing trend in total phosphorus concentration suggests improving conditions for this parameter. Recreational uses are fully supported at this site. Aquatic life and recreational uses are fully supported at the downstream site ***(PD-227)***; however, there is a significant increasing trend in total phosphorus concentration. A significant decreasing trend in five-day biological oxygen demand suggests improving conditions for this parameter.

A fish consumption advisory has been issued by the Department for mercury and includes the ***Black River*** *within this watershed* *(see advisory p.72).*

NPDES Program

Active NPDES Facilities

RECEIVING STREAM	***NPDES#***
FACILITY NAME	***TYPE***
PERMITTED FLOW @ PIPE (MGD)	***COMMENT***
BROAD BRANCH	SCG730684
L. DEAN WEAVER CONSTR./SC RD 1450 PIT	MINOR INDUSTRIAL
PIPE #: 001 FLOW: M/R	

Growth Potential

There is a low potential for growth in this watershed. There is no existing water or sewer infrastructure in the watershed. Some growth may occur surrounding the I-95 Interchanges and the U.S. Hwy 378 corridor. The remainder of the watershed is rural with agricultural and timberland uses.

03040205-07

(Black River)

General Description

Watershed 03040205-07 (formerly 03040205-120, 130, 140) is located in Florence, Clarendon, and Williamsburg Counties and consists primarily of the ***Black River*** and its tributaries from Pudding Swamp to the crossing of SC Hwy 30. The watershed occupies 209,555 acres of the Lower Coastal Plain region of South Carolina. Land use/land cover in the watershed includes: 31.8% agricultural land, 29.4% forested wetland, 26.4% forested land, 6.5% scrub/shrub land, 5.7% urban land, 0.1% nonforested wetland, and 0.1% water.

This middle section of the Black River accepts drainage from its upper reaches and Clapp Swamp (Long Branch, Bull Branch, Spring Branch), Kingstree Swamp Canal (Smiths Bay, Findley Bay, Sandy Bay), and Laws Swamp. Rocky Ford Swamp (Chaney Swamp) and Dickey Swamp (Mulberry Branch, Bennett Swamp, Mill Branch, Pushing Branch, Shanty Branch) join to form Laws Swamp, which flows into the river downstream of the Kingstree Swamp Canal. Further downstream, the river accepts drainage from Thorntree Swamp, Stony Run Branch, Boggy Swamp, McElroy Branch, Camden Swamp, and Ox Swamp (Gumtree Branch). There are a total of 212.1 stream miles and 137.1 acres of lake waters in this watershed. The Black River is classified FW* (Dissolved oxygen not less than 4.0 mg/l and pH between 5.0 and 8.0) and the remaining streams are classified FW.

Surface Water Quality

Station #	Type	Class	Description
PD-696	BIO	FW	CLAPP SWAMP AT SR 47
RS-02325	RS02	FW	CLAPP SWAMP AT SC 527
PD-044	S/INT	FW*	BLACK RIVER AT US 52 AT KINGSTREE
PD-358	W/INT	FW	KINGSTREE SWAMP CANAL AT SC 527
PD-206	BIO	FW	DICKEY SWAMP AT SR 220
PD-045	S/W	FW*	BLACK RIVER AT SC 377 AT BRYAN'S CROSSROADS
PD-697	BIO	FW	BOGGY SWAMP AT SC 527
PD-629	BIO	FW	OX SWAMP AT US 521
(PD-359)	W	FW*	BLACK RIVER AT S-45-30

Clapp Swamp - There are two SCDHEC monitoring sites along Clapp Swamp. This is a blackwater system, characterized by naturally low pH conditions. At the upstream site ***(PD-696)***, aquatic life uses are fully supported based on macroinvertebrate community data. At the downstream site ***(RS-02325)***, aquatic life uses are not supported due to dissolved oxygen excursions. 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 at this site.

Black River - There are two SCDHEC monitoring sites along this section of the Black River ***(PD-044, PD-045)***. ***PD-359*** is not physically located in this watershed, but being just downstream, represents the water quality in this watershed. Aquatic life and recreational uses are fully supported at all sites. This is a blackwater system, characterized by naturally low dissolved oxygen concentration conditions. Although dissolved oxygen excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter at all sites.

Kingstree Swamp Canal (PD-358) - Aquatic life and recreational uses are fully supported. This is a blackwater system, characterized by naturally low dissolved oxygen concentration conditions. Although dissolved oxygen excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Significant decreasing trends in five-day biochemical oxygen demand and turbidity suggest improving conditions for these parameters.

Dickie Swamp (PD-206) - Aquatic life uses are fully supported based on macroinvertebrate community data.

Boggy Swamp (PD-697) - Aquatic life uses are fully supported based on macroinvertebrate community data.

Ox Swamp (PD-629) - Aquatic life uses are fully supported based on macroinvertebrate community data.

A fish consumption advisory has been issued by the Department for mercury and includes the ***Black River*** *within this watershed* *(see advisory p.72).*

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-020	GB	Black Creek	Kingstree Route 377

NPDES Program

Active NPDES Facilities

RECEIVING STREAM ***FACILITY NAME*** ***PERMITTED FLOW @ PIPE (MGD)***	***NPDES#*** ***TYPE*** ***COMMENT***
KINGSTREE SWAMP CANAL TRIBUTARY MARTEK BIOSCIENCES KINGSTREE PIPE #: 001 FLOW: 1.73 PIPE #: 002 FLOW: 2.09	SC0003123 MINOR INDUSTRIAL (FERMPRO MANUFACTURING)
BLACK RIVER MILLIKEN & CO./KINGSTREE MILL PIPE #: 001 FLOW: 0.373	SC0023493 MINOR INDUSTRIAL

BLACK RIVER HARDY C. BROWN/527 DIRT PIT PIPE #: 001 FLOW: M/R	SCG730220 MINOR INDUSTRIAL
BLACK RIVER SC PRESTRESS/SAND PLANT I PIPE #: 001 FLOW: M/R	SCG730712 MINOR INDUSTRIAL
BLACK RIVER TOWN OF KINGSTREE PIPE #: 001 FLOW: 3.5	SC0035971 MAJOR DOMESTIC

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME ***FACILITY TYPE***	***PERMIT #*** ***STATUS***
WILLIAMSBURG COUNTY LANDFILL #1 INDUSTRIAL	IWP-114 INACTIVE
TRAVENOL LABORATORIES, INC. INDUSTRIAL	453305-1601 INACTIVE
BLACK RIVER CORP. MUNICIPAL	452499-3001 ACTIVE
GAUSE TROY -FILL MUNICIPAL	--------- INACTIVE
ARC TECHNOLOGY FACILITY RD&D	452767-8001 ACTIVE
WILLIAMSBURG CO. INDUSTRIAL LANDFILL INDUSTRIAL	IWP-153 CLOSED
MARTEK INDUSTRIAL	453349-1601 ACTIVE
WILLIAMSBURG COUNTY LANDFILL MUNICIPAL	451001-1101 ACTIVE
WILLIAMSBURG COUNTY C&D LANDFILL CONSTRUCTION	451001-1201 ACTIVE
WILLIAMSBURG COUNTY SHREDDER MUNICIPAL PULVERIZATION SITE	DWP-055 CLOSED
TOWN OF KINGSTREE DUMP#1 MUNICIPAL	----------- CLOSED
TOWN OF KINGSTREE DUMP #2 MUNICIPAL	----------- CLOSED

WHITAKER AIR CURTAIN INCINERATOR INCINERATOR	402769-4001 ACTIVE

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
WEAVER CONSTRUCTION CO., INC. LIFRAGE MINE	1342-89 SAND; SAND/CLAY
S.C. PRESTRESS CORP. SAND PLANT #1	0838-89 SAND
H D BROWN DBA 527 DIRT CO. 52 DIRT MINE	1603-89 SAND
H D BROWN DBA 527 DIRT CO. 527 DIRT MINE	1153-89 SAND

Growth Potential

There is a low to moderate potential for growth in this watershed, which contains the Towns of Kingstree and Lane and a portion of the Town of Greeleyville. Water infrastructure is located in and around all three towns, but sewerage infrastructure is located only in and around the Kingstree area. The US Hwy 52 corridor has the potential for residential, commercial, and industrial growth in the future due to the combination of an increase in the capacity of the sewage treatment plant, one existing and two new proposed industrial areas, and an existing rail line. Outside of this area, the watershed is rural with predominately agricultural and timberland uses.

03040205-08

(Black Mingo Creek)

General Description

Watershed 03040205-08 (formerly 03040205-160, 170) is located in Williamsburg and Georgetown Counties and consists primarily of ***Black Mingo Creek*** and its tributaries. The watershed occupies 160,757 acres of the Lower Coastal Plain region of South Carolina. Land use/land cover in the watershed includes: 29.2% forested land, 0.2% nonforested wetland, 0.2% water, 30.9% forested wetland, 6.5% scrub/shrub land, 3.9% urban land, and 29.1% agricultural land.

Cedar Swamp (Orr Swamp, Home Swamp, Dry Swamp, The Morass, Pine Island Bay) and Parsley Swamp (Whiteoak Swamp, McKnight Swamp) join to form the headwaters of Black Mingo Creek. Downstream of the confluence, Black Mingo Creek accepts drainage from Turkey Creek, Boggy Swamp, and Indiantown Swamp (James Branch, Pointer Stump Branch). Further downstream, Black Mingo Creek accepts drainage from Wilson Lake, Gully Branch, Headless Creek, Snow Branch, and Campbell Swamp (Hickory Nut Branch). Johnson Branch enters the system next, followed by Walden Branch, Poplar Hill Branch (Caney Branch, Waterman Branch, Hughs Branch), Rome Branch, Burnett Swamp, and Jacks Creek. Further downstream, Browns Branch (Squirrel Run, Church Branch, Pittman Branch) flows into Black Mingo Creek followed by Peters Creek, Smith Swamp (Black Steer Swamp, McGinney Creek), Cold Creek, Mingo Swamp, and Schoolhouse Branch. The Black Mingo Creek flows into the Black River. There are a total of 219.6 stream miles and 223.3 acres of lake waters in this watershed, all classified FW.

Surface Water Quality

Station #	Type	Class	Description
PD-703	BIO	FW	PAISLEY SWAMP AT SC 261
PD-360	W/INT	FW	BLACK MINGO CREEK AT S-45-121
PD-361	S/INT	FW	BLACK MINGO CREEK AT COWHEAD LANDING OFF SC 51

Paisley Swamp (PD-703) - Aquatic life uses are fully supported based on macroinvertebrate community data.

Black Mingo Creek - There are two SCDHEC monitoring sites along Black Mingo Creek. This is a blackwater system, characterized by naturally low pH and dissolved oxygen conditions. At the upstream site ***(PD-360)***, aquatic life and recreational 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. A significant decreasing trend in five-day biological oxygen demand suggests improving conditions for this parameter. At the downstream site ***(PD-361)***, aquatic life uses are fully supported. Recreational uses are fully supported; however, there is a significant increasing trend in fecal coliform bacteria concentration at this site. Although pH and dissolved oxygen excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations.

A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter.

A fish consumption advisory has been issued by the Department for mercury and includes ***Black Mingo Creek*** *within this watershed* *(see advisory p.72).*

Groundwater Quantity

Portions of this watershed fall within the Waccamaw Capacity Use Area and large groundwater uses must be reported (see Capacity Use Program p.27).

Nonpoint Source Management Program

Land Disposal Activities

Land Application Sites

LAND APPLICATION SYSTEM ***FACILITY NAME***	***ND#*** ***TYPE***
SPRAYFIELD HOUSE OF RAEFORD FARMS, INC.	ND0068161 INDUSTRIAL

Growth Potential

There is a low potential for growth in this watershed, which contains the Town of Stuckey. Water infrastructure is available around the Town of Stuckey, but there is no sewerage infrastructure available in the watershed. Agriculture and timberlands are the primary land uses.

03040205-09

(Black River)

General Description

Watershed 03040205-09 (formerly 03040205-150, 180) is located in Williamsburg and Georgetown Counties and consists primarily of the lower ***Black River*** and its tributaries from the crossing of SC Hwy 30 to its confluence with the Great Pee Dee River. The watershed occupies 232,687 acres of the Lower Coastal Plain and Coastal Zone regions of South Carolina. Land use/land cover in the watershed includes: 40.7% forested land, 28.0% forested wetland, 17.4% agricultural land, 7.5% scrub/shrub land, 3.4% urban land, 1.7% nonforested wetland, 1.2% water, and 0.1% barren land.

This section of the Black River accepts drainage from its upper reaches, together with Spring Branch, Spring Gully, Jumping Gully, Thompson Swamp, Birch Creek (Dobson Branch, Dobson Bay), and Gin Branch. Flat Swamp (Camp Pond Bay, Ricefield Bay, Alligator Bay, Log Branch) flows into Johnsons Swamp (Oakridge Bay, Mill Branch, Murray Swamp, Sportsman Pond), which in turn flows into Horse Pen Swamp before draining into the Black River downstream of Gin Branch. Further downstream, Big Dam Swamp (Roper Branch, Sleeper Branch, Cedar Patch Branch, Brightman Swamp) enters the river followed by Lester Creek, Puncheon Creek, and Indian Hut Swamp. Mill Grove Creek enters the river next followed by Lanes Creek, Choppee Creek (Stony Run Creek, Machine Bay), Boheck Creek, and Post Foot Branch. Carvers Bay drains into Big Branch (Millpond Branch), then flows into Carvers Bay Creek, which merges with Fardick Creek to form Peters Creek (Simmons Creek, Guinea Creek, Black Swamp) and drains into the river downstream of Post Foot Branch. Sixmile Creek (Gapway Bay, Greens Creek, Prince Creek, Crooked Branch, Inland Branch) enters the river next followed by Cottage Creek and Longwater Bay. There are a total of 354.3 stream miles, 213.8 acres of lake waters, and 763.3 acres of estuarine areas in this watershed. The Black River, upstream of the crossing of U.S. Hwy. 701 (just upstream of Sixmile Creek), is classified FW* (Dissolved Oxygen not less than 4.0 mg/l and pH between 5.0 and 8.5) and its tributaries are classified FW. Downstream of the crossing, the Black River and its tributaries are classified SA. The Black River drains into the Great Pee Dee River.

Surface Water Quality

Station #	Type	Class	Description
PD-359	W/INT	FW*	Black River at S-45-30
PD-698	BIO	FW	Burch Creek at S-45-30
PD-694	BIO	FW	Johnson Swamp at S-45-30
PD-170	W/INT	FW*	Black River at SC 51, 11.6mi NE of Andrews
RS-03353	W/RS03	FW	Greens Creek at S-22-318 (Johnson Rd), 7.7 mi NW of Georgetown
PD-325	P/INT	SA	Black River at S-22-489 4 mi NE of Georgetown

Black River – There are three SCDHEC monitoring sites along this lowest section of the Black River, and recreational uses are fully supported at all sites. This is a blackwater system, characterized by naturally low pH and dissolved oxygen concentration conditions. At the upstream site ***(PD-359)***, 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. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter.

At the midstream site ***(PD-170)***, aquatic life uses are not supported due to dissolved oxygen excursions and occurrences of copper in excess of the aquatic life acute criterion, which is compounded by a significant decreasing trend in dissolved oxygen concentration. There is also a significant increasing trend in total phosphorus concentration. There is a significant increasing trend in pH. Significant decreasing trends in five-day biochemical oxygen demand and total nitrogen concentration suggest improving conditions for these parameters. DDE (a metabolite of DDT) was detected in the 1999 sediment sample, and a very high concentration of cadmium and a high concentration of zinc were measured in the 2002 sample. In the 2003 sediment sample, DDE was detected, and very high concentrations of cadmium and lead were measured. Although the use of DDT was banned in 1973, it is very persistent in the environment.

At the downstream site ***(PD-325)***, aquatic life uses are partially supported due to dissolved oxygen excursions, which are compounded by 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. Significant decreasing trends in five-day biochemical oxygen demand and total nitrogen concentration suggest improving conditions for these parameters.

Burch Creek (PD-698) - Aquatic life uses are fully supported based on macroinvertebrate community data.

Johnson Swamp (PD-694) - Aquatic life uses are fully supported based on macroinvertebrate community data.

Greens Creek (RS-03353) – This is a blackwater system, characterized by naturally low pH and dissolved oxygen conditions. Although pH and 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, but 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 the ***Black River*** *within this watershed* *(see advisory p.72).*

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-011	GB	Black Creek	Andrews #2

Groundwater Quantity

Portions of this watershed fall within the Waccamaw Capacity Use Area and large groundwater uses must be reported (see Capacity Use Program p.27).

NPDES Program

Active NPDES Facilities

RECEIVING STREAM *FACILITY NAME* *PERMITTED FLOW @ PIPE (MGD)*	*NPDES#* *TYPE* *COMMENT*
BLACK RIVER GCW&SD/WEDGEFIELD PLANTATION PIPE #: 001 FLOW: 0.4	SC0029505 MINOR DOMESTIC
BLACK RIVER BMCO CONSTRUCTION, INC./WHEELER PIT PIPE #: 001 FLOW: M/R	SCG730650 MINOR DOMESTIC
BLACK RIVER BMCO CONSTRUCTION, INC./WHEELER PIT PIPE #: 001 FLOW: M/R	SCG730419 MINOR INDUSTRIAL
INDIAN HUT SWAMP TRIBUTARY STONE CONSTRUCTION CO./ANDREWS MINE PIPE #: 001 FLOW: M/R	SCG730006 MINOR INDUSTRIAL
INDIAN HUT SWAMP TRIBUTARY INTERNATIONAL PAPER, INC./SAMPIT LUMBER MILL PIPE #: 001 FLOW: 0.34	SC0046582 MINOR INDUSTRIAL
JOHNSONS SWAMP TREBOL USA LLC PIPE #: 001 FLOW: 0.213	SC0001619 MINOR INDUSTRIAL (ELF ATOCHEM N. AMERICA)

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME *FACILITY TYPE*	*PERMIT #* *STATUS*
CM POWELL INDUSTRIAL	---------- CLOSED
GEORGETOWN COUNTY COMPOSTING COMPOSTING	221001-3001 ACTIVE

GEORGETOWN COUNTY MUNICIPAL	221001-1102 ACTIVE
GEORGETOWN COUNTY LANDFILL MUNICIPAL	221001-1101 CLOSED
GEORGETOWN SUBTITLE D LANDFILL INDUSTRIAL	IWP-231 CLOSED
GEORGETOWN COUNTY C&D LANDFILL CONSTRUCTION	221001-1201 INACTIVE
GEORGETOWN COUNTY C&D LANDFILL CONSTRUCTION	221001-1202 ACTIVE

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
STONE CONSTRUCTION CO. ANDREWS MINE	0598-89 SAND
C-PIN INVESTMENTS, INC. C-PIN MINE	1685-43 SAND/CLAY
MCKENZIE MCKENZIE MINE	1446-43 SAND

Growth Potential

There is a low potential for growth in this watershed, which contains the Town of Andrews. Andrews has both water and sewer infrastructure and a rail line, which should allow low to moderate growth. Outside of the Andrews area, the watershed is rural with mostly agricultural and timberland uses. Water is available along most roads in the area, but there is no sewerage infrastructure. Transportation studies are analyzing the possibility of using S.C. Hwy. 701 as an alternate route to U.S. Hwy. 17. If this project is approved and completed, the area along S.C. Hwy. 701 will likely see a significant increase in residential and commercial development.

Waccamaw River Basin

The ***Waccamaw River Basin (hydrologic unit 03040206)*** is located in Horry and Georgetown Counties, and encompasses 5 watersheds and 765 square miles. The Waccamaw River Basin incorporates the Lower Coastal Plain and Coastal Zone regions and the AIWW flows through the Coastal Zone region. Of the almost half million acres, 36.9% is forested wetland (swamp), 26.5% is agricultural land, 19.2% is forested land, 10.5% is urban land, 2.8% is scrub/shrub land, 2.2% is nonforested wetland (marsh), 1.7% is water, and 0.2% is barren land. The urban land percentage is comprised chiefly of the Cities of Conway, Georgetown, Myrtle Beach, and North Myrtle Beach. There are approximately 784 stream miles, 2,373 acres of lake waters, and 22,910 acres of estuarine areas in this watershed. The Waccamaw River flows across the South Carolina state line from North Carolina and accepts drainage from Kingston Lake and the AIWW via Socastee Creek. The Waccamaw River then joins the Great Pee Dee River as it forms Winyah Bay and drains into the Atlantic Ocean.

Physiographic Regions

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

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 U.S. Geological Survey's National Land Cover Data (NLCD), 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, as well as vegetated portions of urban areas.

Agricultural/Grass land is characterized by cropland, pasture, and orchards and may include some grass cover in Urban, Scrub/Shrub and Forest areas.

Scrub/Shrub land is adapted from the western Rangeland classification to represent the "fallow" condition of the land (currently unused, yet vegetated), and is most commonly found in the dry Sandhills region including areas of farmland, sparse pines, regenerating forest lands, and recently harvested timber lands.

Forest land is characterized by deciduous and evergreen trees not including forests in wetland settings.

Forested Wetland (swampland) is the saturated bottomland, mostly hardwood forests that are primarily composed of wooded swamps occupying river floodplains and isolated low-lying wet areas, primarily located in the Coastal Plain.

Nonforested Wetland (marshland) is dependent on soil moisture to distinguish it from scrub/shrub since both classes contain grasses and low herbaceous cover; nonforested wetlands are most common along the coast and isolated freshwater areas found in the Coastal Plain.

Barren land is characterized by an unvegetated condition of the land, both natural (rock, beaches and unvegetated 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 and tidal waters.

Soil Types

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

Bladen soils are poorly drained soils on low, nearly level areas and low ridges.

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

Cape Fear soils are very poorly drained soils that formed in sandy and clayey marine sediments in upland areas of the Coastal Plain, and in flat and depressional areas.

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

Eulonia soils are moderately well drained, moderately slowly permeable soils that formed in clayey marine sediment, nearly level to gently sloping and on broad flats.

Hobonny soils are very poorly drained, moderately permeable soils that formed in organic deposits of remains of herbaceous and woody plants, on flood plains of major rivers, covered by water a large part of the time.

Lakeland soils are well drained, sandy soils with 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.

Lynnhaven soils are poorly drained sandy soils, with sandy subsoil, in low areas, and prone to ponding.

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

Nansemond soils are moderately well drained, rapidly permeable soils that formed in loamy Coastal Plain sediments on stream terraces and adjacent to small drainages.

Newhan soils are excessively drained, very rapidly permeable soils that formed in sandy marine sediment, nearly level to gently sloping, adjacent to beaches and waterways along the coastline.
Ogeechee soils are poorly drained and moderately well drained, loamy soils with clayey or loamy subsoil, on terraces.

Pocomoke soils are very poorly drained, moderately rapidly permeable soils that formed in sandy Coastal Plain sediments in small drainageways, in shallow depressions, and on flats.

Wahee soils are poorly drained soils on low, nearly level areas and low ridges.

Woodington soils are poorly drained, moderately permeable soils that formed in loamy Coastal Plain sediments on stream terraces and upland flats on higher elevations.

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 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. The range of K-factor values in the Waccamaw River Basin is from 0.10 to 0.19.

Fish Consumption Advisory

At the time of publication, a fish consumption advisory issued by SCDHEC is in effect for the ***Waccamaw River*** and the ***Intracoastal Waterway (AIWW)*** advising people to limit the amount of some types of fish consumed from these waters. Fish consumption advisories are updated annually in March. For background information and the most current advisories please visit www.scdhec.gov/fish. For more information or a hard copy of the advisories, call SCDHEC's Division of Health Hazard Evaluation toll-free at (888) 849-7241.

Climate

Normal yearly rainfall in the Waccamaw River area during the period of 1971 to 2000 was 54.13 inches, according to South Carolina's **30-year** climatological record. Data compiled from National Weather Service stations in Loris, Conway, Brookgreen Gardens, and Georgetown were used to determine the general climate information for this portion of the State. The highest level of rainfall occurs in the summer with 18.07 inches; 12.76, 12.03, and 11.26 inches of rain falling in the fall, winter, and spring, respectively. The average annual daily temperature is 64.0 °F. Winter temperatures averaged 48.3°F, spring temperatures averaged 63.2 °F and summer and fall mean temperatures were 79.0 °F and 65.5 °F, respectively.

Watershed Evaluations

03040206-05

(Juniper Swamp)

General Description

The South Carolina portion of 03040206-05 (formerly 03040206-060) is located in Horry County and consists primarily of ***Juniper Swamp*** and its tributaries within South Carolina. The watershed occupies 56,360 acres of the Lower Coastal Plain region of South Carolina. Land use/land cover in the watershed includes: 13.0% forested land, 6.5% urban land, 31.0% forested wetland, 45.7% agricultural land, 3.1% scrub/shrub land, 0.6% nonforested wetland, and 0.1% water.

Tools Fork and Juniper Swamp originate in South Carolina and drain into North Carolina. There are a total of 132.1 stream miles and 19.8 acres of lake waters in this watershed, all classified FW.

Surface Water Quality

No water quality monitoring occurred in this watershed

Water Quantity

Portions of this watershed fall within the Waccamaw Capacity Use Area and large groundwater uses must be reported (see Capacity Use Program p.27).

Growth Potential

There is a low potential for growth in this watershed, which contains a portion of the Town of Loris. Loris has both water and sewer infrastructure in the town limits and the in the area surrounding the town. The rest of the watershed is very rural with agricultural uses, timberlands, and some residential areas. A railway line runs through the watershed, but there are no industrial areas.

03040206-07

(Waccamaw River)

General Description

The South Carolina portion of 03040206-07 (formerly 03040206-090, 100, 110) is located in Horry County and consists primarily of the ***Waccamaw River*** and its tributaries from where it crosses the South Carolina/North Carolina state line to Simpson Creek. The watershed occupies 157,690 acres of the Lower Coastal Plain region of South Carolina. Land use/land cover in the watershed includes: 36.1% forested wetland, 30.0% agricultural land, 22.0% forested land, 7.4% urban land, 3.1% scrub/shrub land, 1.0% nonforested wetland, 0.3% water, and 0.1% barren land.

This portion of the Waccamaw River accepts drainage within South Carolina from Indigo Branch, Bellamy Branch, Cold Water Branch, Meetinghouse Branch (Mill Swamp), and Buck Creek (Round Swamp, Sheepbridge Branch, Camp Swamp, Little Cedar Branch, Cedar Branch, Big Cedar Branch, Deep Branch). Simpson Creek accepts drainage from Mill Branch, Bear Branch, West Bear Branch (Neal Branch), another Mill Branch, Cowpen Swamp (Little Cowpen Swamp), Flat Bay, Floyd Bay, Big Swamp, and Todo Swamp (Thoroughfare Bay, Frank Branch) before draining into the river. There are a total of 335.6 stream miles and 84.0 acres of lake waters in this watershed. The Waccamaw River is classified FW* (dissolved oxygen not less than 4.0 mg/l and pH between 5.0 and 8.5) and the remaining streams in the watershed are classified FW.

Surface Water Quality

Station #	Type	Class	Description
MD-124	P/INT	FW*	WACCAMAW RIVER AT SC 9 7.0 MI W OF CHERRY GROVE
PD-362	W/INT	FW	BUCK CREEK AT SC 905
PD-363	W/INT	FW	SIMPSON CREEK AT SC 905

Waccamaw River (MD-124) – This is a blackwater system, characterized by naturally low dissolved oxygen concentration conditions. 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 not supported due to occurrences of copper in excess of the aquatic life acute criterion. There is also a significant increasing trend in turbidity. There is a significant increasing trend in pH. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter. Recreational uses are fully supported.

Buck Creek (PD-362) – Aquatic life uses are fully supported. There is a significant increasing trend in pH. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter. Recreational uses are fully supported; however, there is a significant increasing trend in fecal coliform bacteria.

Simpson Creek (PD-363) – Aquatic life uses are not supported due to occurrences of zinc in excess of the aquatic life acute criterion. A significant decreasing trend in five-day biochemical oxygen demand 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 the ***Waccamaw River*** *within this watershed (**see advisory p.106**).*

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-016	GB	BLACK CREEK	LONGS #2

NPDES Program

Active NPDES Facilities

RECEIVING STREAM ***FACILITY NAME*** ***PERMITTED FLOW @ PIPE (MGD)***	***NPDES#*** ***TYPE*** ***COMMENT***
WACCAMAW RIVER GSW&SA/LONGS WWTP PIPE #: 001 FLOW: 0.95	SC0040878 MINOR DOMESTIC
MILL BRANCH LISTON HARDEE & SON/HARDEE PIT PIPE #: 001 FLOW: M/R	SCG730631 MINOR INDUSTRIAL
MEETINGHOUSE BRANCH SOUTHERN ASPHALT/HOLMS FARM PIPE #: 001 FLOW: M/R	SCG730363 MINOR INDUSTRIAL
SHEEPBRIDGE BRANCH WAKE STONE CORP./N. MYRTLE BEACH PIPE #: 001 FLOW: M/R	SCG730316 MINOR INDUSTRIAL
WACCAMAW RIVER TRIBUTARY SOUTHERN ASPHALT/HWY 90 PIT PIPE #: 001 FLOW: M/R	SCG730146 MINOR INDUSTRIAL

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME ***FACILITY TYPE***	***PERMIT #*** ***STATUS***
WHITE & SON, INC. COMPOSTING	262606-3001 ACTIVE
SUNWAY ENVIRONMENTAL INC. COMPOSTING	262666-3001 ACTIVE

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
LISTON T. HARDEE & SON, INC. HARDEE	1055-51 SAND/CLAY

WHITE & SON, INC. HEWETT ROAD MINE	1132-51 SAND/CLAY
GRAND STRAND AGGREGATES, LLC GORETOWN MINE	1161-51 LIMESTONE
TONY COX TONY COX HOME POND MINE	1700-51 SAND/CLAY
HOLMES HOLMES MINE	1640-51 SAND
WAKE STONE CORP. NORTH MYRTLE BEACH QUARRY	1289-51 LIMESTONE
AO HARDEE & SONS HEWETT ROAD MINE	1624-51 SAND/CLAY
HARDEE MINING HARDEE MINE	1637-51 SAND
SOUTHERN ASPHALT INC. HWY 90 PIT MINE	1187-51 SAND; SAND/CLAY
WHITE & SONS, INC. CHESTNUT PIT	1427-51 SAND
WORLEY TRUCKING CO., INC. WORLEY MINE #3	1778-51 SAND
NEXT STEP INC. . KITTLE RESIDENCE MINE	1780-51 SAND
TURFMEN INC. RECREATIONAL POND	1746-51 SAND

Water Quantity

Portions of this watershed fall within the Waccamaw Capacity Use Area and large groundwater uses must be reported (see Capacity Use Program p.27).

Growth Potential

There is a moderate to high potential for growth in this watershed, which contains the City of North Myrtle Beach. The highest growth, in the form of residential and commercial development, will occur in the area east of the Waccamaw River, which has water infrastructure. The S.C. Hwy 90 corridor, which runs east of the river, also has water available. Moderate growth is seen for the S.C. Hwy 9 corridor, which has both water and sewerage, and an increase in commercial development in particular is predicted for this corridor. Outside of the municipal areas, the watershed is primarily agricultural, timberland, and residential. Some growth is predicted around the unincorporated community of Longs, which has water and sewer infrastructure, due to the sprawling development around North Myrtle Beach and Myrtle Beach.

03040206-08

(Kingston Lake)

General Description

Watershed 03040206-08 (formerly 03040206-130) is located in Horry County and consists primarily of ***Kingston Lake*** and its tributaries. The watershed occupies 83,448 acres of the Lower Coastal Plain region of South Carolina. Land use/land cover in the watershed includes: 39.2% agricultural land, 32.5% forested wetland, 16.6% forested land, 8.7% urban land, 2.2% scrub/shrub land, 0.6% nonforested wetland, and 0.2% water.

Kingston Lake accepts drainage from Jacks Bay, Alligator Swamp, and White Oak Swamp. White Oak Swamp receives drainage from Little White Oak Swamp (Cane Branch), Horsepen Branch, Huckleberry Branch, Bug Swamp (Bay Gully Branch, Bayboro Branch, Hellhole Swamp), and Fox Branch. Camp Swamp enters the system next followed by Horsepen Creek, Maple Swamp (Big Baxter Swamp, Little Baxter Swamp, Horse Creek, Cross Branch, Poplar Swamp, Booth Branch, Smith Branch, Boggy Swamp), Grier Swamp (Priver Branch, Mill Branch, Long Swamp, St. Paul Branch, Brown Swamp, Mary Branch), and Crab Tree Swamp (Ned Creek, Thompson Swamp, Oakey Swamp, Beaver Hole Swamp, Altman Branch). The Kingston Lake Watershed drains into the Waccamaw River. There are a total of 183.8 stream miles and 161.8 acres of lake waters in this watershed, all classified FW.

Surface Water Quality

Station #	Type	Class	Description
PD-699	BIO	FW	KINGSTON LAKE SWAMP AT SR 139
PD-700	BIO	FW	WHITEOAK SWAMP AT SR 97
MD-158	S/W	FW	CRAB TREE SWAMP AT LONG ST. BELOW CONWAY #1 POND OUTFALL
MD-107	S/INT	FW	KINGSTON LAKE NEAR PUMP STATIOIN ON LAKESIDE DRIVE IN CONWAY

Kingston Lake Swamp (PD-699) – Aquatic life uses are fully supported based on macroinvertebrate community data.

Whiteoak Swamp (PD-700) – Aquatic life uses are fully supported based on macroinvertebrate community data.

Crab Tree Swamp (MD-158) – Aquatic life uses are fully supported. This is a blackwater system, characterized by naturally low dissolved oxygen concentration conditions. Although dissolved oxygen excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. A significant increasing trend in dissolved oxygen concentration and a decreasing trend in total phosphorus concentration suggest improving conditions for these parameters. A very high concentration of cadmium was measured in the 2003 sediment sample. Recreational uses are partially supported due to fecal coliform bacteria excursions.

Kingston Lake (MD-107) – Aquatic life uses are fully supported. This is a blackwater system, characterized by naturally low dissolved oxygen concentration conditions. Although dissolved oxygen 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. Recreational uses are fully supported; however, there is a significant increasing trend in fecal coliform bacteria concentration.

NPDES Program

Active NPDES Facilities

RECEIVING STREAM ***FACILITY NAME*** ***PERMITTED FLOW @ PIPE (MGD)***	***NPDES#*** ***TYPE*** ***COMMENT***
MAPLE SWAMP HOT MIX, INC./ADRIAN MINE PIPE #: 001 FLOW: M/R	SCG730422 MINOR INDUSTRIAL

Nonpoint Source Management Program

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
THOMPKINS & ASSOCIATES, INC. WEST MINE	0638-51 LIMESTONE
HOT MIX, INC. ADRIAN MINE	1489-51 SAND
GOODSON CONSTRUCTION COMPANY HATCHELL PIT	1646-51 SAND
LEE MCCORMICK MCCORMICK MINE	1708-51 SAND/CLAY
JASON WHITE CONSTRUCTION CO., INC. HARVEY ROAD MINE	1743-51 SAND/CLAY
FAITH LANDSCAPING, LLC FAITH MINE	1613-51 SAND

Water Quantity

Portions of this watershed fall within the Waccamaw Capacity Use Area and large groundwater uses must be reported (see Capacity Use Program p.27).

Growth Potential

There is a moderate potential for residential and commercial growth in this watershed, which contains a portion of the City of Conway. Water and sewerage infrastructure is located in and around Conway, and water is available along the U.S. Hwy 701 corridor. An industrial area is located along U.S. Hwy 701 and should see growth due to an existing rail line and highways that make the area accessible from all directions. The proposed Preferred Alternative route of I-73 (Southern Corridor) would cross this watershed and could bring some growth to the area, especially around interchanges.

Watershed Protection and Restoration

Special Projects

Wetland Program Development Grant

In 2005, USEPA Region IV awarded a 4-year Wetland Program Development Grant to build local capacity for watershed planning in the Kingston Lake Watershed. Coastal Carolina University's Waccamaw Watershed Academy is serving as the lead agency. Collaborators include Horry County, the City of Conway, and the Waccamaw Regional Council of Governments along with various state and federal agencies including SCDHEC BOW and OCRM. The primary project goal is development of a watershed management plan. Current activities include a volunteer monitoring program compliant with USEPA quality control criteria with online data access. The increased local capacity for watershed planning is intended to stimulate and support similar efforts in the other watersheds of the Waccamaw River Basin. These efforts are a follow on to a USEPA 319 Program project conducted from 1999 to 2002 in which significant nonpoint pollution problems were quantified. A demonstration stormwater BMP was also assessed for pollution removal efficiency and is now being used as an educational resource. Web pages for these past and present projects are located at http://www.coastal.edu/wwa/kinglake.html .

03040206-09

(Waccamaw River)

General Description

Watershed 03040206-09 (formerly 03040206-120, 140) is located in Horry County and consists primarily of the ***Waccamaw River*** and its tributaries from Simpson Creek to Socastee Creek (AIWW). The watershed occupies 136,317 acres of the Lower Coastal Plain and Coastal Zone regions of South Carolina. Land use/land cover in the watershed includes: 44.6% forested wetland, 19.0% forested land, 15.5% urban land, 14.8% agricultural land, 2.8% scrub/shrub land, 1.6% water, 1.5% nonforested wetland, and 0.2% barren land.

This portion of the Waccamaw River accepts drainage from its upstream reaches along with Jones Big Swamp (Boggy Swamp, Horse Savannah, Watts Bay), Stanley Creek (Beaverdam Swamp, Big Swamp), Tilly Swamp (Tiger Bay, Cane Bay, Buck Bay, Long Branch), and Round Swamp. Dam Swamp enters the river next followed by Steritt Swamp (East Prong, South Prong). The river then flows past the City of Conway and accepts drainage from Bear Swamp (Butler Swamp, Willow Springs Branch, Busbee Lake), Pitch Lodge Lake, Cox Ferry Lake, and Thorofare Creek. Wadus Lake connects Busbee Lake to the river. Gravely Gully and Halfway Swamp (Big Branch) enter the river next, followed by Old Womans Lake, Big Buckskin Creek, and Peachtree Lake. Socastee Swamp and the AIWW (Folly Swamp) merge near the Town of Socastee to form Socastee Creek and flows into the Waccamaw River. Enterprise Creek connects the Waccamaw River and Socastee Creek just upstream of their confluence. There are a total of 226.2 stream miles and 477.1 acres of lake waters in this watershed. The Waccamaw River is classified FW* (dissolved oxygen not less than 4.0 mg/l and pH between 5.0 and 8.5) and the remaining streams are classified FW.

Surface Water Quality

Station #	Type	Class	Description
RS-02481	RS02	FW	WACCAMAW RIVER AT S-26-31, RED BLUFF LANDING
PD-369	S/INT	FW*	WACCAMAW RIVER AT S-26-105, REEVES FERRY ROAD
MD-088	S/W	FW	AIWW 1 MI S OF BRIDGE ON US 501
MD-089	S/W	FW	AIWW 2 MI S OF BRIDGE ON US 501
RS-03332	RS02	FW	UNNAMED TRIB TO AIWW AT SC 707, 1.2MI ENE OF SOCASTEE AND SC 544
MD-127	P/SPRP	FW	AIWW AT SC 544, 7.5 MI SW OF MYRTLE BEACH
MD-110	S/W	FW*	WACCAMAW RIVER AT US 501 BYPASS AROUND CONWAY
MD-111	S/W	FW*	WACCAMAW RIVER AT COX'S FERRY ON COUNTY ROAD 110
MD-145	SPRP	FW*	WACCAMAW RIVER, 1 MI DS OF BUCKSVILLE LANDING AT BIG BEND IN RIVER
MD-136	S/W	FW*	WACCAMAW RIVER, 0.25 MI UPSTREAM OF JUNCTION WITH AIWW

Waccamaw River – There are six SCDHEC monitoring sites along this section of the Waccamaw River and recreational uses are fully supported at all sites. This is a blackwater system, characterized by naturally low pH and dissolved oxygen conditions. At the furthest upstream site ***(RS-02481)***, aquatic life uses are fully supported. Although pH excursions occurred, they were typical of values seen in swamps and blackwater systems and were considered natural, not standards violations.

Further downstream ***(PD-369)***, aquatic life uses are partially supported due to dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. At the next site downstream ***(MD-110)***, aquatic life uses are fully supported. Although dissolved oxygen excursions occurred, they were typical of values seen in swamp and blackwater systems and were considered natural, not standards violations.

Further downstream ***(MD-111)***, aquatic life uses are not supported due to dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. Significant decreasing trends in five-day biochemical oxygen demand and total phosphorus concentration suggest improving conditions for these parameters. At the next site downstream ***(MD-145)***, aquatic life uses are partially supported due to dissolved oxygen excursions, which are compounded by 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. At the furthest downstream site ***(MD-136)***, aquatic life uses are not supported due to dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter.

Atlantic Intracoastal Waterway (AIWW) - There are three SCDHEC monitoring sites along this section of the AIWW. This section of the AIWW is influenced by tidal pressures from both the Little River and the Winyah Bay ends, so flushing and mixing are limited, causing a bathtub effect whereby the water moves back and forth, but takes a long time to actually move out of the waterway. At the furthest upstream site ***(MD-088)***, aquatic life uses are fully supported; however, there is a significant increasing trend in turbidity. Although pH and dissolved oxygen excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. 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 midstream site ***(MD-089)***, aquatic life and recreational uses are fully supported. Although dissolved oxygen and pH excursions occurred, they were typical of values seen in tidally influenced systems with limited flushing and significant marsh drainage and were considered natural, not standards violations. At the furthest downstream site ***(MD-127)***, aquatic life uses are fully supported; however, there is a significant increasing trend in turbidity. There is a significant increasing trend in pH. Although dissolved oxygen and pH excursions occurred, they were typical of values seen in tidally influenced systems with limited flushing and significant marsh drainage and were considered natural, not standards violations. Significant decreasing trends in five-day biochemical oxygen demand and total nitrogen concentration suggest improving conditions for these parameters. Recreational uses are fully supported; however, there is a significant increasing trend in fecal coliform bacteria concentration.

Unnamed Tributary to AIWW (RS-03332) - Aquatic life uses are fully supported, but 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 the ***Waccamaw River*** *and the* ***Atlantic Intracoastal Waterway*** *within this watershed (see advisory p.106).*

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-013	GB	BLACK CREEK	CONWAY #6
AMB-088	GB	SURFICIAL SANDS	SOCASTEE

NPDES Program

Active NPDES Facilities

RECEIVING STREAM FACILITY NAME PERMITTED FLOW @ PIPE (MGD)	NPDES# TYPE COMMENT
WACCAMAW RIVER S.C. PUBLIC SERV. AUTH./GRAINGER PIPE #: 001 FLOW: 2.21 PIPE #: 002 FLOW: 122.9	SC0001104 MAJOR INDUSTRIAL
WACCAMAW RIVER GSW&SA/SCHWARTZ PLANT PIPE #: 002 FLOW: 0.7 PIPE #: 003 FLOW: 0.4 PIPE #: 004 FLOW: 0.694	SC0037753 MAJOR DOMESTIC LAND APPLICATION
WACCAMAW RIVER HUCKS LANDSCAPING & CONSTR./HUCKS MINE #2 PIPE #: 001 FLOW: M/R	SCG730307 MINOR INDUSTRIAL
WACCAMAW RIVER TRIBUTARY SOUTHERN ASPHALT/CASTLEWOOD PIPE #: 001 FLOW: M/R	SCG730397 MINOR INDUSTRIAL
SOCASTEE CREEK TRIBUTARY CLIFTON BARNHILL MINE PIPE #: 001 FLOW: M/R	SCG730016 MINOR INDUSTRIAL
WADUS LAKE GSW&SA/CONWAY WWTP PIPE #: 001 FLOW: 4.0	SC0021733 MAJOR DOMESTIC
STERITT SWAMP HUCKS LANDSCAPING & CONSTR./HUCKS MINE #8 PIPE #: 001 FLOW: M/R	SCG730347 MINOR INDUSTRIAL
EAST PRONG HUCKS LANDSCAPING & CONSTR./HUCKS MINE #1 PIPE #: 001 FLOW: M/R	SCG730310 MINOR INDUSTRIAL
SOCASTEE SWAMP RE GOODSON CONSTR./CAROLINA FOREST BLVD PIPE #: 001 FLOW: M/R	SCG730292 MINOR INDUSTRIAL

WACCAMAW RIVER TRIBUTARY SOUTHERN ASPHALT INC./EAGLE SOUTH PIPE #: 001 FLOW: M/R	SCG730352 MINOR INDUSTRIAL
WACCAMAW RIVER TRIBUTARY SOUTHERN ASPHALT INC./CASTLEWOOD SD PIPE #: 001 FLOW: M/R	SCG730397 MINOR INDUSTRIAL
WACCAMAW RIVER TRIBUTARY WEAVER CO./COX FERRY MINE #2 PIPE #: 001 FLOW: M/R	SCG730560 MINOR INDUSTRIAL
WACCAMAW RIVER TRIBUTARY WEAVER CO., INC. PIPE #: 001 FLOW: M/R	SCG750020 MINOR INDUSTRIAL
WILLOW SPRINGS BRANCH RICHARDSON & SONS/RICKYS DIRT PIPE #: 001 FLOW: M/R	SCG730113 MINOR INDUSTRIAL
WACCAMAW RIVER TRIBUTARY ROBERT O. COLLINS CO., INC./LAKE RIDGE PIPE #: 001 FLOW: M/R	SCG730267 MINOR INDUSTRIAL
WACCAMAW RIVER TRIBUTARY ROBERT O. COLLINS CO., INC./SOCASTEE PIT PIPE #: 001 FLOW: M/R	SCG730136 MINOR INDUSTRIAL
WACCAMAW RIVER TRIBUTARY ROBERT O. COLLINS CO., INC./FORESTBROOK PIPE #: 001 FLOW: M/R	SCG730236 MINOR INDUSTRIAL
WACCAMAW RIVER TRIBUTARY ROBERT O. COLLINS CO., INC./544 MINE PIPE #: 001 FLOW: M/R	SCG730237 MINOR INDUSTRIAL
WACCAMAW RIVER TRIBUTARY CL BENTON & SONS, INC./SEA MIST MINE PIPE #: 001 FLOW: M/R	SCG730057 MINOR INDUSTRIAL

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME ***FACILITY TYPE***	***PERMIT #*** ***STATUS***
HORRY COUNTY LANDFILL MUNICIPAL	---------- CLOSED
HORRY COUNTY LANDFILL MUNICIPAL	261001-1101 CLOSED
HORRY COUNTY LANDFILL MUNICIPAL	261001-1102, 261001-1201 ACTIVE

CITY OF CONWAY DUMP MUNICIPAL	----------- CLOSED
THOMPKINS C&D DUMP CONSTRUCTION	----------- CLOSED
HORRY COUNTY COMPOSTING FACILITY COMPOSTING	261001-3001 ACTIVE
COASTAL RECLAMATION COMPOSTING SITE COMPOSTING	262448-3001 ACTIVE
AO HARDEE & SONS COMPOSTING	262626-3001 ACTIVE
HAMMOND WOOD RECYCLING #2 COMPOSTING	262660-3001 INACTIVE
ROBERT COLLINS INC. COMPOSTING	262659-3001 INACTIVE
DIXIE RECYCLING LLC COMPOSTING	262652-3001 ACTIVE
C. OWENS & SONS COMPOSTING	262635-3001 ACTIVE
HOLMES COMPOSTING SITE COMPOSTING	262616-3001 ACTIVE
POSTEC RECYCLING INC. COMPOSTING	262476-3001 INACTIVE

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
ASHLEY ANDERSON FARM GULLEY BRANCH MINE	1475-51 SAND; SAND/CLAY; TOPSOIL
ASHLEY ANDERSON FARM ANDERSON MINE	1149-51 SAND; SAND/CLAY
ASHLEY ANDERSON FARM TILLEY SWAMP MINING	1030-51 SAND
ANTHONY INMAN INMAN POND	1480-51 SAND
HUCKS LANDSCAPING HUCKS MINE	1282-51 SAND/CLAY
TW HUNT CONSTRUCTION CO. ALL SAINTS MINE	1673-51 SAND/CLAY

WEAVER COMPANY, INC. COX FERRY MINE #2	1405-51 SAND
ROBERT O. COLLINS CO., INC. FORESTBROOK MINE	1198-51 SAND; SAND/CLAY
RE GOODSON CONSTRUCTION CO. GOODSON/CAROLINA FOREST BLVD.	1363-51 SAND
ARCHIE BELL CONSTRUCTION, INC. LEES LANDING CIRCLE MINE	1056-51 SAND/CLAY
HOME PLACE FARMS LLC LAKE RIDGE MINE	1158-51 SAND; SAND/CLAY
ABC CORP. OF S.C. PIT #2	0784-51 SAND/CLAY
ROBERT O. COLLINS CO., INC. 544 MINE	1197-51 SAND; SAND/CLAY
ROBERT O. COLLINS CO., INC. SOCASTEE PIT	1083-51 SAND
C. OWENS & SONS, INC. OWENS PIT	0951-51 SAND/CLAY
FLORENCE D. BARNHILL FLORENCE BARNHILL MINE	1015-51 SAND/CLAY
DONALD RICHARDSON & SON, INC. RICKYS DIRT PIT	1099-51 SAND/CLAY
CL BENTON & SONS, INC. SEA MIST	1107-51 SAND
STALVEYS CONSTRUCTION INC. CHARLES LEWIS MINE	1745-51 SAND

Water Quantity

Portions of this watershed fall within the Waccamaw Capacity Use Area and large groundwater uses must be reported (see Capacity Use Program p.27).

Growth Potential

There is a high potential for residential, commercial, and industrial growth in this watershed, which contains the City of Conway and the outskirts of the Cities of Myrtle Beach and North Myrtle Beach. A high increase of growth is expected east of the Waccamaw River in particular, and a moderate increase west of the river. All but the northern most corner of the watershed contains water infrastructure. Sewer infrastructure is located in much of the watershed, including the S.C. Hwy. 544 corridor, east of S.C. Hwy. 544 (excluding the area north of U.S. Hwy. 501), and in the Bucksport community. Commercial and residential development is the predominate land use in the City of Conway and along sections of U.S.

Hwy. 501, U.S. Hwy. 17 Bypass, and S.C. Hwy. 544. Two industrial parks are located along the U.S. Hwy. 501 corridor as well as an existing rail line. A section of the former Myrtle Beach Air Force Base is located in the watershed and is being developed for industrial and commercial use. Most of the land use outside of these areas consist of residential development and timberland. U.S. Hwy 544 has now been widened and U.S. Hwy. 17 is proposed to be widened. Portions of the Buist Tract, the largest undeveloped tract of land in Horry County, are being developed. The proposed Preferred Alternative route of I-73 (Southern Corridor) would cross this watershed and could bring some growth to the area, especially around interchanges.

Watershed Protection and Restoration

Total Maximum Daily Loads (TMDLs)

A total maximum daily load (TMDL) for oxygen demanding substances has been developed for the main stem of the **Waccamaw River** and the **Atlantic Intracoastal Waterway (AIWW)** in watersheds 02040206-09, 03040206-10, and 03040208-03. The TMDL addresses 12 separate monitoring stations on the State's 1998 303(d) list of impaired waters. The TMDL, based on a maximum 0.1 mg/l deficit allowed in waters that do not meet applicable dissolved oxygen standards due to natural conditions, will result in a decrease of approximately 63% in the permitted oxygen demanding load discharged to the system. The decreased loadings are being implemented through the NPDES permitting system with new, more restrictive limits becoming final at the conclusion of appropriate compliance schedules.

Special Projects

Development & Implementation of a S.C. Coast-A-Syst

The S.C. Coast-A-Syst project targets homeowners living along the Atlantic Intracoastal Waterway (AIWW) and Socastee Creek (watershed 03040206-09) and the AIWW and Little River (watershed 03040208-03). Like much of the coast, these areas are experiencing rapid development and increased populations, while also harboring fragile water resources for recreation and marine ecology. High fecal coliform bacteria counts, water quality non-supportive of aquatic life because of low dissolved oxygen, and pH excursions exist in local waterbodies.

S.C. Sea Grant Consortium and Clemson University developed a program called South Carolina Coast-A-Syst. This product, modeled after the Home*A*Syst and Farm-A-Syst programs, is used to teach watershed residents and waterbody users responsible practices for protecting water quality, with the ultimate goal to reduce bacteria and nutrient input into nearby waterbodies from urban/suburban activities and land development. Research was conducted through surveys to determine what BMPs were appropriate for coastal South Carolina, where education about nonpoint source was lacking, and how best to reach homeowners in providing continued education. Education of coastal residents included identification of practices, which detrimentally affect water quality, reasons why those practices do so, and instructions in better water quality management practices.

Sea Grant Extension and Clemson Extension published a S.C. Coast-A-Syst packet, which includes self-assessments and fact sheets on homeowner practices. Sea Grant Extension trained

Extension agents, Master Gardeners, and homeowner associations to administer this homestead self-assessment program, distribute the program and materials through homeowner associations and other public groups, provide support for the program through the Horry County Extension Service, and provide electronic distribution of the program via the world wide web.

03040206-10

(Waccamaw River)

General Description

Watershed 03040206-10 (formerly 03040206-150 plus the remaining river section from 03040207-040) is located in Georgetown and Horry Counties and consists primarily of the ***Waccamaw River*** and its tributaries from Socastee Creek (AIWW) to Winyah Bay. The watershed occupies 55,596 acres of the Coastal Zone region of South Carolina. Land use/land cover in the watershed includes: 33.3% forested wetland, 21.6% forested land, 13.6% urban land, 11.1% nonforested wetland, 9.6% water, 6.9% agricultural land, 2.9% scrub/shrub land, and 1.0% barren land.

This section of the Waccamaw River accepts drainage from its upper reaches, together with Oatbed Creek, Seven Prongs, Peach Creek, Old River (Nimrod Creek), Clark Creek, Big Swamp, Old Dock Creek (Righthand Creek), and Silvers Creek. Bull Creek enters the river next followed by Prince Creek, Vaux Creek, Silver Creek, Collins Creek, Cow House Creek, and Black Creek (White Creek). Sandhole Creek (Ruinsville Creek, Crane Creek) enters the river next followed by Springfield Creek, Brookgreen Creek, Pawleys Creek, Oatland Creek, Waverly Creek, Butler Creek, Schooner Creek, Caledonia Creek (Duncan Creek) and Jericho Creek. The Waccamaw River drains into the Great Pee Dee River in the headwaters of Winyah Bay. There are a total of 117.5 stream miles, 581.6 acres of lake waters, and 3,493.6 acres of estuarine areas in this watershed. The Waccamaw River is classified FW* (dissolved oxygen not less than 4.0 mg/l and pH between 5.0 and 8.5) from the top of the watershed to the river's confluence with Thoroughfare Creek. The tributaries along this portion of the river are classified FW. Downstream of the confluence, the river is classified SA* (dissolved oxygen not less than 4.0 mg/l) and its tributaries are classified SA.

Surface Water Quality

Station #	Type	Class	Description
MD-146	P/W	FW*	WACCAMAW RIVER & AIWW 1 MI BELOW JCT, BUCKSPORT LANDING
MD-137	S/W	FW*	WACCAMAW RIVER NEAR MOUTH OF BULL CREEK AT CHANNEL MARKER 50
MD-138	P/SPRP	FW*	WACCAMAW RIVER AT CHANNEL MARKER 57
MD-142	P/INT	SA*	WACCAMAW RIVER DOWNSTREAM OF BUTLER ISLAND AT MARKER 86

Waccamaw River – There are four SCDHEC monitoring sites along this section of the Waccamaw River and recreational uses are fully supported at all sites. At the furthest upstream site ***(MD-146)***, aquatic life uses are not supported due to dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. Significant decreasing trends in five-day biochemical oxygen demand and total phosphorus concentration suggest improving conditions for these parameters. Further downstream ***(MD-137)***, aquatic life uses are not supported due to dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. There is a significant increasing trend in pH. A significant decreasing trend in total phosphorus concentration suggests improving conditions for this parameter. At the next site downstream ***(MD-138)***, aquatic life uses are partially supported due to dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. There is a significant increasing trend in pH. Significant decreasing trends in five-day biochemical oxygen demand and total nitrogen concentration suggest improving conditions for these parameters. At the furthest downstream site ***(MD-142)***, aquatic life uses are partially supported due to dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. A significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter.

A fish consumption advisory has been issued by the Department for mercury and includes the ***Waccamaw River*** *and the* ***Atlantic Intracoastal Waterway*** *within this watershed* *(see advisory p.106).*

NPDES Program

Active NPDES Facilities

RECEIVING STREAM FACILITY NAME PERMITTED FLOW @ PIPE (MGD)	***NPDES# TYPE COMMENT***
WACCAMAW RIVER GSW&SA/SCHWARTZ PLANT/MYRTLE BEACH WWTP PIPE #: 01B FLOW: 13.51 PIPE #: 01C FLOW: 17.0	SC0037753 MAJOR DOMESTIC
WACCAMAW RIVER GSW&SA/SCHWARTZ PLANT PIPE #: 006 FLOW: 0.47	SC0037753 MAJOR DOMESTIC LAND APPLICATION
WACCAMAW RIVER TRIBUTARY GSW&SA/SCHWARTZ PLANT PIPE #: 005 FLOW: 0.48	SC0037753 MAJOR DOMESTIC LAND APPLICATION
WACCAMAW RIVER GCW&SD/MURRELLS INLET WWTP PIPE #: 001 FLOW: 2.0	SC0040959 MAJOR DOMESTIC
WACCAMAW RIVER GSW&SA/BUCKSPORT WWTP PIPE #: 001 FLOW: 0.2	SC0040886 MINOR DOMESTIC
WACCAMAW RIVER GCW&SD/PAWLEYS AREA WWTP PIPE #: 001 FLOW: 2.75	SC0039951 MAJOR DOMESTIC
WACCAMAW RIVER GSW&SA/BULL CREEK WTP PIPE #: 001 FLOW: M/R	SCG645042 MINOR DOMESTIC

WACCAMAW RIVER CITY OF MYRTLE BEACH/WATER RECLAMATION PIPE #: 001 FLOW: M/R	SC0039039 MINOR DOMESTIC
BROOKGREEN CREEK GCW&SD/WACCAMAW REGIONAL WTP PIPE #: 001 FLOW: 0.35	SCG643001 MINOR DOMESTIC
COLLINS CREEK TRIBUTARY BUSHWACKER INC./SAND HILL PIT PIPE #: 001 FLOW: M/R	SCG730297 MINOR INDUSTRIAL
WACCAMAW RIVER TRIBUTARY BROWN MOORE & PATRICK LLC/BM&P SAND PIT PIPE #: 001 FLOW: M/R	SCG730524 MINOR INDUSTRIAL

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME ***FACILITY TYPE***	***PERMIT #*** ***STATUS***
ROMMIE GRAY COMPOSTING FACILITY COMPOSTING	222638-3001 INACTIVE

Land Application Sites

LAND APPLICATION SYSTEM ***FACILITY NAME***	***ND#*** ***TYPE***
SPRAYFIELD GSW&SA BULL CREEK WTP	ND0069892 DOMESTIC

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
T & J BUILDERS, INC. T & J MINE	1681-51 SAND
R.L. CAUSEY LANDSCAPING VEREEN PIT	1053-51 SAND/CLAY
BUSHWACKER INC. SAND HILL MINE	1358-43 SAND
BROWN MOORE & PATRICK LLC POND ROAD MINE	1701-43 SAND/CLAY
BROWN MOORE & PATRICK LLC B, M, & P SANDPIT MINE	1574-51 SAND

Water Quantity

Portions of this watershed fall within the Waccamaw Capacity Use Area and large groundwater uses must be reported (see Capacity Use Program p.27).

WATER USER ***STREAM***	***REGULATED CAPACITY (MGD)*** ***PUMPING CAPACITY (MGD)***
GEORGETOWN COUNTY W&S WACCAMAW RIVER	8.29 12.23

Growth Potential

There is a high potential for residential and commercial growth in this watershed, which contains portions of the Towns of Bucksport, Surfside Beach, and Murrells Inlet. The area is developed with many residential and resort communities. The area west of the AIWW is accessible only by boat and is not expecting significant growth. Water infrastructure is located throughout most of the watershed, and sewer is currently located in the northern tip as well as in many of the newer developments throughout the region. Most areas of the Waccamaw Neck now have sewer services. Along with resort and residential developments, commercial uses and two large tracts of semi-public land are located along the U.S. Hwy. 17 corridor.

Watershed Protection and Restoration

Total Maximum Daily Loads (TMDLs)

A total maximum daily load (TMDL) for oxygen demanding substances has been developed for the main stem of the Waccamaw River and the Atlantic Intracoastal Waterway (AIWW) in watersheds 02040206-09, 03040206-10, and 03040208-03. The TMDL addresses 12 separate monitoring stations on the State's 1998 303(d) list of impaired waters. The TMDL, based on a maximum 0.1 mg/l deficit allowed in waters that do not meet applicable dissolved oxygen standards due to natural conditions, will result in a decrease of approximately 63% in the permitted oxygen demanding load discharged to the system. The decreased loadings are being implemented through the NPDES permitting system with new, more restrictive limits becoming final at the conclusion of appropriate compliance schedules.

Great Pee Dee River Basin Description

The ***Great Pee Dee River Basin (hydrologic units 03040201, 03040203, 03040204, 03040207)*** is located in Marlboro, Chesterfield, Darlington, Florence, Dillon, Marion, Williamsburg, Horry, and Georgetown Counties, and encompasses 22 watersheds and 4,029 square miles within South Carolina, excluding the Lynches River, Black River, and Waccamaw River Basins. The Great Pee Dee River flows across the Sandhills region to the Upper and Lower Coastal Plain regions and into the Coastal Zone region. Of the approximately 2.5 million acres, 33.4% is agricultural land, 25.7% is forested land, 27.9% is forested wetland, 6.3% is urban land, 2.7% is scrub/shrub land, 2.6% is water, 1.2% is nonforested wetland, and 0.2% is barren land. The urban land percentage is comprised chiefly of the Cities of Florence, Darlington, Bennettsville, and Dillon. In the Great Pee Dee River Basin, there are approximately 4,669 stream miles, 10,864 acres of lake waters, and 17,676 acres of estuarine areas. The Great Pee Dee River flows across the North Carolina/South Carolina state line and accepts drainage from Thompson Creek, Crooked Creek, Cedar Creek, Three Creeks, and Black Creek. The river then accepts drainage from Jeffries Creek, Catfish Creek, the Lynches River Basin, the Little Pee Dee River, the Black River Basin and the Waccamaw River Basin before draining into Winyah Bay.

Physiographic Regions

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

The **Sandhills** 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 U.S. Geological Survey's National Land Cover Data (NLCD), 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 grasslands 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.

Forestland 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 Great Pee Dee River Basin are described as follows.

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

Aycock soils are nearly level to gently sloping, well drained soils on Coastal Plain uplands, grayish brown in color and a very fine sandy loam.

Bladen soils are poorly drained soils on low, nearly level areas and low ridges.

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

Bonneau soils are deep, moderately well drained soils with loamy subsoil on ridges.

Candor soils are somewhat excessively drained soils that formed in sandy and loamy marine sediments on broad flats, narrow ridges, and side slopes.

Cantey soils are moderately well drained soils with a loamy surface layer and a clayey or loamy subsoil and poorly drained soils with a loamy surface layer and a clayey subsoil.

Cape Fear soils are very poorly drained soils that formed in sandy and clayey marine sediments in upland areas of the Coastal Plain, and in flat and depressional areas.

Chastain soils are poorly drained to well drained soils that are clayey or loamy and subject to flooding.

Coxville soils are deep, poorly drained soils in thick beds of clayey sediment, nearly level.

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

Eulonia soils are moderately well drained, moderately slowly permeable soils that formed in clayey marine sediment, nearly level to gently sloping and on broad flats.

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.

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

Lakeland soils are well drained, sandy soils with 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.

Levy soils are nearly level, very poorly drained soils, mucky throughout or loamy and underlain with clayey layers, rarely or frequently flooded with fresh water.

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

Lynnhaven soils are poorly drained sandy soils, with sandy subsoil, in low areas, and prone to ponding.

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.

Nansemond soils are moderately well drained, rapidly permeable soils that formed in loamy Coastal Plain sediments on stream terraces and adjacent to small drainages.

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

Norfolk soils are deep, well drained soils, with loamy subsoil, nearly level and gently sloping elevated uplands.

Pelion soils are well drained and moderately well drained soils that have a sandy surface layer and a loamy subsoil, many with a fragipan in the subsoil.

Persanti soils are deep, moderately well drained, slowly permeable soils that formed in clayey marine sediment, found on broad estuary terraces.

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

Rutledge soils are somewhat poorly drained to moderately well drained, nearly level, sandy soils on ridges and poorly drained to very poorly drained, sandy soils in depressions.

Smithboro soils are deep, somewhat poorly drained, slowly permeable soils that formed in clayey marine sediment, found on the Coastal Plain on broad estuary terraces.

Tatum soils are dominantly sloping to steep, well drained to excessively drained soils, with a loamy subsoil, moderately deep or shallow to weathered rock.

Tawcaw soils are poorly drained to well drained soils that are clayey or loamy throughout and are subject to flooding.

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

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.

Wahee soils are poorly drained soils on low, nearly level areas and low ridges.

Woodington soils are poorly drained, moderately permeable soils that formed in loamy Coastal Plain sediments on stream terraces and upland flats on higher elevations.

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

Yemassee 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. 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 Pee Dee River Basin is from 0.10 to 0.28.

Fish Consumption Advisory

At the time of publication, a fish consumption advisory issued by SCDHEC is in effect for ***Black Creek, Lake Robinson, Lake Wallace, the Great Pee Dee River, the Little Pee Dee River, Russ Creek, the Lumber River, the Sampit River, the Intracoastal Waterway (AIWW), and Clark Creek*** advising people to limit the amount of some types of fish consumed from these waters. Fish consumption advisories are updated annually in March. For background information and the most current advisories please visit www.scdhec.gov/fish. For more information or a hard copy of the advisories, call SCDHEC's Division of Health Hazard Evaluation toll-free at (888) 849-7241.

Climate

Normal yearly rainfall in the Great Pee Dee River area during the period of 1971 to 2000 was 48.80 inches, according to South Carolina's **30-year** climatological record. Data compiled from National Weather Service stations in Pee Dee, Cheraw, McColl, Darlington, Florence (City and Airport), Dillon, Marion, Loris, Conway, Brookgreen Gardens, and Georgetown were used to determine the general climate information for this portion of the State. The highest seasonal rainfall occurred in the summer with 15.94 inches; 10.78, 11.35, and 10.74 inches of rain fell in the fall, winter, and spring, respectively. The average annual daily temperature was 63.0 ^{o}F. Winter temperatures averaged 46.5^{o}F, spring temperatures averaged 61.65 ^{o}F and summer and fall mean temperatures were 78.9 ^{o}F and 64.29 ^{o}F, respectively.

Watershed Evaluations

03040201-03

(Great Pee Dee River)

General Description

The South Carolina portion of 03040201-03 (formerly 03040201-010) is located in Marlboro and Chesterfield Counties and consists primarily of the ***Great Pee Dee River*** and its tributaries from its origin in North Carolina to Westfield Creek in South Carolina. The watershed occupies 39,333 acres of the Sandhills and Upper Coastal Plain regions of South Carolina. Land use/land cover in the watershed includes: 41.0% forested land, 25.4% agricultural land, 15.3% forested wetland (swamp), 11.5% urban land, 4.1% scrub/shrub land, 1.9% water, 0.4% nonforested wetland (marsh), and 0.4% barren land.

This upper reach of the Great Pee Dee River in South Carolina accepts drainage from its North Carolina reaches and Marks Creek. There are a total of 84.1 stream miles and 9.7 acres of lake waters in this watershed within South Carolina, all classified FW.

Surface Water Quality

No water quality monitoring occurred in this watershed.

A fish consumption advisory has been issued by the Department for mercury and includes the ***Pee Dee River*** *within this watershed* *(see advisory p.130).*

NPDES Program

Active NPDES Facilities

RECEIVING STREAM ***FACILITY NAME*** ***PERMITTED FLOW @ PIPE (MGD)***	***NPDES#*** ***TYPE*** ***COMMENT***
MARKS CREEK PALMETTO BRICK/PEFUES MINE PIPE #: 001 FLOW: M/R	SCG730434 MINOR INDUSTRIAL
GREAT PEE DEE RIVER TRIBUTARY OLD CASTLE STONE/ESKRIDGE MINE PIPE #: 001 FLOW: M/R	SCG730475 MINOR INDUSTRIAL
GREAT PEE DEE RIVER TRIBUTARY MARION CERAMICS/PAVER MINE PIPE #: 001 FLOW: M/R	SCG730218 MINOR INDUSTRIAL

Nonpoint Source Management Program

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
PALMETTO BRICK CO. PEGUES MINE	1485-69 SHALE
OLDCASTLE RETAIL INC. MARLBORO COUNTY MINE	0726-69 SAND
MARION CERAMICS INC. PAVER MINE	0550-69 SHALE

Growth Potential

There is a low potential for growth in this watershed.

03040201-04

(Thompson Creek)

General Description

The South Carolina portion of 03040201-04 (formerly 03040201-060 and incorporating 03040104-02) is located in Chesterfield County and consists primarily of ***Thompson Creek*** and its tributaries. The watershed occupies 221,467 acres of the Sandhills and Upper Coastal Plain regions of South Carolina. Land use/land cover in the watershed includes: 50.3% forested land, 27.9% agricultural land, 11.1% forested wetland, 6.3% urban land, 3.3% scrub/shrub land, 0.6% water, 0.3% nonforested wetland, and 0.2% barren land.

While Thompson Creek originates in South Carolina, several of its tributaries originate in North Carolina including Deadfall Creek and Cedar Creek. Brown Creek originates near the headwaters of Thompson Creek and flows into North Carolina. Thompson Creek accepts drainage from Stone House Creek (Betties Branch), Clay Creek, Collins Branch, Deadfall Creek, Cedar Creek, Deep Creek (Mill Branch, Jenning Branch, Pitt Branch, Mill Creek, Horsepen Branch, Gulpins Branch, Crews Branch, Sellers Pond), and Tavern Branch. Jimmies Creek (Smarsh Branch) enters the system next, followed by Abrams Creek, Robeson Branch (Reedy Branch), Spencer Mill Creek (Sixmile Creek), and Indian Creek. Bear Creek (Rocky Prong, Teal Millpond) accepts drainage from Big Bear Creek (North Prong, Mill Branch, Cow Branch, Mash Branch, Strickland Branch) and Little Bear Creek (Polecat Branch, Bay Springs Branch, Bay Branch, Twitty Prong, Mount Prong, Mash Branch, Underground Branch, Gully Branch, Cross Branch) before flowing into Thompson Creek downstream of Indian Creek.

Beaver Creek flows into the system further downstream followed by Juniper Creek (Mill Creek, Wilkes Millpond, Cow Branch, Coker Branch, Little Juniper Creek, Campbell Lake, Pats Branch, Juniper Lake). The Cheraw State Park extends across Juniper Creek from Little Juniper Creek to downstream of Juniper Lake (also known as Eureka Lake). The Cheraw National Fish Hatchery is located within the Cheraw State Park. The Sand Hills State Forest extends over the lower portion of the watershed. Thompson Creek Watershed drains into the Pee Dee River. There are a total of 502.0 stream miles and 1,067.8 acres of lake waters in this watershed, all classified FW.

Surface Water Quality

Station #	Type	Class	Description
RS-02305	RS02	FW	CLAY CREEK AT S-13-55
PD-673	BIO	FW	THOMPSON CREEK AT SC 109
RS-01013	RS01	FW	DEEP CREEK 75 FT UPSTREAM OF SC 9, 5.5 MI W OF CHESTERFIELD
PD-671	BIO	FW	DEEP CREEK AT SR 47
PD-246	S/W	FW	THOMPSON CREEK AT S-13-243 0.8 MI NE OF CHESTERFIELD
PD-247	S/W	FW	THOMPSON CREEK AT SC 9 1.5 MI ESE OF CHESTERFIELD
PD-677	BIO	FW	NORTH PRONG CREEK AT SC 102
PD-338	S/INT	FW	THOMPSON CREEK AT S-13-148 S OF CHERAW
RL-03346	RL03	FW	APPROX. MIDLAKE IN EUREKA LAKE IN CHERAW STATE PARK

CL-088	W	FW	JUNIPER LAKE, FOREBAY EQUIDISTANT FROM DAM AND SHORELINES
PD-340	W	FW	JUNIPER CREEK AT S-13-494

Clay Creek (RS-02305) – Aquatic life uses are not supported due to dissolved oxygen excursions. Recreational uses are fully supported.

Thompson Creek – There are four SCDHEC monitoring sites along Thompson Creek. This is a blackwater system, characterized by naturally low pH conditions. At the furthest upstream site ***(PD-673)***, aquatic life uses are partially supported based on macroinvertebrate community data. At the next site downstream ***(PD-246)***, aquatic life uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. Recreational uses are not supported at this site due to fecal coliform bacteria excursions. Further downstream ***(PD-247)***, aquatic life 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. Recreational uses are not supported at this site due to fecal coliform bacteria excursions. At the furthest downstream site ***(PD-338)***, aquatic life uses are fully supported; however, there is a significant increasing trend 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. Recreational uses are fully supported at this site.

Deep Creek – There are two SCDHEC monitoring sites along Deep Creek. At the upstream site ***(RS-01013)***, aquatic life uses are not supported due to turbidity excursions. Recreational uses are partially supported at this site due to fecal coliform bacteria excursions. At the downstream site ***(PD-671)***, aquatic life uses are fully supported based on macroinvertebrate community data.

North Prong Creek (PD-677) – Aquatic life uses are partially supported based on macroinvertebrate community data.

Eureka Lake (RL-03346) – Aquatic life uses are not supported due to pH excursions. DDT, DDD, and DDE (metabolites of DDT) were detected in the 2003 sediment sample. Although the use of DDT was banned in 1973, it is very persistent in the environment. Recreational uses are fully supported.

Juniper Lake (CL-088) – 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.

Juniper Creek (PD-340) – Aquatic life uses are not supported due to pH excursions. There is also a significant increasing trend in total nitrogen concentration. There is a significant decreasing trend in pH. Significant decreasing trends in five-day biochemical oxygen demand, total phosphorus concentration, and fecal coliform bacteria concentration suggest improving conditions for these parameters. Recreational uses are fully supported.

Natural Swimming Areas

FACILITY NAME / ***RECEIVING STREAM***	***PERMIT #*** / ***STATUS***
CAMP JUNIPER JUNIPER LAKE/JUNIPER CREEK	13-N07 ACTIVE
CAMP FOREST JUNIPER LAKE/JUNIPER CREEK	13-N06 ACTIVE
CHERAW STATE PARK JUNIPER LAKE/JUNIPER CREEK	13-N01 ACTIVE

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-030	GB	MIDDENDORF	PATRICK

NPDES Program

Active NPDES Facilities

RECEIVING STREAM / ***FACILITY NAME*** / ***PERMITTED FLOW @ PIPE (MGD)***	***NPDES#*** / ***TYPE*** / ***COMMENT***
THOMPSON CREEK TOWN OF CHESTERFIELD PIPE #: 001 FLOW: 0.45	SC0025232 MINOR DOMESTIC
THOMPSON CREEK JW COVINGTON/COVINGTON MINE PIPE #: 001 FLOW: M/R	SCG730625 MINOR INDUSTRIAL
STONE HOUSE CREEK TRIBUTARY HANSON AGGREGATES SE/PAGELAND PIPE #: 001 FLOW: M/R	SCG730570 MINOR INDUSTRIAL
NORTH PRONG JEWEL CITY SAND CO./JEWEL CITY SAND MINE PIPE #: 001 FLOW: M/R	SCG730162 MINOR INDUSTRIAL
INDIAN CREEK TRIBUTARY CHESTERFIELD COUNTY/COUNTY CLAY PIT PIPE #: 001 FLOW: M/R	SCG730166 MINOR INDUSTRIAL
JUNIPER CREEK TRIBUTARY PALMETTO BRICK/MCBRIDE MINE PIPE #: 001 FLOW: M/R	SCG730386 MINOR INDUSTRIAL

Nonpoint Source Management Program

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
HANSON AGGREGATES SE, INC. PAGELAND QUARRY	0797-25 GRANITE
FURR GRADING & PAVING, INC. TURNAGE MINE	1703-25 SAND
CHESTERFIELD COUNTY COUNTY PIT	0272-25 SAND/CLAY
JEWEL CITY SAND CO., INC JEWEL CITY SAND MINE	1147-25 SAND
PALMETTO BRICK CO. MCBRIDE MINE	1410-25 KAOLIN
B&B CONSTRUCTION CO. BOATWRIGHT	1599-25 SAND
JW COVINGTON JW COVINGTON MINE	1561-25 SAND
JOHN F. STROUD & SON STROUD & SON 265 MINE	1777-25 SAND

Growth Potential

There is a low potential for growth in this watershed, which contains the Towns of Patrick, Chesterfield, Ruby, and Mt.Croghan, and a portion of the Town of Cheraw. Water service is available in the above towns, but sewer services are limited to Chesterfield and the Cheraw urban area. The Town of Chesterfield has recently extended water and sewer service east of the community to serve a local industrial park, but few other extensions are planned in the next five years. Commercial and industrial development is likely west of Cheraw and east of Chesterfield. The lower portion of the watershed (near Patrick) is in public ownership as part of the Sand Hills State Forest, and development will be limited as a result. Watershed 03040104-02, to the west of this watershed, has a low to moderate potential for growth. A portion of the Town of Pageland resides in this watershed and reflects the edge of the Charlotte Metroplex; future growth is expected. Pageland and the area immediately outside of the town have water and sewer service.

Watershed Restoration and Protection

Total Maximum Daily Loads (TMDLs)

A TMDL was developed by SCDHEC and approved by the EPA for ***Thompson Creek*** (monitoring sites ***PD-246*** and ***PD-247***) to determine the maximum amount of fecal coliform bacteria it can receive from nonpoint sources and still meet water quality standards. The nonpoint sources that have been determined to be contributors to Thompson Creek impairment include wildlife; grazing livestock and livestock depositing manure directly into streams; land application of poultry litter; and malfunctioning septic systems. The TMDL would require reductions of 68% and 82% in the current loads to the creeks, respectively, to meet standards.

Special Projects

Fecal Coliform Bacteria TMDL Implementation for the Thompson Creek Watershed Located in Chesterfield County

Following a previous Section 319-funded effort to develop a fecal coliform TMDL for Thompson Creek, the Pee Dee Resource Conservation and Development Council (RC&D) received a second 319 grant to implement the TMDL. The goal of the project was to reduce loading in the watershed so that water quality as measured at PD-246 and PD-247 would meet water quality standards for fecal coliform bacteria. The RC&D, along with the Chesterfield Soil and Water Conservation District and the Department of Natural Resources recruited homeowners and volunteers throughout the watershed to participate in cost-share efforts. This included installing a large number of agricultural best management practices (BMPs) such as stream exclusion fencing, alternative water sources and heavy use protection areas. Project staff also identified and repaired a number of failing septic systems throughout the watershed. This project ended in late 2007. Preliminary data suggests that the RC&D's efforts were successful in reducing the amount of bacteria in Thompson Creek. Monitoring will continue in order to fully demonstrate the project's effectiveness.

03040201-05

(Great Pee Dee River)

General Description

The South Carolina portion of 03040201-05 (formerly 03040201-030, 03040201-040, a portion of 03040201-050 (to Cedar Creek), 03040201-070, and 03040201-080) is located in Chesterfield, Marlboro, and Darlington Counties and consists primarily of the ***Great Pee Dee River*** and its tributaries from Westfield Creek to Cedar Creek. The watershed occupies 225,838 acres of the Sandhills and Upper and Lower Coastal Plain regions of South Carolina. Land use/land cover in the watershed includes: 33.4% agricultural land, 29.4% forested land, 24.9% forested wetland, 6.8% urban land, 3.0% scrub/shrub land, 1.4% water, 0.7% barren land, and 0.4% nonforested wetland.

This section of the Great Pee Dee River accepts drainage from its upstream reaches, along with Westfield Creek (Little Westfield Creek, Goodmans Creek), Whites Creek (Wallace Pond, Everett Millpond), Hicks Creek, Husbands Creek, Huckleberry Branch (Wilson Branch), and the Thompson Creek Watershed near the Town of Cheraw. Phils Creek (Wolf Creek, Andersons Millpond, Grants Millpond) enters the river next, followed by Beaverdam Creek, Tarkiln Creek, Naked Creek (Bullards Millpond, McLaurins Millpond, Davids Millpond, Herndon Branch), Crooked Creek, Hugh Creek, Reedys Branch, and Cedar Creek (Spot Mill Creek). Crooked Creek accepts drainage from Lightwood Knot Creek, Usher Pond, Goodwins Pond, Burnt Factory Lake, Beverly Creek, and Lily Quick Creek before flowing through Lake Paul Wallace and McCalls Millpond near the City of Bennettsville. Cedar Creek lies within the Sand Hills State Forest and accepts drainage from Little Cedar Creek (Pool Branch), Harris Creek, Coker Pond, and Spot Mill Creek. There are a total of 457.2 stream miles and 1,939 acres of lake waters in this watershed, all classified FW.

Surface Water Quality

Station #	Type	Class	Description
PD-339	W/INT/BIO	FW	Westfield Creek at US 52
PD-191	W/INT	FW	Whites Creek at US 1
PD-012	P/INT	FW	Great Pee Dee River at US 1 NE Cheraw
RL-02324	RL02	FW	Lake Wallace, S of S-35-47
CL-086	W	FW	Lake Wallace, equidistant from dam and shorelines
PD-107	S/W	FW	Crooked Creek at SC 9 in Bennettsville
PD-014	S/W	FW	Crooked Creek at S-35-43
PD-063	WINT	FW	Crooked Creek at SC 912
PD-151	W/INT	FW	Cedar Creek at US 52
PD-015	P/W	FW	Great Pee Dee River at US 15 & 401

***Westfield Creek (PD-339)* -** Aquatic life uses are partially supported based on macroinvertebrate community data, and also due to dissolved oxygen and pH excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. There is also a significant increasing trend in total nitrogen concentration. There is a significant decreasing trend in pH. Significant decreasing trends in turbidity and fecal coliform bacteria concentration suggest improving conditions for these parameters. Recreational uses are fully supported.

Whites Creek (PD-191) - Aquatic life 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. Recreational uses are fully supported and a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter.

Great Pee Dee River – There are two SCDHEC monitoring sites along this section of the Great Pee Dee River. At the upstream site ***(PD-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 increasing trend in pH. Significant decreasing trends in turbidity, total phosphorus concentration, and fecal coliform bacteria concentration suggest improving conditions for these parameters. At the downstream site (***PD-015),*** aquatic life uses are fully supported; however, there is a significant decreasing trend in dissolved oxygen concentration. There is a significant increasing trend in pH. Recreational uses are partially supported at this site due to fecal coliform bacteria excursions.

Lake Wallace - There are two SCDHEC monitoring sites along Lake Wallace. This is a blackwater system, characterized by naturally low pH conditions. At the uplake site ***(RL-02324)***, aquatic life and recreational uses are fully supported. At the downlake site ***(CL-086)***, aquatic life and recreational uses are also fully supported. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations.

Crooked Creek - There are three SCDHEC monitoring sites along Crooked 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 furthest upstream site ***(PD-107)***, aquatic life and recreational uses are fully supported. Significant increasing trends in dissolved oxygen concentration and decreasing trends in five-day biological oxygen demand and total phosphorus concentration suggest improving conditions for these parameters. At the midstream site ***(PD-014)***, aquatic life and recreational uses are also fully supported and significant decreasing trends in five-day biological oxygen demand and turbidity suggest improving conditions for these parameters. At the furthest downstream site ***(PD-063)***, aquatic life and recreational uses are again fully supported and a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter.

Cedar Creek (PD-151) – Aquatic life uses are not supported due to pH excursions. There is also a significant increasing trend in total nitrogen concentration. There is a significant decreasing trend in pH. Significant decreasing trends in five-day biological oxygen demand and total phosphorus concentration suggest improving conditions for these parameters. Recreational uses are fully supported and a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter.

*A fish consumption advisory has been issued by the Department for mercury and includes the **Great Pee Dee River** and **Lake Wallace** within this watershed* *(see advisory p.130).*

Natural Swimming Areas

FACILITY NAME ***RECEIVING STREAM***	***PERMIT #*** ***STATUS***
LAKE PAUL WALLACE LAKE WALLACE	34-N01 ACTIVE
CAMP HORIZON LAKE WALLACE	34-N04 ACTIVE
CAMP COKER SPOT MILL CREEK	13-N02 ACTIVE

NPDES Program

Active NPDES Facilities

RECEIVING STREAM ***FACILITY NAME*** ***PERMITTED FLOW @ PIPE (MGD)***	***NPDES#*** ***TYPE*** ***COMMENT***
GREAT PEE DEE RIVER TOWN OF CHERAW WWTP PIPE #: 001 FLOW: 4.0	SC0020249 MAJOR DOMESTIC
GREAT PEE DEE RIVER DOMTAR PAPER CO.LLC/MARLBORO MILL PIPE #: 001, 01A FLOW: 15.0	SC0042188 MAJOR INDUSTRIAL
GREAT PEE DEE RIVER DELTA MILLS INC. PIPE #: 001 FLOW: 3.8 PIPE #: 003 FLOW: 0.5	SC0002151 MAJOR INDUSTRIAL
GREAT PEE DEE RIVER GALEY & LORD, INC./SOCIETY HILL PIPE #: 001 FLOW: 4.95	SC0002704 MAJOR INDUSTRIAL
PEE DEE RIVER TRIBUTARY HANSON AGGREGATES SE/CASH MINE PIPE #: 001 FLOW: M/R	SCG730467 MINOR INDUSTRIAL
CROOKED CREEK HANSON AGGREGATES SE/MARLBORO PIPE #: 001 FLOW: M/R	SCG730359 MINOR INDUSTRIAL

CROOKED CREEK CITY OF BENNETTSVILLE WWTP PIPE #: 001 FLOW: 3.9	SC0025178 MAJOR DOMESTIC
CROOKED CREEK US CONSTRUCTION/BERMUDA PIT PIPE #: 001 FLOW: M/R	SCG730472 MINOR INDUSTRIAL
SPOT MILL CREEK TRIBUTARY MOREE FARMS/PARADISE PIT PIPE #: 001 FLOW: M/R	SCG730558 MINOR INDUSTRIAL
WILSON BRANCH TRIBUTARY SCHAEFFLER GROUP USA, INC. PIPE #: 001 FLOW: M/R	SCG250163 MINOR INDUSTRIAL
PHILS CREEK PALMETTO BRICK/IRBY MINE PIPE #: 001 FLOW: M/R	SCG730240 MINOR INDUSTRIAL
PHILS CREEK TRIBUTARY PALMETTO BRICK/ROBERTS MINE PIPE #: 001 FLOW: M/R	SCG730573 MINOR INDUSTRIAL
CEDAR CREEK PALMETTO BRICK/WINBURN MINE PIPE #: 001 FLOW: M/R	SCG730241 MINOR INDUSTRIAL
BEVERLY CREEK MARLBORO COUNTY/COUNTY PIT PIPE #: 001 FLOW: M/R	SCG730158 MINOR INDUSTRIAL
BEAVERDAM CREEK TRIBUTARY PALMETTO BRICK/CLINKSCALE MINE PIPE #: 001 FLOW: M/R	SCG730443 MINOR INDUSTRIAL

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME ***FACILITY TYPE***	***PERMIT #*** ***STATUS***
PALMETTO BRICK CO. INDUSTRIAL	353324-1601 ACTIVE
CHERAW SANITARY LANDFILL MUNICIPAL	---------- CLOSED
WILLIAMETTE COMPOSTING COMPOSTING	353301-3001 INACTIVE
FURR COMPOSTING FACILITY COMPOSTING	132670-3001 INACTIVE

FURR FACILITY C&D LANDFILL C&D	132670-1201 ACTIVE
MCDUFFIE & SON COMPOSTING COMPOSTING	352691-3001 ACTIVE
WEYERHAEUSER COMPANY INDUSTRIAL	353301-1601 ACTIVE
WEYERHAEUSER COMPANY LAND APPLICATION	353301-8001 ACTIVE
CHESTERFIELD COUNTY LANDFILL INDUSTRIAL	131001-1601 ACTIVE
SANDHILLS REGIONAL MSW LANDFILL MUNICIPAL	-------- PROPOSED

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
PALMETTO BRICK CO. CLINKSCALE	1528-69 SAND
PALMETTO BRICK CO. MARLBORO PIT	0171-69 CLAY
PALMETTO BRICK CO. ROBERTS MINE	1559-69 SAND
HANSON AGGREGATES SE, INC. CASH PLANT	0092-25 SAND/GRAVEL
FURR GRADING & PAVING, INC. PEE DEE MINE	0466-25 SAND/GRAVEL
MARLBORO COUNTY MARLBORO COUNTY PIT	0280-69 SAND/CLAY
TE BROWN & ASSOCIATES BURNT FACTORY MINE	1716-69 SAND/CLAY
HANSON AGGREGATES SE, INC. MARLBORO PLANT	0095-69 SAND/GRAVEL
HANSON AGGREGATES SE, INC. MARLBORO FIELD PLANT	0096-69 SAND/GRAVEL
PALMETTO BRICK CO. WINBURN	0997-25 KAOLIN

Water Quantity

WATER USER ***STREAM***	***REGULATED CAPACITY (MGD)*** ***PUMPING CAPACITY (MGD)***
TOWN OF CHERAW GREAT PEE DEE RIVER	4.5 11.5
CITY OF BENNETTSVILLE LAKE WALLACE	4.00 6.00

Growth Potential

There is a low to moderate potential for growth in this watershed, which contains the Towns of Cheraw and Society Hill, and the City of Bennettsville and is projected to have one of the largest population growth rates in the region. There are numerous industries in the watershed, most in and around the municipal limits of Cheraw. Commercial development is also centered around Cheraw, particularly west of town along S.C. Hwy. 9, and additional growth is expected. A large portion of the watershed is not served by public water or sewer systems, primarily due to the large expanse of the floodplain associated with the Great Pee Dee River. These services are provided in and immediately around the Town of Cheraw, and along S.C. Hwy. 34 east of the City of Darlington. Water and sewer services are available in and around Bennettsville and should encourage growth. Water service is available in Society Hill, but there is no sewer service. A portion of the watershed is within the Sand Hills State Forest, and the remainder is primarily agricultural and timberland uses. The proposed Preferred Alternative route of I-73 (Northern Corridor) would cross this watershed and could bring some growth to the area, especially around interchanges.

03040201-06

(Black Creek/Lake Robinson)

General Description

Watershed 03040201-06 (formerly 03040201-100) is located Chesterfield and Darlington Counties and consists primarily of ***Black Creek*** and its tributaries from its origin to the Lake Robinson dam. The watershed occupies 109,343 acres of the Sandhills region of South Carolina. Land use/land cover in the watershed includes: 42.8% forested land, 36.4% agricultural land, 9.2% forested wetland, 6.2% urban land, 2.3% water, 2.2% scrub/shrub land, 0.5% barren land, and 0.4% nonforested wetland

Black Creek originates near the Town of Pageland and accepts drainage from Old Town Pond, Cattail Branch, Mangum Branch, Boggy Branch, Rocky Branch, Big Branch, Panther Branch, Tan Trough Branch, and Cotton Patch Branch. Big Ruddy Branch enters the system next followed by Silver Run, Little Ruddy Branch, Still Branch, Horsepen Branch, Hurricane Branch, Joplin Branch (Stancil Lakes), Big Branch, and Meadow Branch (Joplin Mill Branch). Further downstream, Rattlesnake Branch (Dismal Spring Branch) flows into Black Creek followed by Jessies Branch, Little Black Creek (Graves Millpond, Peddler Branch, Martin Branch, Woodward Millpond), Canal Branch, and Poplar Branch. Black Creek then accepts drainage from Skipper Creek (Peeled Oak Branch, Dead Pine Branch, Little Skipper Creek), Rogers Branch, Pond Branch, Long Branch (Clay Ford Branch, Mays Lake), Ham Creek (Triple Lakes, Lake Bee, Hemp Branch, Lightwood Log Branch, Poplar Branch, Martin Lake, Cow Branch), and Little Alligator Creek before flowing through Lake Robinson. Little Beaverdam Branch and Lower Alligator Creek flow into the headwaters of the lake, Big Beaverdam Creek flows into the midsection, and Pond Hollow Branch enters the lake near the dam. The Carolina Sandhills National Wildlife Refuge extends across the center of the watershed, and the Sand Hills State Forest lies between the refuge and the lake. There are a total of 175.2 stream miles and 2,452.8 acres of lake waters in this watershed. Black Creek and its tributaries upstream of the S.C. Hwy. 145 crossing (just upstream of Skipper Creek) are classified FW. Downstream of the crossing, Black Creek is classified FW* (Dissolved oxygen not less than 4.0 mg/l and pH between 5.0 and 8.5) and its tributaries are classified FW. Lake Robinson is classified FW*.

Surface Water Quality

Station #	Type	Class	Description
PD-674	BIO	FW	Black Creek at SR 683
RS-03355	RS03	FW	Black Creek at unnamed rd off S-13-683, 4.3mi SE of Pageland
PD-004	P/W	FW	Black Creek at S-13-43, 1 mi NE of Nicey Grove
PD-676	BIO	FW	Little Black Creek at Zillysteen Road
PD-613	BIO	FW	Skipper Creek at SC 145
PD-251	W/INT	FW*	Black Creek at US 1
PD-327 (RL-03342)	P/INT	FW*	Lake Robinson at S-13-346, 5 mi E of McBee
CL-094	INT	FW*	Lake Robinson in forebay equidistant from dam and shorelines

Black Creek – There are four SCDHEC monitoring sites along this section of Black Creek. This is a blackwater system, characterized by naturally low pH conditions. Although pH excursions occurred at all monitored sites, they were typical of values seen in blackwater systems and were considered natural, not standards violations. At the furthest upstream site ***(PD-674)***, aquatic life uses are fully supported based on macroinvertebrate community data. At the next site downstream ***(RS-03355)***, aquatic life and recreational uses are fully supported. Further downstream ***(PD-004)***, aquatic life and recreational uses are fully supported; however, there is a significant increasing trend in five-day biological oxygen demand. There is a significant increasing trend in pH. Significant decreasing trends in total phosphorus concentration and increasing trends in dissolved oxygen concentration suggest improving conditions for these parameters. At the furthest downstream site (***PD-251***), aquatic life and recreational uses are fully supported and a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter.

Little Black Creek (PD-676) - Aquatic life uses are fully supported based on macroinvertebrate community data.

Skipper Creek (PD-613) – Aquatic life uses are fully supported based on macroinvertebrate community data.

Lake Robinson – There are two SCDHEC monitoring sites along Lake Robinson and recreational uses are fully supported at both sites. At the uplake site ***(PD-327)***, aquatic life uses are fully supported. There is a significant increasing trend in pH. Significant decreasing trends in five-day biological oxygen demand and total phosphorus concentration suggest improving conditions for these parameters. A very high concentration of cadmium and a high concentration of copper were measured in the 2003 sediment sample. Also detected in the 2003 sample were endrin aldehyde, lindane, DDT, DDD, and DDE (metabolites of DDT). Although the use of DDT was banned in 1973, it is very persistent in the environment. Aquatic life uses are fully supported at the downlake site ***(CL-094)***.

A fish consumption advisory has been issued by the Department for mercury and includes ***Black Creek*** *and* ***Lake Robinson*** *within this watershed (see advisory p.130).*

Natural Swimming Areas

FACILITY NAME ***RECEIVING STREAM***	***PERMIT #*** ***STATUS***
JOHNSONS LANDING LAKE ROBINSON	16-N07 ACTIVE
EASTERLING LANDING LAKE ROBINSON	16-N06 ACTIVE

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-112	GB	PIEDMONT BEDROCK	WESTSIDE ESTATES

NPDES Program

Active NPDES Facilities

RECEIVING STREAM ***FACILITY NAME*** ***PERMITTED FLOW @ PIPE (MGD)***	***NPDES#*** ***TYPE*** ***COMMENT***
BLACK CREEK HANSON AGGREGATES SE/BREWER PIPE #: 001, 002 FLOW: M/R	SCG730286 MINOR INDUSTRIAL
LITTLE BLACK CREEK B.V. HEDRICK SAND & GRAVEL CO./PIEDMONT MINE PIPE #: 001 FLOW: M/R	SCG730045 MINOR INDUSTRIAL
LITTLE BLACK CREEK B.V. HEDRICK SAND & GRAVEL CO./WILLIAMS MINE PIPE #: 001 FLOW: M/R	SCG730590 MINOR INDUSTRIAL
LITTLE BLACK CREEK CEMEX CONSTR. MATERIAL/PAGELAND #2 PIPE #: 001 FLOW: M/R	SCG730704 MINOR INDUSTRIAL
LITTLE BLACK CREEK TRIBUTARY PAGELAND SAND/MINE #2 PIPE #: 001 FLOW: M/R	SCG730204 MINOR INDUSTRIAL
LITTLE BLACK CREEK TRIBUTARY PAGELAND SAND/MINE #3 PIPE #: 001 FLOW: M/R	SCG730455 MINOR INDUSTRIAL
LITTLE BLACK CREEK TRIBUTARY PAGELAND SAND/MINE #4 PIPE #: 001 FLOW: M/R	SCG730456 MINOR INDUSTRIAL
ROCKY BRANCH CEMEX CONSTR. MATERIAL/PAGELAND #2 PIPE #: 002 FLOW: M/R	SCG730704 MINOR INDUSTRIAL
LITTLE BEAVERDAM BRANCH PALMETTO BRICK CO./MIDDENDORF MINE PIPE #: 001 FLOW: M/R	SCG730388 MINOR INDUSTRIAL
LAKE ROBINSON/BLACK CREEK PROGRESS ENERGY/HB ROBINSON PIPE #: 001 (002,003,009,013) FLOW: 855.0	SC0002925 MAJOR INDUSTRIAL
CATTAIL BRANCH TOWN OF PAGELAND/SOUTHEAST WWTP PIPE #: 001 FLOW: 0.6	SC0021539 MINOR DOMESTIC

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME ***FACILITY TYPE***	***PERMIT #*** ***STATUS***
CHESTERFIELD COUNTY LF #2/JEFFERSON MUNICIPAL	131001-1101 CLOSED
CHESTERFIELD COUNTY DUMP --------	-------- CLOSED
TOWN OF PAGELAND INDUSTRIAL	131002-3001 ACTIVE
PROGRESS ENERGY LANDFILL INDUSTRIAL	163341-1601, 163341-1602 ACTIVE

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
B.V. HEDRICK GRAVEL & SAND CO. PIEDMONT SAND	0665-25 SAND
BARRINGER SAND, LLC. BARRINGER SAND MINE	1474-25 SAND
PALMETTO BRICK CO. MIDDENDORF MINE	1367-25 KAOLIN
CEMEX CONSTRUCTION MATERIALS PAGELAND SAND PIT #2	0426-25 SAND
PAGELAND SAND CO., INC. PAGELAND SAND MINE #2	0746-25 SAND
PAGELAND SAND CO., INC. PAGELAND SAND MINE #3	1332-25 SAND
BV HEDRICK GRAVEL & SAND CO. WILLIAMS SAND	0969-25 SAND

Growth Potential

There is a low potential for growth in this rural watershed, which contains a portion of the Town of Pageland. The Town of McBee is just outside the watershed. A sizeable portion of the watershed is publicly owned lands within the Carolina Sandhills National Wildlife Refuge or the Sand Hills State Forest, limiting development in these areas. S.C. Hwy. 151 is a four-lane highway connecting the Cities of Florence and Charlotte, and together with its bypass around the Town of Pageland should see additional commercial and industrial development in the northern portion of the watershed. Water service is limited to Pageland and McBee, and sewer service exists only in the Pageland area.

03040201-07

(Black Creek)

General Description

Watershed 03040201-07 (formerly 03040201-110) is located in Chesterfield, Darlington, and Florence Counties and consists primarily of lower ***Black Creek*** and its tributaries from the Lake Robinson dam to the Pee Dee River. The watershed occupies 186,969 acres of the Sandhills and Upper Coastal Plain regions of South Carolina. Land use/land cover in the watershed includes: 48.8% agricultural land, 19.5% forested land, 17.4% forested wetland, 11.4% urban land, 2.1% scrub/shrub land, 0.4% water, 0.3% nonforested wetland, and 0.1% barren land.

This section of Black Creek accepts drainage from its upper reach together with Beaverdam Creek (King Millpond, Beaverdam Millpond) before flowing through Lake Prestwood (Dry Branch, Horsepen Branch) in the City of Hartsville. Downstream of the lake, Black Creek accepts drainage from Snake Branch, Spring Branch, Boggy Swamp (Little Boggy Swamp, McIntosh Millpond), Everlasting Branch (Gilbert Lake), Seed Branch (Little Seed Branch, Leavenworth Branch, Chapmans Pond), Horse Creek (Jeffords Millpond), and Lucas Creek. Swift Creek (Indian Creek, Ramsey Pond, Bellyache Creek) enters the system next, flowing through the City of Darlington, followed by High Hill Creek (Star Fork Branch, McCall Branch), Ashby Branch, and Polk Swamp Creek. The Black Creek Watershed drains into the Great Pee Dee River. There are 371.3 stream miles and 920.8 acres of lake waters in this watershed. Beaverdam Creek and Black Creek are classified FW* (dissolved oxygen not less than 4 mg/l and pH between 5.0 and 8.5) from the Lake Robinson Dam to the U.S. Hwy. 52 crossing (just upstream of Horse Creek and Lucas Creek). Tributaries to these stream reaches along with the remaining streams in the watershed are classified FW.

Surface Water Quality

Station #	Type	Class	Description
PD-159	S/W	FW*	Black Creek at S-16-23 4.7 mi NW of Hartsville
PD-268	S/W	FW*	Sonovista Club Hartsville off dock off Prestwood Lake
PD-081	S/W	FW*	Prestwood Lake at US 15
PD-258	S/W	FW	Snake Branch at railroad Avenue in Hartsville
PD-137	S/W	FW	Snake Branch at Woodmill Street in Hartsville
PD-021	P/W	FW*	Black Creek at S-16-18 1 mi NNE of Hartsville
PD-330	S/W	FW*	Black Creek at highway 15 Bypass
PD-023	P/W	FW*	Black Creek at S-16-13 5.5 mi NE of Hartsville
RS-02311	RS02	FW	Unnamed Tributary to Little Boggy Swamp at S-16-50
RS-03507	RS03/BIO	FW	Boggy Swamp at S-16-50, 4.9 mi NE of Hartsville
RS-01043	RS01	FW*	Black Ck near dirt road off CR 41, 6 mi NE of Hartsville
PD-024A	SPRP	FW*	Black Creek at US 401 & 52, 6 mi NW of Darlington
PD-025	P/W	FW	Black Creek at S-16-133 2.25 mi NE of darlington
RS-03491	RS03	FW	Black Creek at SC 34, 1.6 mi NE of Darlington
RS-01023	RS01	FW	Swift Creek Tributary at CR 213, just N of Darlington
PD-141	S/W	FW	Tile Discharging to ditch across rd at Darlington WWTP
PD-027	P/W	FW	Black Creek at S-16-35, 5.5 mi SE of Darlington

PD-103	S/W	FW	HIGH HILL CREEK AT US 52 ON COUNTY LINE
PD-078	W/INT	FW	BLACK CREEK AT SC 327

Black Creek – There are eleven SCDHEC monitoring sites along this section of Black Creek. This is a blackwater system, characterized by naturally low pH conditions. At the furthest upstream site ***(PD-159)***, aquatic life and recreational uses are fully supported; however, there are significant decreasing trends in dissolved oxygen concentration and increasing trends in turbidity. A significant decreasing trend in five-day biological oxygen demand suggests improving conditions for this parameter. At the next site downstream ***(PD-021)***, aquatic life uses are fully supported and significant decreasing trends in five-day biological oxygen demand and total nitrogen 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 ***(PD-330)***, aquatic life and recreational uses are fully supported. There is a significant increasing trend in pH. Significant decreasing trends in five-day biological oxygen demand, turbidity, and fecal coliform bacteria concentration suggest improving conditions for these parameters. Further downstream ***(PD-023)***, aquatic life and recreational uses are fully supported. There is a significant increasing trend in pH. Significant decreasing trends in five-day biological oxygen demand, turbidity, total phosphorus and total nitrogen concentration, and fecal coliform bacteria concentration suggest improving conditions for these parameters. Aquatic life uses are not supported at ***RS-01043*** due to occurrences of copper in excess of the aquatic life acute criterion. Recreational uses are fully supported at this site. Aquatic life and recreational uses are fully supported at ***PD-024A***; however, there is a significant decreasing trend in dissolved oxygen concentration. There is a significant decreasing trend in pH.

Further downstream ***(PD-025)***, aquatic life uses are fully supported; however, there are significant decreasing trends in dissolved oxygen concentration and increasing trends in turbidity. 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. Significant decreasing trends in five-day biological oxygen demand, total phosphorus concentration and total nitrogen concentration suggest improving conditions for these parameters. Recreational uses are partially supported due to fecal coliform bacteria excursions. Aquatic life and recreational uses are fully supported at ***RS-03491***. Although pH excursions occurred at this site, they were typical of values seen in blackwater systems and were considered natural, not standards violations.

At the next site downstream ***(PD-027)***, aquatic life and recreational uses are fully supported. 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. Significant decreasing trends in five-day biological oxygen demand, total phosphorus concentration, and total nitrogen concentration suggest improving conditions for these parameters. DDD (a metabolite of DDT) was detected in the 2003 sediment sample. Although the use of DDT was banned in 1973, it is very persistent in the environment. At the furthest downstream site ***(PD-078)***, aquatic life and recreational uses are fully supported and significant decreasing trends in five-day biological oxygen demand and turbidity suggest improving conditions for these parameters.

Lake Prestwood* -** There are two SCDHEC monitoring sites along Lake Prestwood. At the uplake site ***(PD-268), aquatic life and recreational uses are fully supported. A significant increasing trend in dissolved oxygen concentration suggests improving conditions for this parameter. At the downlake site ***(PD-081)***, aquatic life and recreational uses are fully supported. Significant decreasing trends in five-day biological oxygen demand and fecal coliform bacteria concentration suggest improving conditions for these parameters. *Fish tissue samples from Lake Prestwood indicate no advisories are needed at this time.*

Snake Branch* -** There are two SCDHEC monitoring sites along Snake Branch. This is a blackwater system, characterized by naturally low pH and dissolved oxygen conditions. At the upstream site ***(PD-258), aquatic life uses are not supported due to pH excursions. 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. Significant decreasing trends in five-day biological oxygen demand and total phosphorus concentration suggest improving conditions for these parameters. Recreational uses are not 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 downstream site ***(PD-137)***, aquatic life and recreational uses are fully supported. Significant decreasing trends in five-day biological oxygen demand and increasing trends in dissolved oxygen concentration suggest improving conditions for these parameters. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations.

***Unnamed Tributary to Little Boggy Swamp (RS-02311)* –** This is a blackwater system, characterized by naturally low pH and dissolved oxygen conditions. Although dissolved oxygen and 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.

***Boggy Swamp (RS-03507)* –** 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. Recreational uses are partially supported due to fecal coliform bacteria excursions.

Swift Creek Tributary (RS-01023) - Aquatic life uses are not supported due to occurrences of copper in excess of the aquatic life acute criterion. Recreational uses are partially supported due to fecal coliform bacteria excursions.

Tilefield to Ditch to Swift Creek (PD-141) - This is a blackwater system, characterized by naturally low dissolved oxygen conditions. 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 is a significant decreasing trend in pH. A significant decreasing trend in total phosphorus suggests improving conditions for this parameter. Recreational uses are not supported due to fecal coliform bacteria excursions.

High Hill Creek (PD-103) - Aquatic life and recreational uses are fully supported. This is a blackwater system, characterized by naturally low pH and dissolved oxygen conditions. Although dissolved oxygen and pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations.

A fish consumption advisory has been issued by the Department for mercury and includes ***Black Creek*** *within this watershed (see advisory p.130).*

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-032	GB	MIDDENDORF	DARLINGTON MAIN STREET

NPDES Program

Active NPDES Facilities

RECEIVING STREAM / ***FACILITY NAME*** / ***PERMITTED FLOW @ PIPE (MGD)*** — ***NPDES#*** / ***TYPE*** / ***COMMENT***

RECEIVING STREAM FACILITY NAME PERMITTED FLOW @ PIPE (MGD)	NPDES# TYPE COMMENT
BLACK CREEK SONOCO PRODUCTS/HARTSVILLE PIPE #: 001 FLOW: 3.6 PIPE #: 002 FLOW: 0.14 PIPE #: 003-006 FLOW: VARIES	SC0003042 MAJOR INDUSTRIAL
BLACK CREEK CITY OF HARTSVILLE PIPE #: 001 FLOW: 3.5 PIPE #: 001 FLOW: 4.50, 5.50 (PERMITTED)	SC0021580 MAJOR DOMESTIC
BLACK CREEK CITY OF DARLINGTON/BLACK CREEK WWTP PIPE #: 001 FLOW: 1.60	SC0039624 MAJOR DOMESTIC

BLACK CREEK | SC0004162
WELLMAN INC./PALMETTO PLT | MAJOR INDUSTRIAL
PIPE #: 001 FLOW: 0.739
PIPE #: 02A FLOW: 0.001

BLACK CREEK | SCG641020
PEE DEE REGIONAL WATER PLANT | MINOR DOMESTIC
PIPE #: 001 FLOW: M/R

BEAVERDAM CREEK TRIBUTARY | SCG730987
FLYING K FARMS MINE | MINOR INDUSTRIAL
PIPE #: 001 FLOW: M/R

LAKE ROBINSON/BLACK CREEK | SC0002925
PROGRESS ENERGY/HB ROBINSON | MAJOR INDUSTRIAL
PIPES# 011 FLOW: 0.426

HORSE CREEK | SCG730557
BRITTS CONSTRUCTION/HWY 52 PIT | MINOR INDUSTRIAL
PIPE #: 001 FLOW: M/R

BLACK CREEK TRIBUTARY | SCG730574
L. DEAN WEAVER/DOVESVILLE MINE | MINOR INDUSTRIAL
PIPE #: 001 FLOW: M/R

LUCAS CREEK | SC0048283
NUCOR STEEL CORPORATION | MINOR INDUSTRIAL
PIPE #: 001 FLOW: M/R

LUCAS CREEK | SCG730717
NUCOR STEEL/BORROW PIT | MINOR INDUSTRIAL
PIPE #: 001 FLOW: M/R

BELLYACHE CREEK | SCG730527
MCCUTCHEON CONSTR./MCCUTCH & SCURRY | MINOR INDUSTRIAL
PIPE #: 001 FLOW: M/R

SWIFT CREEK | SCG641014
CITY OF DARLINGTON/NORTH MAIN ST WTP | MINOR DOMESTIC
PIPE #: 001 FLOW: M/R

SWIFT CREEK | SC0043231
DCW&SA/SWIFT CREEK WWTP | MINOR DOMESTIC
PIPE #: 001 FLOW: 0.114

INDIAN CREEK TRIBUTARY | SCG645016
CITY OF DARLINGTON/52 BYPASS WTP | MINOR DOMESTIC
PIPE #: 001 FLOW: M/R

MCCALL BRANCH | SCG645024
CITY OF FLORENCE/LUCAS ST. WTP | MINOR DOMESTIC
PIPE #: 001 FLOW: M/R

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

SOLID WASTE LANDFILL NAME ***FACILITY TYPE***	***PERMIT #*** ***STATUS***
CITY OF FLORENCE MUNICIPAL	DWP-054 CLOSED
DARLINGTON CO. SW TRANSFER STATION MUNICIPAL	161001-6001 ACTIVE
DARLINGTON COUNTY C/C LANDFILL CONSTRUCTION	161001-1201 ACTIVE
SONOCO PRODUCTS CO. INDUSTRIAL	163315-1601 ACTIVE
DARLINGTON VENEER CO. INDUSTRIAL	163307-1601 ACTIVE
BROCKS C&C LANDFILL C&D	PROPOSED ----------
WELLMAN PALMETTO PIT C&D	163329-1901 ACTIVE
HOWLE ENTERPRISES INC. COMPOSTING	162409-3001 INACTIVE
UNION CARBIDE-LINDE DIV. INDUSTRIAL	IWP-132 INACTIVE
HUMPHRAY COCKER SEED COMPANY INDUSTRIAL	---------- INACTIVE
PEE DEE ENVIRONMENTAL SERVICES INDUSTRIAL	212426-1601 ACTIVE
PEE DEE ENVIRO SERV. C/C LANDFILL CONSTRUCTION	212426-1201 INACTIVE
NUCOR STEEL INDUSTRIAL	163324-1601, 163324-1602 ACTIVE

Land Application Sites

LAND APPLICATION SYSTEM ***FACILITY NAME***	***ND#*** ***TYPE***
TILEFIELD ODOM'S MHP	ND0067997 DOMESTIC
TILEFIELD SWINKS MHP	ND0067636 DOMESTIC

SPRAYFIELD	ND0067962
DCW&SA/SWIFT CREEK PLANT	DOMESTIC

Mining Activities

MINING COMPANY	***PERMIT #***
MINE NAME	***MINERAL***
L.H. STOKES & SON, INC.	1067-31
HOFFMEYER PIT	SAND/CLAY
L.H. STOKES & SON, INC.	0924-31
DOVESVILLE	SAND
L.H. STOKES & SON, INC.	1585-41
MCLELLAN PIT	SAND
L. DEAN WEAVER CONSTRUCTION CO.	1555-31
DOVESVILLE MINE	SAND
INDUSTRIAL PAVING, INC.	0349-31
BRUNSEN MINE	SAND/CLAY
MCCUTCHEON & SCURRY	0192-31
PIT #1	SAND/CLAY
FLYING K FARMS	1788-25
FLYING K FARMS MINE	SAND

Growth Potential

There is a high potential for growth in this watershed, which contains the Cities of Hartsville and Darlington, the Town of Dovesville, and portions of the City of Florence and the Towns of McBee and Clyde. The watershed has several major highways that serve as growth corridors. U.S. Hwy. 52 connects Florence to Darlington and has been widened to four lanes, with long term plans to continue the widening from Darlington to Cheraw. S.C. Hwy. 151, already widened to four lanes, is the main Florence to Charlotte travel corridor, and is becoming a magnet for commercial development. The segment of S.C. Hwy. 151 between Darlington and Hartsville is the primary growth corridor for Darlington County and should see additional commercial and industrial growth.

There is extensive water service coverage in the watershed coming from the Town of McBee, the Cities of Hartsville, Darlington, and Florence, and the Darlington County Water and Sewer Authority. Sewer service is currently limited to the three urban areas. Water and sewer system expansions in the watershed are highly likely. All three domestic systems have aggressive growth plans, especially the City of Florence which has recently constructed a new treatment facility and outfall to the Great Pee Dee River. The City of Florence also has tentative plans to develop a regional surface water treatment facility along the Pee Dee River to address severe groundwater supply problems being experienced by many Pee Dee municipalities.

03040201-08

(Great Pee Dee River)

General Description

Watershed 03040201-08 (formerly a portion of 03040201-050 (below Cedar Creek) and 03040201-090) is located in Marlboro and Darlington Counties and consists primarily of the ***Great Pee Dee River*** and its tributaries from Cedar Creek to Black Creek. The watershed occupies 214,022 acres of the Upper and Lower Coastal Plain regions of South Carolina. Land use/land cover in the watershed includes: 36.5% forested wetland, 32.5% agricultural land, 23.3% forested land, 3.9% urban land, 2.2% scrub/shrub land, 1.0% water, 0.5% nonforested wetland, and 0.1% barren land.

This section of the Great Pee Dee River accepts drainage from its upper reaches, along with Buckholtz Creek (Lake Darpo or Spring Lake), Henegan Lake, Lake Creek, Muddy Creek (Machine Branch, Riggins Branch), and Flat Creek. Cottingham Creek (Covington Millpond, Sandy Ocean, Carters Branch) originates near the City of Bennettsville and joins with Hagins Prong to form the headwaters of Three Creeks (Monroe Branch, Drakes Millpond, Big Branch), which flows into the river downstream of Flat Creek. Another Flat Creek enters the system next, followed by Rogers Creek (Mosey Bay), Hurricane Branch, and Back Swamp (Fountain Branch, Alligator Creek, Louthers Lake). There are a total of 418.9 stream miles and 719.1 acres of lake waters in this watershed, all classified FW.

Surface Water Quality

Station #	Type	Class	Description
RS-02471	P/RS02	FW	PEE DEE RIVER AT SC 34 11 MI NE OF DARLINGTON
PD-028	P/INT	FW	PEE DEE RIVER AT SC 34 11 MI NE OF DARLINGTON
PD-336	S/W	FW	HAGINS PRONG AT SCR 381
PD-341	W	FW	THREE CREEKS AT SC 381 AT BLENHEIM
PD-367	INT	FW	THREE CREEKS AT SC 38, S OF BLENHEIM

Great Pee Dee River* -** There are two SCDHEC monitoring sites along this section of the Great Pee Dee River. At the upstream site ***(RS-02471), aquatic life and recreational uses are fully supported. At the downstream site ***(PD-028)***, aquatic life and recreational uses are fully supported; however, there is a significant decreasing trend in dissolved oxygen concentration. Significant decreasing trends in five-day biochemical oxygen demand, turbidity, and total nitrogen concentration suggest improving conditions for these parameters. A very high concentration of cadmium was measured in the 2000 sediment sample, and a high concentration of chromium and a very high concentration of lead were measured in the 2003 sample.

Hagins Prong (PD-336) – Aquatic life and recreational uses are fully supported. This is a blackwater system, characterized by naturally low pH and dissolved oxygen conditions. Although dissolved oxygen and pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Significant increasing trends in dissolved oxygen concentration and decreasing trends in five-day biological oxygen demand, turbidity, and fecal coliform bacteria concentration suggest improving conditions for these parameters.

Three Creeks – There are two SCDHEC monitoring sites along Three Creeks. This is a blackwater system, characterized by naturally low pH and dissolved oxygen conditions. At the upstream site ***(PD-341),*** aquatic life uses are not supported due to pH excursions. 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 decreasing trend in pH. Significant decreasing trends in five-day biological oxygen demand and total phosphorus concentration suggest improving conditions for these parameters. Recreational uses are fully supported at this site. At the downstream site ***(PD-367),*** aquatic life and recreational uses are fully supported. Although dissolved oxygen and pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations.

*A fish consumption advisory has been issued by the Department for mercury and includes the **Great Pee Dee River** and **Louthers Lake** within this watershed (see advisory p.130).*

Natural Swimming Areas

FACILITY NAME	***PERMIT #***
RECEIVING STREAM	***STATUS***
LAKE DARPO	16-N05
LAKE DARPO	ACTIVE

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-043	GB	MIDDENDORF	CLIO

NPDES Program

Active NPDES Facilities

RECEIVING STREAM	***NPDES#***
FACILITY NAME	***TYPE***
PERMITTED FLOW @ PIPE (MGD)	***COMMENT***
GREAT PEE DEE RIVER	SC0001996
MOHAWK IND./OAK RIVER PLANT	MINOR INDUSTRIAL
PIPE #: 001 FLOW: 0.214	
PIPE #: 002 FLOW: 0.210	
PIPE #: 003 FLOW: 0.531	
CARTERS BRANCH	SCG730234
WALKER CONSTR./WALKER BORROW PIT	MINOR INDUSTRIAL
PIPE #: 001 FLOW: M/R	

BUCKHOLTZ CREEK TRIBUTARY DARLINGTON COUNTY/RUSSELL 2 MINE PIPE #: 001 FLOW: M/R	SCG730515 MINOR INDUSTRIAL
ROGERS CREEK TRIBUTARY HANSON AGGREGATES SE/BROWNSVILLE PIPE #: 001 FLOW: M/R	SCG730468 MINOR INDUSTRIAL
RIGGINS BRANCH HANSON AGGREGATES SE/BLENHEIM PIPE #: 001 FLOW: M/R	SCG730039 MINOR INDUSTRIAL
GREAT PEE DEE RIVER TRIBUTARY US CONSTRUCTORS/HANSON PIT PIPE #: 001 FLOW: M/R	SCG730435 MINOR INDUSTRIAL
HAGINS PRONG TOWN OF CLIO WWTF PIPE #: 01A FLOW: 0.3	SC0040606 MINOR DOMESTIC

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME ***FACILITY TYPE***	***PERMIT #*** ***STATUS***
CITY OF BENNETTSVILLE TRANSFER STA. MUNICIPAL	351002-6001 ACTIVE
MARLBORO COUNTY INDUSTRIAL	351001-1601 INACTIVE
MARLBORO COUNTY COMPOSTING FACILITY COMPOSTING	351001-3001 ACTIVE
MARLBORO COUNTY MUNICIPAL SW LF COMPOSTING	351001-1101 INACTIVE

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
BAKER BROTHERS OF GRESHAM INC. GRESHAM	0959-31 SAND; SAND/CLAY
DARLINGTON COUNTY RUSSELL MINE #2	0967-31 SAND/CLAY
DALTON WALKER WALKER BORROW PIT	1195-69 SAND
HANSON AGGREGATES SE, INC. BROWNSVILLE PLANT	0090-69 SAND/GRAVEL

Growth Potential

There is a low to moderate potential for growth in this watershed, which contains the Town of Cheraw, Clio, Tautm, and Blenheim, a portion of the City of Bennettsville and a portion of the Town of Society Hill, and is projected to have one of the largest population growth rates in the region. There are numerous industries in the watershed, most in and around the municipal limits of Cheraw. Commercial development is also centered around Cheraw, particularly west of town along S.C. Hwy. 9, and additional growth is expected. A large portion of the watershed is not served by public water or sewer systems, primarily due to the large expanse of the floodplain associated with the Great Pee Dee River. These services are provided in and immediately around the Town of Cheraw, along S.C. Hwy. 34 east of the City of Darlington, around Clio, and the areas near Bennettsville. The Town of Cheraw is planning a wastewater treatment plant upgrade that should encourage further growth. U.S. Hwys. 15/401 form a bypass around the City of Bennettsville, and this bypass area is expected to see increased commercial growth. The proposed Preferred Alternative route of I-73 (Northern Corridor) would cross this watershed and could bring some growth to the area, especially around interchanges.

03040201-09

(Jeffries Creek)

General Description

Watershed 03040201-09 (formerly 03040201-130) is located in Darlington and Florence Counties and consists primarily of ***Jeffries Creek*** and its tributaries. The watershed occupies 137,115 acres of the Upper and Lower Coastal Plain regions of South Carolina. Land use/land cover in the watershed includes: 36.9% agricultural land, 22.4% forested wetland, 21.6% forested land, 15.4% urban land, 3.1% scrub/shrub land, 0.3% nonforested wetland, and 0.3% water.

Jeffries Creek accepts drainage from Beaverdam Creek, Gulley Branch, Pye Branch, Middle Swamp (Oakdale Lake, Forest Lake, Alligator Branch, Billy Branch), Eastman Branch, and Cane Branch. Polk Swamp Canal (Adams Branch, Twomile Creek, Canal Branch) enters the system downstream, followed by Middle Branch, Long Branch, Boggy Branch, More Branch, and Willow Creek (Little Willow Creek, Cypress Creek, Spring Branch, Claussen Branch). The Jeffries Creek Watershed drains into the Great Pee Dee River. There are a total of 229.5 stream miles and 353.2 acres of lake waters in this watershed. Jeffries Creek and Middle Swamp are classified FW* (dissolved oxygen not less than 4.0 mg/l and pH between 5.0 and 8.5) and the remaining streams in the watershed are classified FW.

Surface Water Quality

Station #	Type	Class	Description
PD-255	S/W	FW*	Jeffries Creek at SC 340 6.8 mi SSW of Darlington
PD-256	S/W	FW*	Jeffries Creek at S-21-112 4.8 mi W of /Florence
PD-065	P/W	FW	Gulley Branch at S-21-13, Timrod Park
PD-230	S/W	FW*	Middle Swamp at SC 51 3.5 mi SSE of Florence
RS-01003	RS01	FW	Polk Creek at Rd 13, 7.3 mi E of Florence
PD-035	S/W	FW*	Jeffries Creek at SC 327 at Claussen
PD-231	S/INT	FW*	Jeffries Creek at unnumbered rd 3.3 mi ESE of Claussen
PD-167	W	FW	Willow Creek at S-21-57

Jeffries Creek - There are four SCDHEC monitoring sites along Jeffries Creek. This is a blackwater system, characterized by naturally low dissolved oxygen conditions. At the furthest upstream site ***(PD-255)***, aquatic life and recreational 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. Significant decreasing trends in five-day biological oxygen demand, turbidity, total phosphorus concentration, and fecal coliform bacteria concentration suggest improving conditions for these parameters. At the next site downstream ***(PD-256)***, 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. A significant decreasing trend in five-day biological oxygen demand 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. Further downstream ***(PD-035)***, aquatic life and recreational uses are fully supported. Significant decreasing trends in five-day biological oxygen demand and fecal coliform bacteria concentration suggest improving conditions for these parameters. At the furthest downstream site ***(PD-231)***, aquatic life and recreational uses are fully supported. Significant increasing trends in dissolved oxygen concentration and decreasing trends in five-day biological oxygen demand, turbidity, total phosphorus and total nitrogen concentration, and fecal coliform bacteria concentration suggest improving conditions for these parameters.

Gulley Branch (PD-065) – Aquatic life uses are partially supported due to pH excursions. There is a significant decreasing trend in pH. Significant decreasing trends in five-day biological oxygen demand, turbidity, and total nitrogen concentration suggest improving conditions for these parameters. Recreational uses are not supported due to fecal coliform bacteria excursions; however, a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter.

Middle Swamp (PD-230) – Aquatic life uses are not supported due to dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. Recreational uses are partially supported due to fecal coliform bacteria excursions.

Polk Creek (RS-01003) – Aquatic life and recreational uses are fully supported. This is a blackwater system, characterized by naturally low pH and dissolved oxygen conditions. Although dissolved oxygen and pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations.

Willow Creek (PD-167) – Aquatic life uses are fully supported. This is a blackwater system, characterized by naturally low pH and dissolved oxygen conditions. Although dissolved oxygen and pH 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.

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-035	GB	MIDDENDORF	FLORENCE S. BALLARD STREET
AMB-008	GB	BLACK CREEK	MCLEOD MED CENTER

NPDES Program

Active NPDES Facilities

RECEIVING STREAM / FACILITY NAME / PERMITTED FLOW @ PIPE (MGD)	NPDES# / TYPE / COMMENT
JEFFRIES CREEK MCCUTCHEON CONSTR./MCCUTCHEON #2 PIPE #: 001 FLOW: M/R	SCG730528 MINOR INDUSTRIAL
PYE BRANCH KOPPERS INC. PIPE #: 001 FLOW: 0.146	SC0003018 MINOR INDUSTRIAL
TWOMILE CREEK KOPPERS INC. PIPE #: 002 FLOW: 0.30	SC0003018 MINOR INDUSTRIAL
GULLEY BRANCH L.DEAN WEAVER/POSTON PIT PIPE #: 001 FLOW: M/R	SCG730459 MINOR INDUSTRIAL
MIDDLE SWAMP POINT SOUTH DEV./WILDBIRD RUN PIPE #: 001 FLOW: M/R	SCG730612 MINOR INDUSTRIAL
LITTLE WILLOW CREEK COMMANDER NURSING CENTER PIPE #: 001 FLOW: 0.025	SC0034703 MINOR DOMESTIC
GREAT PEE DEE RIVER CITY OF FLORENCE/PEE DEE RIVER PLANT PIPE #: 001 FLOW: 15.0 PIPE #: 001 FLOW: 18.0, 20.0, 22.0 (PROPOSED)	SC0045462 MAJOR DOMESTIC

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME / FACILITY TYPE	PERMIT # / STATUS
CITY OF FLORENCE COMPOSTING FACILITY COMPOSTING	211004-3001 ACTIVE
FLORENCE COUNTY LANDFILL INDUSTRIAL	211001-1601 INACTIVE
CITY OF FLORENCE TRANSFER STA. MUNICIPAL	212498-6001 ACTIVE
CITY OF FLORENCE DUMP MUNICIPAL	-------- CLOSED

FLORENCE COUNTY SUBTITLE D	---------
MUNICIPAL	INACTIVE
PEE DEE MSWLF	-----------
MUNICIPAL	INACTIVE
FLORENCE COUNTY LANDFILL	211001-1101
MUNICIPAL	INACTIVE

Land Application Sites

LAND APPLICATION SYSTEM	***ND#***
FACILITY NAME	***TYPE***
PERCOLATION BASIN	ND0063801
COUNTRY PINES APTS	DOMESTIC

Mining Activities

MINING COMPANY	***PERMIT #***
MINE NAME	***MINERAL***
POINT SOUTH DEVELOPERS LLC	1560-41
WILDBIRD RUN MINE	SAND
MCCUTCHEON CONTRUCTION CO., INC.	1174-41
MCCUTCHEON #2	SAND; SAND/CLAY
L. DEAN WEAVER CONTRUCTION CO.	1294-41
POSTON PIT	SAND; SAND/CLAY
WILLIS CONTRUCTION COMPANY	0517-41
WILLIS CONTRUCTION MINE #2	SAND; SAND/CLAY

Growth Potential

There is a high potential for growth in this watershed, which contains most of the City of Florence. The Florence urban area is the commercial center of the Pee Dee region and is expected to continue to grow, particularly in the I-20/I-95 vicinity on the western edge of Florence, and the major highways leading into the urban area. The watershed is served by U.S. Hwy. 52, U.S. Hwy. 76, I-20, and I-95 as well as the interchange between the interstates to the west of Florence. The construction of a southeastern bypass around the Florence urban area is currently underway and its completion should encourage growth.

This watershed, including the Florence urban area, the Pee Dee River area, and the Hartsville area is expected to be an area of major industrial expansion over the next twenty years. There are several large public or private industrial parks, located along the western side of the Florence urban area, and should foster additional large-scale development. This watershed has extensive water system coverage, including service from the City of Hartsville, the Darlington County Water and Sewer Authority, the City of Florence, and Florence County. The City of Florence has under design a surface water treatment facility on the Great Pee Dee River that could evolve into a regional water treatment plant. The City of Florence has also expanded its wastewater treatment plant and constructed an outfall to the Great Pee Dee River, which should increase the availability of sewer service in the watershed and increase the likelihood of additional growth and development. A 700-acre industrial park at I-95/SC327 has been built and should spur future growth. A penny sales tax in Florence County should spur growth by financing the proposed widening of S.C.Hwy 51 to U.S. 378, U.S. 378 across Florence County, and the SW Bypass around Florence (Alligator Road).

Watershed Restoration and Protection

Total Maximum Daily Loads (TMDLs)

A TMDL was developed by SCDHEC and approved by EPA for ***Gulley Branch*** water quality monitoring site ***PD-065*** to determine the maximum amount of fecal coliform bacteria it can receive and still meet water quality standards. The watershed contains no known cattle, and there are no AFOs or AFO land application areas. This watershed contains 43 OSWD systems with an average density of 4 per 100 acres, which could be significant. Fecal coliform sources associated with MS4s are expected and include human sources of fecal coliform (leaking sewers and SSOs). Domesticated pets could represent another source. The TMDL states that a 99% reduction in fecal coliform loading is necessary for the stream to meet the water quality standard.

03040201-10

(Great Pee Dee River)

General Description

Watershed 03040201-10 (formerly 03040201-120) is located in Dillon, Marion, and Florence Counties and consists primarily of the ***Great Pee Dee River*** and its tributaries from Black Creek to Jeffries Creek. The watershed occupies 84,339 acres of the Upper and Lower Coastal Plain regions of South Carolina. Land use/land cover in the watershed includes: 41.7% forested wetland, 29.5% forested land, 19.9% agricultural land, 2.9% urban land, 2.9% scrub/shrub land, 1.7% water, 1.1% nonforested wetland, and 0.3% barren land.

This segment of the Great Pee Dee River accepts drainage from its upper reaches together with Brownsville Swamp, Schoolhouse Branch (Alford Branch, Back Swamp), Mill Creek, Tobys Creek (Poccosin Swamp, Gum Swamp, Cud Swamp, Ellerbe Bay, Agnay Swamp), Muddy Gut (Buckley Creek), and Bachelor Creek. The Pee Dee River flows through the Great Pee Dee River Swamp throughout the watershed. There are a total of 122.4 stream miles and 113.8 acres of lake waters in this watershed, all classified FW.

Surface Water Quality

Station #	Type	Class	Description
PD-337	P/INT	FW	GREAT PEE DEE RIVER AT US 301/76

Great Pee Dee River (PD-337) - Aquatic life uses are fully supported; however, there is a significant decreasing trend in dissolved oxygen concentration. Significant decreasing trends in five-day biological oxygen demand, turbidity, total nitrogen concentration, and fecal coliform bacteria concentration suggest improving conditions for these parameters. Recreational uses are fully supported.

*A fish consumption advisory has been issued by the Department for mercury and includes the **Great Pee Dee River** within this watershed* *(see advisory p.130).*

NPDES Program

Active NPDES Facilities

RECEIVING STREAM FACILITY NAME PERMITTED FLOW @ PIPE (MGD)	NPDES# TYPE COMMENT
GREAT PEE DEE RIVER CITY OF MARION/S. MAIN ST. WWTP PIPE #: 001 FLOW: 6.0 (10.0 PERMITTED)	SC0046230 MAJOR DOMESTIC
GREAT PEE DEE RIVER DUPONT TEIJIN FILMS/FLORENCE PLANT PIPE #: 001 FLOW: 3.72	SC0002917 MAJOR INDUSTRIAL

GREAT PEE DEE RIVER STONE CONTAINER CORP. PIPE #: 001 FLOW: 17.0	SC0000876 MAJOR INDUSTRIAL
TOBYS CREEK MARION CERAMICS, INC./PEE DEE MINE PIPE #: 001 FLOW: M/R	SCG730219 MINOR INDUSTRIAL

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME ***FACILITY TYPE***	***PERMIT #*** ***STATUS***
SMURFIT STONE CONTAINER CORP. INDUSTRIAL	213310-1601 ACTIVE
SMURFIT STONE CONTAINER CORP. INDUSTRIAL	213310-1602 INACTIVE
EI DUPONT INDUSTRIAL	--------- INACTIVE
FLORENCE COUNTY C&D LANDFILL C&D	211001-1201 ACTIVE

Land Application Sites

LAND APPLICATION SYSTEM ***FACILITY NAME***	***ND#*** ***TYPE***
SPRAYFIELD TOWN OF SELLERS	ND0065315 DOMESTIC

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
MARION CERAMICS INC. PEE DEE CERAMICS MINE	0050-67 CLAY

Growth Potential

There is a low potential for growth in this watershed, which contains the Town of Sellers and the community of Pee Dee. U.S. Hwys. 76 and 301, a four-laned corridor to the Grand Strand, cross the watershed at Pee Dee and run from the City of Florence to the City of Marion and on to Myrtle Beach. The City of Marion has an interconnection with the City of Mullins, which may increase growth along the U.S. Hwy. 76 corridor between Marion and Mullins. There is rural water service available from the Marion County Rural Water Company to approximately 30% of the watershed. The only sewer service is limited to the Town of Sellers, which is not capable of extending service unless the system is improved.

03040201-11

(Catfish Creek)

General Description

Watershed 03040201-11 (formerly 03040201-150) is located in Dillon and Marion Counties and consists primarily of ***Catfish Creek*** and its tributaries. The watershed occupies 111,369 acres of the Upper and Lower Coastal Plain regions of South Carolina. Land use/land cover in the watershed includes: 36.4% agricultural land, 35.4% forested wetland, 18.6% forested land, 6.5% urban land, 2.6% scrub/shrub land, 0.3% nonforested wetland, and 0.2% water.

Catfish Canal receives drainage from Stackhouse Creek (Boggy Branch) and flows through Catfish Swamp near the City of Marion. Collins Creek accepts drainage from Smith Swamp (Grassy Bay, Rabbit Bay, Tenmile Bay, Little Horsepen Bay, Big Horsepen Bay, Middle Bay, Wolfpit Bay) and joins Catfish Canal to form the headwaters of Catfish Creek. Catfish Creek then accepts drainage from Flat Swamp, Pitch Pot Swamp (Millrace Stream, Keedley Swamp, Wiggins Swamp), Mink Creek, and Beverly Swamp. The Catfish Creek Watershed drains into the Great Pee Dee River. There are a total of 150.2 stream miles and 67.1 acres of lake waters in this watershed. Catfish Creek and Smith Swamp are classified FW* (dissolved oxygen not less than 4.0 mg/l and pH between 5.0 and 8.5) and the remaining streams in the watershed are classified FW.

Surface Water Quality

Station #	Type	Class	Description
PD-320	S/W	FW*	SMITH SWAMP AT S-34-19 1 MI E OF MARION
PD-187	P/W	FW*	SMITH SWAMP AT US 501 1.9 MI SSE OF MARION
PD-097	S/INT	FW*	CATFISH CREEK AT S-34-34 6 MI SW OF MARION

Smith Swamp – There are two SCDHEC monitoring sites along Smith Swamp. This is a blackwater system, characterized by naturally low dissolved oxygen conditions. Although dissolved oxygen 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 ***(PD-320)***, aquatic life uses are fully supported. Significant decreasing trends in five-day biological oxygen demand, turbidity and total phosphorus concentration suggest improving conditions for these parameters. Recreational uses are not 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 downstream site ***(PD-187)***, aquatic life uses are fully supported. There is a significant decreasing trend in pH. Significant decreasing trends in five-day biological oxygen demand, turbidity, and total nitrogen 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.

Catfish Creek (PD-097) – Aquatic life uses are not supported due to dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. Significant decreasing trends in turbidity and total nitrogen concentration suggest improving conditions for these parameters. DDE (a metabolite of DDT) was detected in the 2001 sediment sample. Although the use of DDT was banned in 1973, it is very persistent in the environment. Recreational uses are fully supported.

NPDES Program

Active NPDES Facilities

RECEIVING STREAM ***FACILITY NAME*** ***PERMITTED FLOW @ PIPE (MGD)***	***NPDES#*** ***TYPE*** ***COMMENT***
CATFISH CANAL TRICO/FRED HYATT WTP PIPE #: 001 FLOW: MR	SCG645023 MINOR DOMESTIC
CATFISH CANAL AL WILLIAMS ENTERPRISE PIPE #: 001-007 FLOW: M/R	SCG130002 MINOR INDUSTRIAL
BOGGY BRANCH WEAVER CO./BAXLEY PIT PIPE #: 001 FLOW: M/R	SCG730559 MINOR INDUSTRIAL
SMITH SWAMP BAKER BROTHERS/FOXWORTH MINE PIPE #: 001 FLOW: M/R	SCG730072 MINOR INDUSTRIAL
SMITH SWAMP MARION COUNTY/BOBBY MACE PIT PIPE #: 001 FLOW: M/R	SCG730616 MINOR INDUSTRIAL
SMITH SWAMP TRIBUTARY ARVIN AVM INC. PIPE #: 001 FLOW: M/R	SCG250108 MINOR INDUSTRIAL
BOGGY BRANCH RE GOODSON PIPE #: 001 FLOW: M/R	SCG730984 MINOR INDUSTRIAL

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME ***FACILITY TYPE***	***PERMIT #*** ***STATUS***
CITY OF MARION DUMP MUNICIPAL	----------- CLOSED

CITY OF MARION C&D LANDFILL CONSTRUCTION	341003-1201 ACTIVE
CITY OF MARION COMPOSTING	341003-3001 ACTIVE
TOWN OF LATTA COMPOSTING	171002-3001 ACTIVE
TOWN OF PEE DEE #2 MUNICIPAL	----------- INACTIVE

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
MARION COUNTY BOBBY MACE BORROW PIT	0298-67 SAND/CLAY
CITY OF MARION COLEMAN MINE	1131-67 SAND/CLAY
BAKER BROTHERS OF GRESHAM, INC. FOXWORTH PIT	1134-67 SAND/CLAY

Growth Potential

There is a low to moderate potential for growth in this watershed, which contains the City of Marion and is adjacent to the Town of Latta. Commercial development is limited to Marion and portions of U.S. Hwy. 76, particularly east of Marion at the U.S. Hwy. 501 Bypass. Industrial development occurs along U.S. Hwy. 76 and the U.S. Hwy. 501 Bypass near Marion. This watershed also contains the Marion Industrial Park and the Latta Industrial Park. U.S. Hwy. 76 and the U.S. Hwy. 501 Bypass are four-lane major highways that serve as major access corridors to the Grand Strand and will increase in traffic and development. Water service is provided from the City of Marion and the Marion County Rural Water Company and covers most of the watershed. Sewer service is available to the areas in and around the City of Marion and the Town of Latta.

Watershed Restoration and Protection

Total Maximum Daily Loads (TMDLs)

A TMDL was developed by SCDHEC and approved by EPA for ***Smith Swamp*** water quality monitoring sites ***PD-187*** and ***PD-320*** to determine the maximum amount of fecal coliform bacteria they can receive and still meet water quality standards. Fecal coliform sources typical of urban areas are expected and include human sources of fecal coliform such as leaking sewers, SSOs, and failing septic systems. Non-human sources such as swine, wildlife, and pets are expected to be low to moderate in this watershed. The TMDL states that a 66% reduction in fecal coliform loading at PD-187 and a 68% reduction at PD-320 is necessary for the stream to meet the water quality standard.

03040201-12

(Great Pee Dee River)

General Description

Watershed 03040201-12 (formerly 03040201-140) is located in Florence and Marion Counties and consists primarily of the ***Great Pee Dee River*** and its tributaries from Jeffries Creek to the Lynches River. The watershed occupies 57,862 acres of the Lower Coastal Plain region of South Carolina. Land use/land cover in the watershed includes: 44.6% forested wetland, 26.9% forested land, 20.8% agricultural land, 3.6% scrub/shrub land, 2.0% urban land, 1.7% water, and 0.4% nonforested wetland.

This section of the Great Pee Dee River accepts drainage from its upper reaches, together with Mill Branch, Bigham Branch, Barfield Mill Creek (Barfield Old Mill Creek, Brier Branch), the Catfish Creek Watershed, Bull Swamp (Ford Swamp), and Mulyns Creek. There are several oxbow lakes draining into the river including Dead River, Graves Lake, and Honey Lake. There are a total of 100.4 stream miles and 115.5 acres of lake waters in this watershed, all classified FW.

Surface Water Quality

Station #	Type	Class	Description
PD-076	P/INT	FW	GREAT PEE DEE RIVER AT US 378

Great Pee Dee River (PD-076) – Aquatic life uses are fully supported; however, there is a significant decreasing trend in dissolved oxygen concentration. There is a significant increasing trend in pH. Significant decreasing trends in five-day biological oxygen demand, turbidity, and total nitrogen concentration suggest improving conditions for these parameters. Recreational uses are fully supported.

A fish consumption advisory has been issued by the Department for mercury and includes the ***Great Pee Dee River*** *within this watershed (see advisory p.130).*

NPDES Program

Active NPDES Facilities

RECEIVING STREAM FACILITY NAME PERMITTED FLOW @ PIPE (MGD)	NPDES# TYPE COMMENT
GREAT PEE DEE RIVER DELTA MILLS INC./CYPRESS PLANT PIPE #: 001 FLOW: M/R	SCG250151 MINOR INDUSTRIAL
GREAT PEE DEE RIVER TRIBUTARY CAROLINA SAND/GRESHAM PIT PIPE #: 001 FLOW: M/R	SCG730181 MINOR INDUSTRIAL

MILL BRANCH DELTA MILLS INC./PAMPLICO PLANT PIPE #: 001, 002 FLOW: M/R	SCG250150 MINOR INDUSTRIAL
GREAT PEE DEE RIVER TOWN OF PAMPLICO PIPE #: 002 FLOW: 0.3	SC0021351 MINOR DOMESTIC

Nonpoint Source Management Program

Land Disposal Activities

Land Application Sites

LAND APPLICATION SYSTEM ***FACILITY NAME***	***ND #*** ***TYPE***
SPRAYFIELD DELTA MILLS MKTG/PAMPLICO PLT	ND0004472 INDUSTRIAL

Growth Potential

There is a low potential for growth in this rural watershed, which extends across the floodplain of the Great Pee Dee River. Except for a small portion of the Town of Pamplico, no public water or sewer service is available in the watershed.

03040203-13

(Ashpole Swamp)

General Description

The South Carolina portion of 03040203-13 is (formerly 03040203-210) located in Dillon County and consists primarily of ***Ashpole Swamp*** and its tributaries. The watershed occupies 53,249 acres of the Upper Coastal Plain region of South Carolina. Land use/land cover in the watershed includes: 44.2% agricultural land, 33.6% forested wetland, 14.5% forested land, 5.7% urban land, 1.5% scrub/shrub land, 0.3% nonforested wetland, and 0.2% water.

Ashpole Swamp originates in North Carolina and flows across the border to receive drainage from Bear Swamp before flowing into the Lumber River. Canaan Branch (Roundabout Swamp) and Gully Branch (Beaverdam Creek) join in Gaddys Millpond and flow into Bear Swamp, which flows through Pages Millpond and accepts drainage from Cowpen Swamp before draining into Ashpole Swamp. There are a total of 80.0 stream miles and 206.9 acres of lake waters in this watershed. Ashpole Swamp and Bear Swamp are classified FW* (dissolved oxygen not less than 4.0 mg/l and pH between 5.0 and 8.5), and the remaining streams are classified FW.

Surface Water Quality

Station #	Type	Class	Description
PD-368	INT	FW*	BEAR SWAMP AT S-17-56
PD-347	W	FW*	ASHPOLE SWAMP AT PRIVATE ROAD

Bear Swamp (PD-368) – Aquatic life uses are not supported due to dissolved oxygen excursions. There is a significant decreasing trend in pH. Recreational uses are fully supported.

Ashpole Swamp (PD-347) – Aquatic life and recreational uses are fully supported.

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-005	GB	BLACK CREEK	LAKE VIEW #1

NPDES Program

Active NPDES Facilities

RECEIVING STREAM FACILITY NAME PERMITTED FLOW @ PIPE (MGD)	NPDES# TYPE COMMENT
BEAR SWAMP LAKE VIEW WWTF PIPE #: 001 FLOW: 0.20	SC0022284 MINOR DOMESTIC

Growth Potential

There is a low potential for growth in this watershed, which contains the Town of Lake View. An extensive rural water system serves the majority of the watershed, but sewer services are limited to the Town of Lake View.

03040203-14

(Lumber River)

General Description

The South Carolina portion of 03040203-14 (formerly 03040203-180,200) is located in Dillon, Marion, and Horry Counties and consists primarily of the ***Lumber River*** and its tributaries from the South Carolina/North Carolina state line to its confluence with the Little Pee Dee River. The watershed occupies 66,605 acres of the Lower Coastal Plain and Coastal Zone regions of South Carolina. Land use/land cover in the watershed includes: 39.4% agricultural land, 38.9% forested wetland, 15.5% forested land, 4.2% urban land, 1.1% scrub/shrub land, 0.6% nonforested wetland, and 0.3% water.

The Lumber River originates in North Carolina and accepts drainage within South Carolina from the Ashpole Swamp Watershed, Jordan Creek (Feathery Bay, Granger Pond, Gapway Swamp, Hook Branch), and Boggy Branch (Pew Branch). There are a total of 101.4 stream miles and 70.5 acres of lake waters, all classified FW.

Surface Water Quality

Station #	Type	Class	Description
PD-038	P/INT	FW	LUMBER RIVER AT US 76 AT NICHOLS

***Lumber River (PD-038)* –** Aquatic life and recreational uses are fully supported; however, there is a significant decreasing trend in dissolved oxygen concentration and a significant increasing trend in total phosphorus concentration. 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. There is a significant increasing trend in pH. Significant decreasing trends in five-day biological oxygen demand, total nitrogen concentration, and fecal coliform bacteria concentration suggest improving conditions for these parameters.

A fish consumption advisory has been issued by the Department for mercury and includes the ***Lumber River*** *within this watershed* *(see advisory p.130).*

NPDES Program

Active NPDES Facilities

RECEIVING STREAM	***NPDES#***
FACILITY NAME	***TYPE***
PERMITTED FLOW @ PIPE (MGD)	***COMMENT***
LUMBER RIVER	SC0041327
TOWN OF NICHOLS WWTF	MINOR DOMESTIC
PIPE #: 001 FLOW: 0.135	

LUMBER RIVER HERRINGTON CONSTRUCTION/HERRINGTON #1 PIPE #: 001 FLOW: M/R	SCG730530 MINOR INDUSTRIAL
BOGGY BRANCH JAY & J CONSTRUCTION/HWY 76 & 9 PIT PIPE #: 001 FLOW: M/R	SCG730644 MINOR INDUSTRIAL

Nonpoint Source Management Program

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
HERRINGTON CONSTRUCTION CO., INC. HERRINGTON MINE #1	1185-67 SAND/CLAY

Water Quantity

Portions of this watershed fall within the Waccamaw Capacity Use Area and large groundwater uses must be reported (see Capacity Use Program p.27).

Growth Potential

There is a low potential for growth in this watershed, which contains the Town of Nichols. An extensive rural water system serves the majority of the watershed, but sewer services are limited to the Town of Nichols. U.S. Hwy. 76 crosses the watershed (through the Town of Nichols), but it is a two-lane road with no plans for improvement. A railway line crosses the watershed, but there are no industrial areas located in this region.

03040204-01

(Little Pee Dee River)

General Description

The South Carolina portion of 03040204-01 (formerly 03040204-010) is located in Marlboro, Dillon, and Marion Counties and consists primarily of the ***Little Pee Dee River*** and its tributaries from its origin to Leith Creek. The watershed occupies 49,491 acres of the Upper Coastal Plain region of South Carolina. Land use/land cover in the watershed includes: 18.4% forested land, 23.5% forested wetland, 0.3% nonforested wetland, 8.6% urban land, 1.3% scrub/shrub land, 0.6% water, 47.3% agricultural land.

This upper reach of the Little Pee Dee River accepts drainage from several tributaries that originate in North Carolina. Beaverdam Creek flows through McNairs Millpond and accepts drainage from Parker Branch, Marsnip Branch, McLaurins Millpond, and Panther Creek (Bear Creek) before merging with Gum Swamp to form Red Bluff Lake and the headwaters of the Little Pee Dee River. Reedy Branch enters the river next before converging with the Bridge Creek Watershed. There are a total of 84.0 stream miles and 186.4 acres of lake waters, all classified FW.

Surface Water Quality

Station #	Type	Class	Description
PD-306	S/W	FW	Panther Creek at US 15 outside of McColl
PD-016	S/W	FW	Panther Creek at S-35-27
PD-017A	S/W	FW	McLaurins Mill Pond SC 381
PD-062	S/W	FW	Gum Swamp
PD-365	W/INT	FW	Little Pee Dee River at S-17-36

Panther Creek **–** There are two SCDHEC monitoring sites along Panther Creek. This is a blackwater system, characterized by naturally low pH and dissolved oxygen conditions. Although pH and dissolved oxygen 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 ***(PD-306)***, aquatic life and recreational uses are fully supported. Significant increasing trends in dissolved oxygen concentration and decreasing trends in five-day biological oxygen demand and turbidity suggest improving conditions for these parameters. At the downstream site ***(PD-016)***, aquatic life and recreational uses are also fully supported. A significant increasing trend in dissolved oxygen concentration and a decreasing trend in five-day biological oxygen demand suggests improving conditions for these parameters.

McLaurins Mill Pond (PD-017A) - This is a blackwater system, characterized by naturally low pH and dissolved oxygen conditions. Although pH and dissolved oxygen 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. There is a significant increasing trend in pH. Significant increasing trends in dissolved oxygen concentration and decreasing trends in five-day biological oxygen demand and fecal coliform bacteria concentration suggest improving conditions for these parameters.

Gum Swamp (PD-062) **-** 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.

Little Pee Dee River (PD-365) **–** This is a blackwater system, characterized by naturally low pH and dissolved oxygen conditions. Aquatic life uses are not supported due to pH excursions. There is a significant decreasing trend in pH. Significant decreasing trends in five-day biological oxygen demand and total phosphorus concentration suggest improving conditions for these parameters. Recreational uses are fully supported.

A fish consumption advisory has been issued by the Department for mercury and includes the ***Little Pee Dee River*** *within this watershed* *(see advisory p.130).*

NPDES Program

Active NPDES Facilities

RECEIVING STREAM FACILITY NAME PERMITTED FLOW @ PIPE (MGD)	NPDES# TYPE COMMENT
GUM SWAMP TOWN OF MCCOLL/WWTF PIPE #: 001 FLOW: 0.400	SC0041963 MINOR DOMESTIC

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME FACILITY TYPE	PERMIT # STATUS
ARROWHEAD COMPOSTING FACILITY COMPOSTING	352680-3001 INACTIVE

Growth Potential

There is a low potential for growth in this watershed, which contains the Town of McColl. The Town of McColl has water and sewer service in and immediately surrounding the town, which could encourage some growth.

03040204-02

(Bridge Creek)

General Description

The South Carolina portion of 03040204-02 (formerly 03040204-020) is located in Marlboro and Dillon Counties and consists primarily of ***Bridge Creek*** and its tributaries within South Carolina. The watershed occupies 19,030 acres of the Upper Coastal Plain region of South Carolina. Land use/land cover in the watershed includes: 54.6% agricultural land, 25.2% forested wetland, 14.2% forested land, 3.7% urban land, 1.9% scrub/shrub land, 0.2% water, and 0.2% nonforested wetland.

Bridge Creek (Leith Creek) originates in North Carolina and drains into the Little Pee Dee River Watershed. There are a total of 51.1 stream miles in this watershed, all classified FW.

Surface Water Quality

No water quality monitoring occurred in this watershed.

Growth Potential

There is a low potential for growth in this watershed.

03040204-03

(Shoe Heel Creek)

General Description

The South Carolina portion of 03040204-03 (formerly 03040204-040) is located in Dillon County and consists primarily of ***Shoe Heel Creek*** and its tributaries. The watershed occupies 30,870 acres of the Upper Coastal Plain region of South Carolina. Land use/land cover in the watershed includes: 46.0% agricultural land, 30.1% forested wetland, 13.6% forested land, 7.6% urban land, 2.0% scrub/shrub land, 0.4% water, and 0.3% nonforested wetland.

Shoe Heel Creek (Wilkerson Creek) originates in North Carolina and drains into the Little Pee Dee River Watershed. There are a total of 87.0 stream miles in this watershed, all classified FW.

Surface Water Quality

No water quality monitoring occurred in this watershed.

Growth Potential

There is a low potential for growth in this watershed.

03040204-04

(Buck Swamp)

General Description

Watershed 03040204-04 (formerly 03040204-050) is located in Marlboro, Dillon, and Marion Counties and consists primarily of ***Buck Swamp*** and its tributaries. The watershed occupies 97,495 acres of the Upper and Lower Coastal Plain regions of South Carolina. Land use/land cover in the watershed includes: 43.3% agricultural land, 25.4% forested wetland, 23.2% forested land, 6.0% urban land, 1.8% scrub/shrub land, 0.2% nonforested wetland, and 0.1% water.

Reedy Creek (Indigo Bay, Eli Branch, Old Mill Creek, Betsy Jackson Bay) and Little Reedy Creek (Hilson Bay) join to form the headwaters of Buck Swamp near the Town of Latta. Downstream of the confluence, Mill Creek enters the system followed by The Gully and Maidendown Swamp (Piney Bay, Maidendown Bay). The Buck Swamp Watershed drains into the Little Pee Dee River. There are a total of 201.4 stream miles and 47.0 acres of lake waters. Buck Swamp and Maidendown Swamp are classified FW* (dissolved oxygen not less than 4.0 mg/l and pH between 5.0 and 8.5) and the remaining streams in the watershed are classified FW.

Surface Water Quality

Station #	Type	Class	Description
PD-031	S/W	FW*	BUCK SWAMP AT S-17-33
PD-349	W/INT	FW*	BUCK SWAMP AT S-17-42

Buck Swamp* –** There are two SCDHEC monitoring sites along Buck Swamp. This is a blackwater system, characterized by naturally low dissolved oxygen conditions. Although dissolved oxygen 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 ***(PD-031), aquatic life uses are fully supported, but recreational uses are partially supported due to fecal coliform bacteria excursions. At the downstream site ***(PD-349)***, aquatic life and recreational uses are fully supported; however, there is a significant increasing trend in fecal coliform bacteria concentration.

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-006	GB	BLACK CREEK	LATTA #1

NPDES Program

Active NPDES Facilities

RECEIVING STREAM	***NPDES#***
FACILITY NAME	***TYPE***
PERMITTED FLOW @ PIPE (MGD)	***COMMENT***
BUCK SWAMP	SC0025402
TOWN OF LATTA	MAJOR DOMESTIC
PIPE #: 001 FLOW: 1.0	
OLD MILL CREEK	SCG645048
TRICO WATER COMPANY/GATEWAY WTP	MINOR INDUSTRIAL
PIPE #: 001 FLOW: M/R	

Nonpoint Source Management Program

Mining Activities

MINING COMPANY	***PERMIT #***
MINE NAME	***MINERAL***
DILLON COUNTY	1698-33
JUDGE ROAD BORROW PIT	SAND/CLAY

Growth Potential

There is a low potential for growth in this watershed, which contains the Towns of Latta and Zion, and a portion of the City of Mullins. Commercial development is confined to the two municipalities and the interchange of I-95 and S.C. Hwy. 34. Public water service exists in and around Latta and Mullins and the rural area north of Mullins. Public sewer is more limited, and includes only the municipal limits of Latta and Mullins and their very immediate surroundings. No major expansion of water or sewer coverage is anticipated. The proposed Preferred Alternative route of I-73 (Northern Corridor and Southern Corridor) would cross this watershed and could bring some growth to the area, especially around interchanges.

03040204-05

(Little Pee Dee River)

General Description

The South Carolina portion of 03040204-05 (formerly 03040204-030, 060) is located in Marlboro, Dillon, and Marion Counties and consists primarily of the ***Little Pee Dee River*** and its tributaries from Bridges Creek to the Lumber River. The watershed occupies 132,753 acres of the Upper Coastal Plain region of South Carolina. Land use/land cover in the watershed includes: 45.8% agricultural land, 28.3% forested wetland, 15.7% forested land, 7.9% urban land, 1.7% scrub/shrub land, 0.3% nonforested wetland, and 0.3% water.

This section of the Little Pee Dee River accepts the drainage of its upper reach along with the Bridge Creek Watershed, Carolina Branch, the Shoe Heel Creek Watershed, and Martins Branch. Sweat Swamp (Wash Branch, Donohoe Bay, Beaverdam Creek) enters the river next, followed by Hayes Swamp (Persimmon Swamp), Ropers Mill Branch, Manning Bay, and Maple Swamp near the City of Dillon. Contrary Swamp originates in South Carolina and drains into North Carolina near Hayes Swamp. Cypress Branch drains into the Little Pee Dee River downstream of Maple Swamp together with Kelly Bay, Cane Branch (Boggy Branch), Bell Swamp Branch (Butler Branch, Long Branch, Indian Pot Branch, Poplar Branch, Little Pee Dee State Park Pond), Hayes Branch, Mile Branch, and Hards Branch. Little Pee Dee State Park is located on the river near the confluence with Cane Branch and extends over to Bell Branch Swamp. There are a total of 251.7 stream miles and 234.1 acres of lake waters in this watershed. Maple Swamp is classified FW* (dissolved oxygen not less than 4.0 mg/l and pH between 5.0 and 8.5), and the remaining streams in the watershed are classified FW.

Surface Water Quality

Station #	Type	Class	Description
PD-069	P/W	FW	LITTLE PEE DEE RIVER AT SC 57 11.5 MI NW OF DILLON
PD-029E	S/W	FW	LITTLE PEE DEE RIVER AT S-17-23
PD-055	S/SPRP	FW	LITTLE PEE DEE RIVER AT SC 9
PD-030	S/W	FW*	MAPLE SWAMP AT SC 57
PD-030A	S/W	FW	LITTLE PEE DEE RIVER BELOW JUCNTION WITH MAPLE SWAMP
PD-348	W/INT	FW	LITTLE PEE DEE RIVER AT S-17-72
PD-052	P/INT	FW	LITTLE PEE DEE RIVER AT S-34-60

Little Pee Dee River – There are six SCDHEC monitoring sites along this section of the Little Pee Dee River. This is a blackwater system, characterized by naturally low pH and dissolved oxygen conditions. At the furthest upstream site ***(PD-069)***, aquatic life and recreational uses are fully supported. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Significant decreasing trends in five-day biological oxygen demand, total phosphorus concentration, and total nitrogen concentration suggest improving conditions for these parameters. At the next site downstream ***(PD-029E)***, aquatic life uses are fully supported. Although pH and dissolved oxygen excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Significant decreasing trends in five-day biological oxygen demand and total phosphorus concentration suggest improving conditions for these parameters. Recreational uses are partially supported at this site due to fecal coliform bacteria excursions. Further downstream ***(PD-055)***, aquatic life and recreational uses are fully supported. Although pH and dissolved oxygen excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Significant decreasing trends in five-day biological oxygen demand, turbidity, total phosphorus concentration, and fecal coliform bacteria concentration suggest improving conditions for these parameters.

At the next site downstream ***(PD-030A)***, aquatic life uses are not supported due to dissolved oxygen excursions, which are compounded by 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. Significant decreasing trends in five-day biological oxygen demand and total phosphorus concentration suggest improving conditions for these parameters. Recreational uses are partially supported at this site due to fecal coliform bacteria excursions. Further downstream ***(PD-348/RS-01018)***, aquatic life uses are not supported due to pH excursions. There is also a significant decreasing trend in dissolved oxygen concentration and there is a significant decreasing trend in pH. A significant decreasing trend in five-day biological oxygen demand suggests improving conditions for this parameter. Recreational uses are fully supported at this site.

At the furthest downstream site ***(PD-052)***, aquatic life uses are partially supported due to occurrences of copper in excess of the aquatic life acute criterion. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Significant decreasing trends in five-day biological oxygen demand, turbidity, total phosphorus and nitrogen concentration, and fecal coliform bacteria concentration suggest improving conditions for these parameters. A very high concentration of cadmium was measured in the 2000 sediment sample. Recreational uses are fully supported at this site.

Maple Swamp (PD-030) – This is a blackwater system, characterized by naturally low dissolved oxygen conditions. 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, but recreational uses are partially supported due to fecal coliform bacteria excursions. Significant increasing trends in dissolved oxygen concentration and decreasing trends in five-day biological oxygen demand and total phosphorus concentration suggest improving conditions for these parameters.

A fish consumption advisory has been issued by the Department for mercury and includes the ***Little Pee Dee River*** *within this watershed (see advisory p.130).*

NPDES Program

Active NPDES Facilities

RECEIVING STREAM / FACILITY NAME / PERMITTED FLOW @ PIPE (MGD)	NPDES# / TYPE / COMMENT
LITTLE PEE DEE RIVER CITY OF DILLON PIPE #: 001-004 FLOW: 4.0	SC0021776 MAJOR DOMESTIC
LITTLE PEE DEE RIVER TRICO/HAMER WTP PIPE #: 001 FLOW: 0.0468	SCG645031 MINOR DOMESTIC
HAYES SWAMP SOUTH OF THE BORDER PIPE #: 001 FLOW: 0.18	SC0031801 MINOR DOMESTIC
ROPERS MILL BRANCH TRICO/BOBBY BYRD WTP PIPE #: 001 FLOW: 0.0764	SCG645022 MINOR DOMESTIC
LONG BRANCH TRICO/BERMUDA WTP PIPE #: 001 FLOW: 0.0346	SCG645021 MINOR DOMESTIC

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME / FACILITY TYPE	PERMIT # / STATUS
DILLON COUNTY C&D LANDFILL CONSTRUCTION	171001-1202 ACTIVE
DILLON COUNTY SHORT TERM C&D LANDFILL CONSTRUCTION	171901-1301 INACTIVE
DILLON COUNTY C&D LANDFILL INDUSTRIAL	171901-1201 INACTIVE
DILLON COUNTY INDUSTRIAL LANDFILL INDUSTRIAL	171001-1601 ACTIVE
DILLON COUNTY SW TRANSFER STATION MUNICIPAL	171001-6001 ACTIVE
DILLON COUNTY SW LANDFILL MUNICIPAL	---------- INACTIVE

DILLON COUNTY SANITARY LANDFILL	----------
MUNICIPAL	INACTIVE
NOBLES CORP. WOOD CHIPPING SITE	172483-3002
COMPOSTING	ACTIVE
NOBLES CORP. YARD WASTE COMPOSTING	172483-3001
COMPOSTING	INACTIVE
NOBLES CORP. C&D SW RECYCLING	172483-2001
COMPOSTING	ACTIVE
301 FARM SHORT-TERM LANDFILL	172900-1301
C&D	INACTIVE

Mining Activities

MINING COMPANY	***PERMIT #***
MINE NAME	***MINERAL***
DILLON COUNTY	1501-33
DOVE MILL ROAD BORROW PIT	SAND
WILLARD BARKER, JR.	0955-33
MILLER	SAND/CLAY

Growth Potential

There is a moderate potential for growth in this watershed, which contains the City of Dillon. The main growth area for the watershed is the City of Dillon, with development concentrated in the downtown area, the area south of Dillon, and at two interstate interchanges (I-95/SC Hwy 34 and I-95/SC Hwy 9). Industrial development is extensive, mostly in the urban fringe area north of Dillon. Due to water and sewer improvements, additional growth in this industrial corridor is likely. Water service includes a moderately extensive rural system associated with the Trico Water Company and the City of Dillon. Public sewer service is more limited, serving only Dillon and the urban fringe surrounding it. The City of Dillon has undergone a wastewater treatment plant upgrade, and an expansion of sewer service to provide for future growth.

Watershed Restoration and Protection

Total Maximum Daily Loads (TMDLs)

A TMDL was developed by SCDHEC and approved by the EPA for the upper ***Little Pee Dee River*** (monitoring site ***PD-029E***) to determine the maximum amount of fecal coliform bacteria it can receive from nonpoint sources and still meet water quality standards. The nonpoint sources that have been determined to be contributors to the upper Little Pee Dee River impairment include wildlife; grazing livestock and livestock defecating directly into streams; land application of poultry litter; and failed, malfunctioning, and/or operational septic systems. To achieve compliance with water quality standards, the TMDL recommends that fecal coliform bacteria loads be reduced from livestock sources, runoff from poultry litter application, runoff from sewer overflows, and failing septic systems by 64, 41, 100 and 100 percent at monitoring station PD-029E. The implementation of these load reduction allocation scenarios would result in an overall reduction of fecal coliform bacteria loading of 49.2 % at PD-029E, which is the amount of reduction necessary for the stream to achieve compliance at the impaired water quality monitoring station.

A TMDL was developed by SCDHEC and approved by EPA for the ***Little Pee Dee River*** water quality monitoring site ***PD-030A*** to determine the maximum amount of fecal coliform bacteria it can receive and still meet water quality standards. Fecal coliform sources are expected to be from a combination of failing OSWD systems, and non-human sources such as livestock, wildlife, and pets. The TMDL states that a 53% reduction in fecal coliform loading is necessary for the stream to meet the water quality standard.

A TMDL was developed by SCDHEC and approved by EPA for ***Maple Swamp*** water quality monitoring site ***PD-030*** to determine the maximum amount of fecal coliform bacteria it can receive and still meet water quality standards. Fecal coliform sources may include some unreported leaking sewer lines, failing septic systems, and runoff from the single swine AFO. Contributions from wildlife and pets are considered negligible. The TMDL states that a 62% reduction in fecal coliform loading is necessary for the stream to meet the water quality standard.

Special Projects

Interstate Fecal Coliform Bacteria TMDL Development and Implementation for the Upper Little Pee Dee River

The Pee Dee Resource Conservation and Development Council (RC&D) along with Soil and Water Conservation Districts in both North and South Carolina have worked to develop and implement a fecal bacteria TMDL for the upper Little Pee Dee River Basin. The TMDL itself covers the watershed above SCDHEC's water quality monitoring station (PD-029E) and stretched into North Carolina. The implementation effort took place only in the South Carolina portions of Dillon and Marlboro counties. Before ending in Fall 2007, the RC&D and its partners repaired or replaced a large number of septic systems. Many of these systems were located adjacent to swamps draining to the river. By targeting these critical areas for septic repairs and by implementing other agricultural best management practices like vegetative buffers and exclusion fencing, this project is on track for showing water quality improvements. Early data suggest such improvements, but further continued monitoring is necessary to determine complete success.

03040204-06

(Lake Swamp)

General Description

The South Carolina portion of 03040204-06 (formerly 03040204-080 less Cedar Creek and Black Creek) is located in Horry County and consists primarily of ***Lake Swamp*** and its tributaries. The watershed occupies 114,286 acres of the Lower Coastal Plain region of South Carolina. Land use/land cover in the watershed includes: 46.9% agricultural land, 33.9% forested wetland, 11.8% forested land, 5.9% urban land, 0.9% scrub/shrub land, 0.5% nonforested wetland, and 0.1% water.

Mitchell Swamp accepts drainage from Haggins Creek (Calf Ford Branch), Skeebo Branch (Savannah Branch), Mill Branch, Seed Tick Branch, Iron Springs Swamp (Iron Springs Bay, Bobs Branch, Pinelog Branch), and Long Branch. Mitchell Swamp joins with Pleasant Meadow Swamp (Gaskins Branch, Holmes Branch, Spring Branch, Big Branch, Fifth Branch, Rooty Branch) to form the headwaters of Lake Swamp. Downstream of the confluence, Playcard Swamp (Zeeks Branch, Pasture Branch, Chickencoop Branch, Daniel Hole Branch, Leather String Branch) enters the system followed by Breakfast Swamp, Prince Mill Swamp (Little Mill Branch, Big Mill Branch, Limerick Branch), Honey Camp Branch, Rattlesnake Branch, and Reedy Branch. Joiner Swamp (Long Branch, Joiner Bay, Bogue Bay) enters Lake Swamp next followed by Loosing Swamp (Watery Bay, Turf Camp Bay, Mose Swamp, Horsepen Bay). Loosing Swamp enters the system through Johnny Lake located on Lake Swamp downstream of Joiner Swamp. The Lake Swamp Watershed drains into the Little Pee Dee River. There are a total of 274.1 stream miles and 169.4 acres of lake waters in this watershed. Lake Swamp and Pleasant Meadow Swamp are classified FW* (dissolved oxygen not less than 4.0 mg/l and pH between 5.0 and 8.5); their tributaries and the remaining streams in the watershed are classified FW.

Surface Water Quality

Station #	Type	Class	Description
RS-03513	RS03	FW	Loosing Swamp at S-26-23, 3.7 mi NE of Aynor
PD-176	W/INT	FW*	Lake Swamp at S-26-99
RS-04545	W/INT	FW*	Lake Swamp at S-26-99

***Loosing Swamp (RS-03513)* –** 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 not supported due to dissolved oxygen excursions. Recreational uses are fully supported.

***Lake Swamp (PD-176/RS-04545)* –** This is a blackwater system, characterized by naturally low dissolved oxygen conditions. Although dissolved oxygen 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.

NPDES Program

Active NPDES Facilities

RECEIVING STREAM ***FACILITY NAME*** ***PERMITTED FLOW @ PIPE (MGD)***	***NPDES#*** ***TYPE*** ***COMMENT***
PLEASANT MEADOWS SWAMP GSW&SA/LORIS WWTF PIPE #: 001 FLOW: 0.70 PIPE #: 001 FLOW:1.0 (PROPOSED) PIPE #: 001 FLOW:1.2 (PROPOSED)	SC0025348 MINOR DOMESTIC

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME ***FACILITY TYPE***	***PERMIT #*** ***STATUS***
CITY OF LORIS DUMP MUNICIPAL	---------- CLOSED
WACCAMAW WHEEL WILLIAMS INC. WTP	262489-5201 INACTIVE
SODBUSTERS TURF, INC. WOOD CHIPPING FAC. COMPOSTING	262781-3001 ACTIVE

Land Application Sites

LAND APPLICATION SYSTEM ***FACILITY NAME***	***ND#*** ***TYPE***
SPRAYFIELD GSW&SA/GREEN SEA FLOYDS HIGH SCHOOL	ND0066516 DOMESTIC

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
ALFORD & CO. ALFORD MINE	1476-51 SAND
GOODSON CONSTRUCTION COMPANY JOHNSON MINE	1691-51 SAND/CLAY
SODBUSTERS TURF, INC. SMITH MINE	1740-51 SAND/CLAY

Water Quantity

Portions of this watershed fall within the Waccamaw Capacity Use Area and large groundwater uses must be reported (see Capacity Use Program p.27).

Growth Potential

There is a low potential for growth in this watershed, which contains the City of Loris. Water and sewer infrastructure are located in the City of Loris, and water service is available along the U.S. Hwy. 701 corridor to the City of Conway. Outside of Loris, the area is predominately rural with agricultural uses and timberlands. The proposed Preferred Alternative route of I-73 (Southern Corridor) would cross this watershed and could bring some growth to the area, especially around interchanges.

03040204-07

(Brunson Swamp)

General Description

Watershed 03040204-07 (formerly 03040204-090 less Palmetto Swamp) is located in Horry County and consists primarily of ***Brunson Swamp*** and its tributaries. The watershed occupies 44,600 acres of the Lower Coastal Plain region of South Carolina. Land use/land cover in the watershed includes: 43.9% agricultural land, 30.8% forested wetland, 17.4% forested land, 6.0% urban land, 1.2% scrub/shrub land, 0.6% nonforested wetland, and 0.1% water.

Brunson Swamp accepts drainage from Chinners Swamp (Rabon Branch, Mill Branch, Savannah Creek, Big Swamp, Schoolhouse Branch, Evans Branch), and Spring Swamp (Holly Hill Branch) before draining into the Little Pee Dee River. There are a total of 83.0 stream miles and 73.0 acres of lake waters in this watershed. All are classified FW with the exception of Chinners Swamp, which is classified FW* (dissolved oxygen not less than 4.0 mg/l and pH between 5.0 and 8.5).

Surface Water Quality

Station #	Type	Class	Description
PD-177	S/W	FW*	CHINNERS SWAMP AT S-26-24 1.9 MI SSE OF AYNOR
PD-352	W/INT	FW*	CHINNERS SWAMP AT GUNTERS ISLAND ROAD OFF S-26-99

Chinners Swamp – There are two SCDHEC monitoring sites along Chinners Swamp. This is a blackwater system, characterized by naturally low dissolved oxygen concentration conditions. Although dissolved oxygen 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 ***(PD-177)***, aquatic life and recreational uses are fully supported. Significant decreasing trends in five-day biochemical oxygen demand and fecal coliform bacteria concentration suggest improving conditions for these parameters. Aquatic life uses are fully supported at the downstream site ***(PD-352)***, but recreational uses are partially supported due to fecal coliform bacteria excursions. There is a significant decreasing trend in pH. A significant decreasing trend in total phosphorus concentration suggests improving conditions for this parameter.

NPDES Program

Active NPDES Facilities

RECEIVING STREAM FACILITY NAME PERMITTED FLOW @ PIPE (MGD)	NPDES# TYPE COMMENT
MILL BRANCH TRIBUTARY GOODSON CONSTRUCTION/ANDREW PIT PIPE #: 001 FLOW: M/R	SCG730383 MINOR INDUSTRIAL

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME ***FACILITY TYPE***	***PERMIT #*** ***STATUS***
TOWN OF AYNOR DUMP MUNICIPAL	----------- CLOSED

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
GOODSON CONSTRUCTION COMPANY ANDREW PIT	1369-51 SAND SAND/CLAY
JACOB JOHNSON LANDCLEARING J & J MINING MINE	1656-51 SAND; SAND/CLAY
D&L SITEWORK INC. GUNTERS ISLAND MINE	1722-51 SAND
JARRETTS LANDCLEARING HUGHES MINE	1757-51 SAND

Water Quantity

Portions of this watershed fall within the Waccamaw Capacity Use Area and large groundwater uses must be reported (see Capacity Use Program p.27).

Growth Potential

There is a low potential for growth for most of this watershed. An exception is the U.S. Hwy. 501 corridor that bisects the watershed. This heavily traveled road connects I-95 with Myrtle Beach, and an increase in residential and commercial growth is likely. The Town of Aynor has been connected to the Grand Strand Water and Sewer Authority Conway wastewater plant, which should encourage growth. The northeastern edge of the watershed contains water infrastructure and should see a moderate increase in development. The remainder of the watershed is rural with agricultural, timberlands, and residential areas. The proposed Preferred Alternative route of I-73 (Southern Corridor) would cross this watershed and could bring some growth to the area, especially around interchanges.

Watershed Restoration and Protection

Total Maximum Daily Loads (TMDLs)

A TMDL was developed by SCDHEC and approved by EPA for ***Chinners Swamp*** water quality monitoring site ***PD-352*** to determine the maximum amount of fecal coliform bacteria it can receive and still meet water quality standards. OSWD systems may represent the major source of fecal coliform loadings, and swine AFOs may also contribute substantially to elevated concentrations. Wildlife and cattle may also contribute fecal coliform loadings. The TMDL states that a 39% reduction in fecal coliform loading is necessary for the stream to meet the water quality standard.

03040204-08

(Little Pee Dee River)

General Description

Watershed 03040204-08 (formerly 03040204-070 plus Cedar Creek, Black Creek and Palmetto Swamp) is located in Marion and Horry Counties and consists primarily of the ***Little Pee Dee River*** and its tributaries from the Lumber River to its confluence with the Pee Dee River. The watershed occupies 217,821 acres of the Upper and Lower Coastal Plain regions of South Carolina. Land use/land cover in the watershed includes: 45.3% forested wetland, 30.3% agricultural land, 16.1% forested land, 4.1% urban land, 2.3% scrub/shrub land, 1.1% water, and 0.8% nonforested wetland.

This section of the Little Pee Dee River accepts drainage from its upper reaches, followed by Cedar Creek (Cow Bog, Juniper Bay, Spring Bay, Mossy Bay, Back Swamp, Cartwheel Branch, Cartwheel Bay, Fifteenmile Bay, Jet Branch), Brown Swamp (White Oak Creek, Fowler Branch), Black Creek (Flat Bay), and Turkey Pen Swamp (Gunter Bay, Hannah Bay, Wolf Pit Bay, Mill Bay). Cartwheel Bay is a Heritage Trust Preserve. The Lake Swamp Watershed enters the river next, followed by Dawsey Swamp, Tredwell Swamp (Mill Swamp), The Falls, Back Swamp (Fox Bay), and Sandy Slough. Little Reedy Creek (Cane Bay, Mill Bay) merges with Reedy Creek (Big Sister Bay, Little Sister Bay, Reedy Creek Bay) in Smith Millpond and then flows through Leggett Millpond before draining into the Little Pee Dee River downstream of Sandy Slough. Further downstream, Cypress Creek enters the river, followed by Marsh Creek, Alligator Run, the Brunson Swamp Watershed, Palmetto Swamp (Little Palmetto Swamp, Ratan Branch), and Giles Bay.

Singleton Creek (Dwight Creek, Red Hill Branch, Alfred Creek, Bunker Hill Creek, Church Branch, Running Branch) drains into another Brown Swamp as does Brown Bay, Knotty Branch, Cooper Branch, Davis Branch, Juniper Bay, Calhoun Branch, Todd Mill Branch, Lewis Mill Branch, and Alkinson Branch. Brown Swamp then flows through Jordan Lake and Old River Lake before entering the river. Hunting Swamp (Boyd Canal, Jenkins Swamp, Cedar Grove Branch, Cates Bay, Forney Branch, Brownway Branch, Big Cypress Swamp, Sarah Branch, Pawley Swamp) enters the system at the base of the watershed followed by Russ Creek (Jiles Creek, Russ Lake) near the Brittons Neck area. Several oxbow lakes drain into the Little Pee Dee River including Cox Lake, Newfound Lake, Gunter Lake, Johnson Big Lake, Cannon Lake, Jordan Lake, Old River Lake, Richard Lake, Sampson Lakes, and Dead River. There are a total of 326.3 stream miles and 668.8 acres of lake waters in this watershed. All streams in the watershed are classified ORW with the following exceptions: Brown Swamp and White Oak Creek in the upper portion of the watershed, and another Brown Swamp further downstream are classified FW* (dissolved oxygen not less than 4.0 mg/l and pH between 5.0 and 8.5) and their tributaries are classified FW; Hunting Swamp and Palmetto Swamp and their tributaries are classified FW.

Surface Water Quality

Station #	Type	Class	Description
PD-351	W/BIO	ORW	CEDAR CREEK AT S-26-23
PD-037	S/W	FW*	WHITE OAK CREEK AT S-34-31
PD-701	BIO	ORW	DAWSEY SWAMP AT SR-99
PD-042	P/W	ORW	LITTLE PEE DEE RIVER AT US 501, GALIVANT'S FERRY
RS-01042	RS01	ORW	REEDY CREEK AT CR 39, 1 MI NE OF RAINS
PD-189	P/W	ORW	LITTLE PEE DEE RIVER AT US 378 12 MI W. OF CONWAY
PD-350	W/INT	ORW	LITTLE PEE DEE RIVER AT PUNCHBOWL LANDING
PD-702	BIO	FW	PALMETTO SWAMP AT SR 99

Cedar Creek (PD-351) – Aquatic life and recreational uses are fully supported. This is a blackwater system, characterized by naturally low pH and dissolved oxygen conditions. Although pH and dissolved oxygen excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. A significant decreasing trend in turbidity suggests improving conditions for this parameter.

White Oak Creek (PD-037) – Aquatic life uses are partially supported due to dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. There is also a significant increasing trend in five-day biological oxygen demand. There is a significant decreasing trend in pH. 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.

Dawsey Swamp (PD-701) – Aquatic life uses are fully supported based on macroinvertebrate community data.

Little Pee Dee River – There are three SCDHEC monitoring sites along this section of the Little Pee Dee River. This is a blackwater system, characterized by naturally low pH and dissolved oxygen conditions. At the upstream site ***(PD-042)***, aquatic life uses are not supported due to dissolved oxygen and pH excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. There is also a significant increasing trend in turbidity. There is a significant decreasing trend in pH. Significant decreasing trends in five-day biochemical oxygen demand and total phosphorus concentration suggest improving conditions for these parameters. Recreational uses are fully supported at this site. At the midstream site ***(PD-189)***, aquatic life and recreational uses are fully supported. Although pH and dissolved oxygen excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Significant decreasing trends in five-day biochemical oxygen demand, total phosphorus concentration, and total nitrogen concentration suggest improving conditions for these parameters. At the furthest downstream site ***(PD-350)***, aquatic life and recreational uses are again fully supported. Although pH and dissolved oxygen excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Significant decreasing trends in five-day biochemical oxygen demand and total nitrogen concentration suggest improving conditions for these parameters.

Reedy Creek (RS-01042) – Aquatic life and recreational uses are fully supported. This is a blackwater system, characterized by naturally low dissolved oxygen conditions. Although dissolved oxygen excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations.

Palmetto Swamp (PD-702) – Aquatic life uses are fully supported based on macroinvertebrate community data.

A fish consumption advisory has been issued by the Department for mercury and includes the ***Little Pee Dee River*** and ***Russ Creek*** *within this watershed* *(see advisory p.130).*

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-017	GB	BLACK CREEK	MULLINS-GAPWAY

NPDES Program

Active NPDES Facilities

RECEIVING STREAM FACILITY NAME PERMITTED FLOW @ PIPE (MGD)	NPDES# TYPE COMMENT
WHITE OAK CREEK CITY OF MULLINS/WHITE OAK CK WWTP PIPE #: 001 FLOW: 2.75	SC0029408 MAJOR DOMESTIC
LITTLE REEDY CREEK APAC-CAROLINA/RAINES PLT PIPE #: 001 FLOW: M/R	SCG730025 MINOR INDUSTRIAL
BLACK CREEK SUPERIOR SAND LLC/BLACK CREEK MINE PIPE #: 001 FLOW: M/R	SCG730635 MINOR INDUSTRIAL
BROWN SWAMP BAKER BROTHERS/HARRELSON MINE PIPE #: 001 FLOW: M/R	SCG730120 MINOR INDUSTRIAL
BROWN SWAMP TRIBUTARY T & J BUILDERS INC./TODD MINE PIPE #: 001 FLOW: M/R	SCG730549 MINOR INDUSTRIAL
GILES BAY TRIBUTARY SANDLANDS C&D LANDFILL PIPE #: 001 FLOW: M/R	SCG730098 MINOR INDUSTRIAL
HUNTING SWAMP TRIBUTARY COASTAL SAND, LLC/BRUTON MINE PIPE #: 001 FLOW: M/R	SCG731007 MINOR INDUSTRIAL

LITTLE PEE DEE RIVER TRIBUTARY CAROLINA SAND/PEE DEE MINE PIPE #: 001 FLOW: M/R	SCG730564 MINOR INDUSTRIAL
DWIGHT CREEK WEAVER CO./CANNON SPRINGS PIPE #: 001 FLOW: M/R	SCG730562 MINOR INDUSTRIAL
BOYD CANAL CAVU INC./BUCK MINE PIPE #: 001 FLOW: M/R	SCG730036 MINOR INDUSTRIAL
BOYD CANAL G & G MINING CO./G & G MINE PIPE #: 001 FLOW: M/R	SCG730482 MINOR INDUSTRIAL
LITTLE PEE DEE RIVER TRIBUTARY DIVERSIFIED LCC/DIVERSIFIED MINE PIPE #: 001 FLOW: M/R	SCG730679 MINOR INDUSTRIAL

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME ***FACILITY TYPE***	***PERMIT #*** ***STATUS***
MARION COUNTY LANDFILL MUNICIPAL	DWP-068 CLOSED
MARION COUNTY C&D LANDFILL C&D	341001-1201 ACTIVE
MARION COUNTY WOOD CHIPPING COMPOSTING	341001-3001 ACTIVE
MARION COUNTY LANDFILL MUNICIPAL	341001-1101 INACTIVE
JOHN E TAYLOR C&D LANDFILL C&D	PROPOSED ----------
G&G MINING CO. COMPOSTING SITE COMPOSTING	262667-3001 ACTIVE
SANDLANDS C&D LANDFILL C&D	342729-1201; 342729-1202 ACTIVE
CITY OF MULLINS MUNICIPAL	041101-1102 INACTIVE
CITY OF MULLINS SANITARY LANDFILL MUNICIPAL	--------- INACTIVE

CITY OF MULLINS C&D	341002-1201 ACTIVE

Land Application Sites

LAND APPLICATION SYSTEM ***FACILITY NAME***	***ND#*** ***TYPE***
SPRAYFIELD TOWN OF CENTENARY	ND0069361 DOMESTIC
PERCOLATION LAGOON LOCUST TREE DEVELOPMENT	ND0080721 DOMESTIC

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
CAROLINA SAND, INC. BRITTONS NECK MINE	0725-67 SAND
OUTBACK SOURCE, LLC BLACK ISLAND PRESERVE 1	1725-67 SAND/CLAY
COASTAL SAND LLC LARRIMORE MINE	1713-67 SAND
SANDHILLS C&D LLC CREPE MYRTLE MINE	1762-67 SAND
APAC-ATLANTIC, INC. RAINS	0977-67 SAND
SUPERIOR SAND LLC SUPERIOR SAND MINE	1003-51 SAND
DALES LAND CONSTRUCTION LLC ALLEN DEW MINE	1573-51 SAND
WEAVER CO., INC. CANNON SPRING MINE	0467-51 LIMESTONE
CAROLINA SAND, INC. PEE DEE MINE	0707-67 SAND
G & C MINING CO., INC. G & C MINE	0222-51 LIMESTONE
CAVU, INC. BUCK MINE	1046-51 SAND
SANDLANDS C&D, LLC BRITTONS NECK NO.2	1146-67 SAND/CLAY
D & L SITEWORK, INC. CATES BAY HWY MINE	1562-51 SAND

WEAVER CO., INC. CANNON SPRING MINE	1176-51 SAND; SAND/CLAY
BURNIE F. JORDAN JORDAN'S DIRT PIT	1280-51 SAND
T & J BUILDERS, INC. TODD MINE	1553-51 SAND
JAYCO, INC. RICHARDSONS LAKE	1596-67 SAND
DIVERSIFIED, LLC DIVERSIFIED MINE	1581-67 SAND

Water Quantity

Portions of this watershed fall within the Waccamaw Capacity Use Area and large groundwater uses must be reported (see Capacity Use Program p.27).

Growth Potential

There is a low potential for growth in this watershed, which contains the Towns of Centenary and Rains, and a portion of the City of Mullins. The Town of Aynor is adjacent to the watershed. A portion of the U.S. Hwy. 501 corridor, running from the City of Marion to the City of Conway, crosses this watershed. Water infrastructure is located in and around the Town of Aynor, but only the U.S. Hwy. 501 corridor in the Town of Aynor is sewered. There are plans to construct sewerage infrastructure along U.S. Hwy. 501 from Aynor to Conway. It is likely that additional residential, commercial, and industrial development will occur along this corridor in the future. U.S. Hwy. 76, between the Cities of Marion and Mullins, has both water and sewer services and prime industrial properties may encourage commercial and industrial growth in the watershed. There is a relatively extensive rural water system serving the watershed, and an extension of this system into the Britton's Neck area is scheduled over the next several years. The proposed Preferred Alternative route of I-73 (Southern Corridor) would cross this watershed and could bring some growth to the area, especially around interchanges.

Watershed Restoration and Protection

Total Maximum Daily Loads (TMDLs)

A TMDL was developed by SCDHEC and approved by EPA for ***White Oak Creek*** water quality monitoring site ***PD-037*** to determine the maximum amount of fecal coliform bacteria it can receive and still meet water quality standards. Fecal coliform sources may include a combination of nonpoint sources including stormwater runoff from the Town of Mullins, failing septic systems, and both pets and wildlife. The TMDL states that a 91% reduction in fecal coliform loading is necessary for the stream to meet the water quality standard.

03040207-01

(Sampit River)

General Description

Watershed 03040207-01 (formerly 03040207-030) is located in Georgetown County and consists primarily of the ***Sampit River*** and its tributaries. The watershed occupies 105,260 acres of the Lower Coastal Plain and Coastal Zone regions of South Carolina. Land use/land cover in the watershed includes: 48.4% forested land, 19.8% forested wetland, 12.8% agricultural land, 8.7% scrub/shrub land, 5.0% urban land, 3.4% nonforested wetland, 1.6% water, and 0.3% barren land.

Bond Swamp (Boety Bay, Mackey Bay, Bind Bay, Canaan Bay, Ditch Branch, Canaan Branch, Summons Swamp) flows into Boggy Swamp (Cherryhill Swamp, Machine Branch, Britt Branch), which forms the Sampit River. The Sampit River accepts drainage from Spring Gully, Little Kilsock Bay, Ports Creek, Canaan Branch, Pennyroyal Creek (Big Kilsock Bay, Flat Bay, Turkey Creek), and Whites Creek before draining into Winyah Bay. There are a total of 166.1 stream miles, 819.8 acres of lake waters, and 1,033.5 acres of estuarine areas in this watershed. The upper reaches of the watershed, including Boggy Swamp and its tributaries are classified FW* (dissolved oxygen not less than 4.0 mg/l and pH between 5.0 and 8/5). The Sampit River is classified FW*/SB dependent on the freshwater inflow from its neighboring rivers (the Great Pee Dee and Waccamaw Rivers), and the remaining streams in the watershed are classified FW.

Surface Water Quality

Station #	Type	Class	Description
MD-075	P/W	SB/FW*	SAMPIT RIVER BETWEEN MOUTHS OF PORTS CREEK & PENNYROYAL CREEK
MD-076N	S/W	FW	TURKEY CREEK S-22-42 SW OF GEORGETOWN
MD-149	P/W	FW	WHITES CREEK 100 YDS UPSTREAM OF JUNCTION WITH SAMPIT RIVER
MD-077	P/INT	SB/FW*	SAMPIT RIVER AT US 17
MD-073	P/W	SB/FW*	SAMPIT RIVER OPPOSITE AMERICAN CYCNAMID CHEMICAL CO.
MD-074	S/W	SB/FW*	SAMPIT RIVER AT CHANNEL MARKER #30

Sampit River **–** There are four SCDHEC monitoring sites along the Sampit River, and recreational uses are supported at all sites. This is a tidally influenced system with limited flushing and significant marsh drainage characterized by naturally low pH and dissolved oxygen conditions. At the furthest upstream site ***(MD-075)***, aquatic life uses are not supported due to dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. Although pH excursions occurred, they were typical of values seen in tidally influenced systems and were considered natural, not standards violations. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter.

At the next two sites downstream ***(MD-077, MD-073)***, aquatic life uses are partially supported due to dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. Although pH excursions occurred, they were typical of values seen in tidally influenced systems and were considered natural, not standards violations.

Significant decreasing trends in five-day biochemical oxygen demand and total nitrogen concentration suggest improving conditions for these parameters. At the furthest downstream site ***(MD-074)***, aquatic life uses are fully supported. Although pH and dissolved oxygen excursions occurred, they were typical of values seen in tidally influenced systems and were considered natural, not standards violations. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter.

Turkey Creek (MD-076N) –Aquatic life uses are not supported due to pH excursions. There is also a significant increasing trend in five-day biochemical oxygen demand. This is a tidally influenced system with limited flushing and significant marsh drainage characterized by naturally low dissolved oxygen conditions. Although dissolved oxygen excursions occurred, they were typical of values seen in blackwater systems and tidally influenced systems with significant marsh drainage and were considered natural, not standards violations. There is a significant decreasing trend in pH. Recreational uses are fully supported and a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter.

Whites Creek (MD-149) – This is a tidally influenced system with limited flushing and significant marsh drainage characterized by naturally low pH conditions. Aquatic life uses are not supported due to dissolved oxygen excursions and occurrences of copper in excess of the aquatic life acute criterion, which are compounded by a significant decreasing trend in dissolved oxygen concentration. There is also a significant increasing trend in turbidity. Although pH excursions occurred, they were typical of values seen in tidally influenced systems and were considered natural, not standards violations. A significant decreasing trend in five-day biochemical oxygen demand 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 the ***Sampit River*** *within this watershed* *(see advisory p.130).*

NPDES Program

Active NPDES Facilities

RECEIVING STREAM	***NPDES#***
FACILITY NAME	***TYPE***
PERMITTED FLOW @ PIPE (MGD)	***COMMENT***
SAMPIT RIVER	SC0000868
INTERNATIONAL PAPER CO./GEORGETOWN	MAJOR INDUSTRIAL
PIPE #: 001 FLOW: 27.4	
SAMPIT RIVER	SC0036111
3V, INC.	MAJOR INDUSTRIAL
PIPE #: 001 FLOW: 4.621	

SAMPIT RIVER CITY OF GEORGETOWN WWTP PIPE #: 001 FLOW: 12.0	SC0040029 MAJOR DOMESTIC
SAMPIT RIVER CITY OF GEORGETOWN/WTP PIPE #: 001 FLOW: M/R	SCG645013 MINOR INDUSTRIAL
SAMPIT RIVER ISG GEORGETOWN INC. PIPE #: 001 FLOW: 0.629 PIPE #: 002 FLOW: 0.21	SC0001431 MAJOR INDUSTRIAL
TURKEY CREEK SCPSA/WINYAH STEAM STATION PIPE #: 001 FLOW: M/R	SC0022471 MAJOR INDUSTRIAL
TURKEY CREEK TRIBUTARY INTERNATIONAL PAPER CO./SANTEE PIPE #: 001 FLOW: M/R	SC0042960 MINOR INDUSTRIAL
WHITES CREEK CWS/WHITES CREEK-LINCOLNSHIRE SD PIPE #: 001 FLOW: 0.125	SC0030732 MINOR DOMESTIC

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME ***FACILITY TYPE***	***PERMIT #*** ***STATUS***
INTERNATIONAL PAPER, INC. LANDFILL INDUSTRIAL	222435-1601 ACTIVE
INTERNATIONAL PAPER, INC. INDUSTRIAL	------------ INACTIVE
STONE MANUFACTURING CO. INDUSTRIAL	------------ INACTIVE
GEORGETOWN STEEL CORPORATION INDUSTRIAL	------------ INACTIVE
INTERNATIONAL PAPER, INC. LANDFILL LAND APPLICATION	222654-8001 ACTIVE
INTERNATIONAL PAPER, INC. LANDFILL LAND APPLICATION	222654-8002 ACTIVE
FRASIER COMPOSTING SITE COMPOSTING	222679-3001 ACTIVE
HAMMOND WOOD RECYCLING #3 COMPOSTING	222660-3001 INACTIVE

MCKENZIE WOOD CHIPPING COMPOSTING	222732-3001 ACTIVE
MILLER WOOD PROCESSING FACILITY COMPOSTING	222763-3001 ACTIVE
AMERICAN CYANAMID INDUSTRIAL	IWP-070 INACTIVE

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
STONE CONSTRUCTION CO. SAMPIT MINE	1639-43 SAND
RICHARDSON CONSTRUCTION CO. HARMONY TOWNSHIP LAKES 1&2	1655-43 SAND

Water Quantity

Portions of this watershed fall within the Waccamaw Capacity Use Area and large groundwater uses must be reported (see Capacity Use Program p.27).

Growth Potential

There is a moderate to high potential for growth in this watershed, which contains the City of Georgetown and is adjacent to the Town of Andrews. Water and sewer infrastructure are located in and immediately around these municipalities, and also southeast of Georgetown, which supports an industrial area. The U.S. 521 corridor between Andrews and Georgetown is forecasted to be widened to four lanes and would increase the potential for growth. There are currently five industrial areas in the watershed, one south of Andrews and four located in or near the City of Georgetown. Based on the location of facilities and infrastructure required by many industries (a shipping port, rail lines, commercial air service, highway access, and water and sewer infrastructure), the eastern edge of the watershed has the potential for significant industrial growth. Outside these areas, the watershed is rural with agricultural uses and timberlands.

03040207-02

(Great Pee Dee River/Winyah Bay)

General Description

Watershed 03040207-02 (formerly 03040201-160, 03040201-170, and a portion of 03040207-040) is located in Marion, Florence, Williamsburg, Georgetown, and Horry Counties and consists primarily of the final segment of the ***Great Pee Dee River*** from the Lynches River through ***Winyah Bay*** and their tributaries. The watershed occupies 259,235 acres of the Lower Coastal Plain and Coastal Zone regions of South Carolina. Land use/land cover in the watershed includes: 30.0% forested wetland, 22.6% forested land, 20.3% water, 14.2% agricultural land, 6.9% nonforested wetland, 3.2% scrub/shrub land, 2.4% urban land, and 0.4% barren land.

This lowest section of the Great Pee Dee River accepts drainage from its upper reaches, together with Crooked Lake, Negro Lake Run (Maple Swamp), and Clark Creek (Muddy Creek, Mill Creek, Soccee Swamp, Island Branch, Cedar Branch). Apple Orchard Slough and Staple Lake connect Clark Creek to the river. Further downstream, the river accepts drainage from Jacobs Creek, Port Creek (Flat Run Swamp, Boser Swamp, Squirrel Run Bay, Pennyroyal Swamp, Bells Swamp, Tyler Creek), Larrimore Gully, Gravel Gully Branch, and Jordan Lake (Jordan Creek). Dog Lake and several unnamed oxbow lakes drain into the river. Conch Creek (Sally Branch) enters the river next, followed by Bradley Branch (Sheep Pen Branch), and Bull Creek (Cowford Swamp, Horsepen Branch). Also draining into the Great Pee Dee River are Vandross Bay, Yauhannah Creek (Tupelo Bay), Pole Castle Branch, St. Pauls Branch, Cypress Creek, and Chapel Creek. Little Bull Creek connects Bull Creek to the Great Pee Dee River and Cooter Creek (Joe Bay) connects Little Bull Creek to Thoroughfare Creek. Streams that connect the Great Pee Dee River to the Waccamaw River include Bull Creek, Thoroughfare Creek, Guendalose Creek/Bullins Creek, Squirrel Creek, Jericho Creek, and Middleton Cut. Carr Creek and Little Carr Creek connect the Great Pee Dee River to Jericho Creek. The streams are classified FW from the beginning of the watershed to the Great Pee Dee River's confluence with Thoroughfare Creek. Downstream of the confluence, the river is classified SB* (dissolved oxygen not less than daily average of 5.0 mg/l with a minimum of 4.0 mg/l) and its tributaries are classified SB. Clark Creek and Muddy Creek are classified FW* (dissolved oxygen not less than 4.0 mg/l and pH between 5.0 and 8.5) and the remaining streams mentioned above are classified FW.

The Great Pee Dee River Watershed accepts drainage from the Sampit River Watershed and the Waccamaw River Watershed to form Winyah Bay, which is classified SB and drains into the Atlantic Ocean. White Oak Bay drains into the upper portion of Winyah Bay, and Kinloch Creek and Mosquito Creek (Lagoon Creek) drain into both Winyah Bay and North Santee Bay (in Santee River Basin), all classified SB. Esterville Minim Creek Canal (SA) runs along Cat Island and connects the North Santee Bay to Winyah Bay through the Western Channel (SB). Mud Bay (SB) drains into Winyah Bay and accepts drainage from No Mans Friend Creek (SB), Haulover Creek

(SB), Sign Creek (SB), Jones Creek (Dividing Creek-SB, Nancy Creek-SB, Little Jones Creek-SFH, Boor Creek-ORW, Noble Slough-SB), and Cotton Patch Creek (SB). Jones Creek (SB, SFH, ORW) connects Mud Bay to North Inlet. Oyster Bay (SB) connects Jones Creek to Town Creek (Sawmill Creek-SB, Cutoff Creek-SFH), both draining to Winyah Bay and North Inlet. There are a total of 351.9 stream miles, 629.6 acres of lake waters, and 16,642.3 acres of estuarine areas in this watershed.

Surface Water Quality

Station #	Type	Class	Description
PD-060	W/INT	FW	Pee Dee River at Peters Field Landing off S-22-36
PD-061	P/W	FW	Pee Dee River at US 701 2.75 mi NE of Yauhannah
MD-275	INT	SB*	Pee Dee River at White House Plantation
MD-080	P/W	SB	Winyah Bay at Marker 92 at mouth of Pee Dee and Waccamaw Rivers
RO-02012	RO02	SB	Winyah Bay near mouth of Sampit River
RO-01121	RO01	SB	Winyah Bay , 1.75 mi E of Georgetown
RO-01161	RO01	SB	Winyah Bay , 3 mi S of Georgetown
RS-03331	RS03	FW	Trib to Winyah Bay at S-22-18, 0.6 mi NW of intersection W S-22-30
RO-02010	RO02	SB	Winyah Bay W Channel at mouth of Esterville Minum Creek Canal
MD-278	INT	SB	Winyah Bay main channel, Buoy 19A range E (05-20)

Great Pee Dee River* -** There are three SCDHEC monitoring sites along this section of the Great Pee Dee River and recreational uses are supported at all sites. At the upstream site ***(PD-060), aquatic life uses are not supported due to occurrences of copper in excess of the aquatic life acute criterion. Significant decreasing trends in five-day biochemical oxygen demand and increasing trends in dissolved oxygen concentration suggest improving conditions for these parameters. At the midstream site ***(PD-061)***, aquatic life uses are fully supported. This is a blackwater system, characterized by naturally low pH and dissolved oxygen conditions. Although pH and dissolved oxygen excursions occurred, they were typical of values seen in swamps and blackwater systems and were considered natural, not standards violations. Significant decreasing trends in five-day biochemical oxygen demand and fecal coliform bacteria concentration suggest improving conditions for these parameters. A very high concentration of cadmium and a high concentration of zinc were measured in the 2003 sediment sample. At the downstream site ***(MD-275)***, aquatic life uses are not supported due to dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. This monitoring site is located in the freshwater-saltwater mixing zone. Although pH excursions occurred, the low values exemplify the natural transition of the river and are typical of values seen in tidally influenced systems with significant marsh drainage. As such they were considered natural, not standards violations.

Winyah Bay* –** There are six SCDHEC monitoring sites along Winyah Bay. The furthest upstream site ***(MD-080) is at the mixing zone of the Pee Dee and Waccamaw Rivers and Winyah Bay waters. It takes on the natural blackwater characteristics of low pH conditions from draining rivers systems and tidally influenced systems with significant marsh drainage and limited flushing. Aquatic life and recreational uses are fully supported. 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. Significant decreasing trends in total nitrogen concentration and fecal coliform bacteria concentration suggest improving conditions for these parameters. Stations ***RO-02012, RO-01121, RO-01161***, and ***RO-02010*** all fully support aquatic life and recreational uses. Aquatic life uses are partially supported at ***MD-278*** due to dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. Recreational uses are fully supported at this site; however, there is a significant increasing trend in fecal coliform bacteria concentration. *Fish tissue samples from Winyah Bay indicate no advisories are needed at this time.*

Unnamed Tributary to Winyah Bay (RS-03331) – Aquatic life and recreational uses are fully supported.

*A fish consumption advisory has been issued by the Department for mercury and includes **Clark Creek,** the **Great Pee Dee River,** and the **Atlantic Intracoastal Waterway** within this watershed (see advisory p.130).*

Shellfish Monitoring Stations

Station #	Description
05-01	JONES CREEK AT NANCY CREEK
05-02	NOBLE SLOUGH
05-05	OYSTER BAY NEAR CUTOFF CREEK
05-06	NO MAN'S FRIEND CREEK AT MUD BAY
05-07	JONES CREEK AT MUD BAY
05-20	WINYAH BAY MAIN CHANNEL, BUOY 19A, RANGE E
05-21	WINYAH BAY MAIN CHANNEL, BUOY 17, RANGE E
05-24	WINYAH BAY MAIN CHANNEL, COAST GUARD DOCK, RANGE C
05-25	WINYAH BAY, TIP OF WESTERN CHANNEL ISLAND

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-050	GB	MIDDENDORF	HEMMINGWAY
AMB-012	GB	BLACK CREEK	GEORGETOWN #2

NPDES Program

Active NPDES Facilities

RECEIVING STREAM FACILITY NAME PERMITTED FLOW @ PIPE (MGD)	NPDES# TYPE COMMENT
BOSER SWAMP GCSD/DEEP CREEK ELEM SCHOOL PIPE #: 001 FLOW: 0.009	SC0039195 MINOR DOMESTIC

FLAT RUN SWAMP GCSD/PLEASANT HILL ELEM SCHOOL PIPE #: 001 FLOW: 0.018	SC0039101 MINOR DOMESTIC
MAPLE SWAMP CAROLINA SAND INC./BRITTONS NECK PIPE #: 001 FLOW: M/R	SCG730043 MINOR INDUSTRIAL
MAPLE SWAMP JAYCO/CANNONS LAKE MINE PIPE #: 001 FLOW: M/R	SCG730538 MINOR INDUSTRIAL
CHAPEL CREEK TRIBUTARY GCW&SD/PLANTERSVILLE EDR PIPE #: 001 FLOW: M/R	SCG645051 MINOR DOMESTIC
CLARK CREEK TOWN OF HEMINGWAY/WWTP PIPE #: 001 FLOW: 0.45	SC0039934 MINOR DOMESTIC

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME ***FACILITY TYPE***	***PERMIT #*** ***STATUS***
TOWN OF HEMINGWAY DUMP MUNICIPAL	----------- CLOSED
TOWN OF HEMMINWAY COMPOSTING SITE COMPOSTING	451003-3001 ACTIVE
THOMPSONS LAND CLEARING COMPOSTING	222678-3001 ACTIVE
GEORGETOWN COUNTY AIRPORT INDUSTRIAL	IWP-194 INACTIVE

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
CAROLINA SAND, INC. GRESHAM MINE NECK SAND MINE #2	0899-67 SAND
JAYCO INC. BACCHUS LAKE MINE	1682-67 SAND
JAYCO INC. CANNONS LAKE MINE	1552-67 SAND
BEN COX CO. WHITE HALL SAND MINE	1675-67 SAND

AMERICAN MATERIALS CO. RICHARDSON MINE	1765-67 SAND/GRAVEL
CAROLINA SAND INC. JOHNSON ROAD MINE	1704-67 SAND
JAYCO INC. CHARLIE RICHARDSONS LAKE MINE	1776-67 SAND

Water Quantity

Portions of this watershed fall within the Waccamaw Capacity Use Area and large groundwater uses must be reported (see Capacity Use Program p.27).

WATER USER ***STREAM***	***REGULATED CAPACITY (MGD)*** ***PUMPING CAPACITY (MGD)***
CITY OF GEORGETOWN GREAT PEE DEE RIVER	5.2 10.5
GSW&SA/BULL CREEK REGIONAL WTP BULL CREEK	50.87 60.42

Growth Potential

There is an overall low potential for growth in this watershed, which contains the Towns of Hemingway, Bucksport, and Pawleys Island, the City of Johnsonville, and a portion of the City of Georgetown. Hemingway and Johnsonville have water and sewer infrastructure, but outside of the area, the Pee Dee River area is rural with primarily agricultural uses and timberlands. The area surrounding the City of Georgetown is expected to grow. The Georgetown treatment facility expanded to 12.0 MGD to allow more growth. Water infrastructure is located in the Plantersville community and areas closer to the City of Georgetown. The portion of the Georgetown area within this watershed should see primarily commercial and residential growth. The northern most area is expected to experience a high population increase, a medium increase is expected along the south side of Winyah Bay and the remaining area is only expected to experience a low increase due to lands protected from development by land trusts.

Pee Dee Coastal Frontage Basin

The ***Pee Dee Coastal Frontage Basin (hydrologic unit 03040208, formerly a portion of 03040207)*** is located in Horry and Georgetown Counties, and encompasses 2 watersheds and 358 square miles. This coastal frontage drains directly into the Atlantic Ocean. The Coastal Basin incorporates the Lower Coastal Plain and Coastal Zone regions. Of the 228,914 acres, 59.2% is water, 14.7% is urban land, 8.8% is forested wetland, 6.7% is forested land, 5.2% is nonforested wetland, 3.5% is agricultural land, 1.2% is barren land, and 0.7% is scrub/shrub land. The urban land percentage is comprised chiefly of the Cities of Myrtle Beach and North Myrtle Beach. There are approximately 92 stream miles in this basin, 155 acres of lake waters, and 3,521 acres of estuarine areas. The Little River flows back and forth across the SC/NC state line forming a portion of the AIWW and draining to the Atlantic Ocean through the Little River Inlet. The Grand Strand Beaches and their swashes all drain to the Atlantic in this watershed, as does Murrells Inlet, Pawleys Inlet, and North Inlet and their tributaries.

Physiographic Regions

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

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 U.S. Geological Survey's National Land Cover Data (NLCD), 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, as well as vegetated portions of urban areas.

Agricultural/Grass land is characterized by cropland, pasture, and orchards and may include some grass cover in Urban, Scrub/Shrub and Forest areas.

Scrub/Shrub land is adapted from the western Rangeland classification to represent the "fallow" condition of the land (currently unused, yet vegetated), and is most commonly found in the dry Sandhills region including areas of farmland, sparse pines, regenerating forest lands, and recently harvested timber lands.

Forest land is characterized by deciduous and evergreen trees not including forests in wetland settings.

Forested Wetland (swampland) is the saturated bottomland, mostly hardwood forests that are primarily composed of wooded swamps occupying river floodplains and isolated low-lying wet areas, primarily located in the Coastal Plain.

Nonforested Wetland (marshland) is dependent on soil moisture to distinguish it from scrub/shrub since both classes contain grasses and low herbaceous cover; nonforested wetlands are most common along the coast and isolated freshwater areas found in the Coastal Plain.

Barren land is characterized by an unvegetated condition of the land, both natural (rock, beaches and unvegetated 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 and tidal waters.

Soil Types

The individual soil series for the Pee Dee Coastal Frontage Basin are described as follows.

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

Lakeland soils are well drained, sandy soils with 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.

Lynnhaven soils are poorly drained sandy soils, with sandy subsoil, in low areas, and prone to ponding.

Newhan soils are excessively drained, very rapidly permeable soils that formed in sandy marine sediment, nearly level to gently sloping, adjacent to beaches and waterways along the coastline.

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 Pee Dee Coastal Frontage Basin is from 0.10 to 0.16.

Fish Consumption Advisory

At the time of publication, a fish consumption advisory issued by SCDHEC is in effect for the ***Intracoastal Waterway (AIWW)*** 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 March. For background information and the most current advisories please visit www.scdhec.gov/fish. For more information or a hard copy of the advisories, call SCDHEC's Division of Health Hazard Evaluation toll-free at (888) 849-7241.

Climate

Normal yearly rainfall in the Pee Dee Coastal Frontage Basin area during the period of 1971 to 2000 was 54.68 inches, according to South Carolina's **30-year** climatological record. Data compiled from National Weather Service stations in Conway, Brookgreen Gardens, and Georgetown were used to determine the general climate information for this portion of the State. The highest level of rainfall occurs in the summer with 18.21 inches; 13.19, 12.06, and 11.21 inches of rain falling in the fall, winter, and spring, respectively. The average annual daily temperature is 64.5 °F. Winter temperatures averaged 48.9°F, spring temperatures averaged 63.7 °F and summer and fall mean temperatures were 79.2 °F and 66.0 °F, respectively.

Watershed Evaluations

03040208-03

(Little River/AIWW/Murrells Inlet)

General Description

The South Carolina portion of 03040208-03 (formerly 03040207-020) is a *coastal frontage basin* located in Horry and Georgetown Counties and consists primarily of the ***Little River*** and the ***Atlantic Intracoastal Waterway (AIWW)*** and their tributaries from Myrtle Beach northward to the North Carolina state line and the Little River Inlet, and streams draining directly into the ***Atlantic Ocean*** from the "Grand Strand" beaches southward to ***Murrells Inlet***. The watershed occupies 175,584 acres of the Coastal Zone region of South Carolina. Land use/land cover in the watershed includes: 57.5% water, 18.0% urban land, 7.6% forested wetland, 6.6% forested land, 4.1% agricultural land, 3.6% scrub/shrub land, 1.4% nonforested wetland, and 1.2% barren land.

The Little River is a tidal river and flows in both directions, from Little River Inlet to the AIWW, according to the tides. The Little River flows across the North Carolina state line and accepts drainage from Mullet Creek, Calabash Creek, Milliken Cove, and Horseford Creek. Dunn Sound Creek connects Little River Inlet to Dunn Sound, as does Sheephead Creek. Eden Saltworks Creek connects Dunn Sound to Hog Inlet, and House Creek connects Hog Inlet to Cherry Grove Inlet. Also draining into Cherry Grove Inlet are Williams Creek, Salt Flat Creek, and Nixon Creek.

The portion of the AIWW in this watershed accepts drainage from Little River Swamp, Prices Swamp, Camp Branch Run, White Point Creek (Long Pond), Long Branch, Canepatch Swamp, and Black Creek before flowing through Little River. Withers Swamp drains off of the AIWW in Myrtle Beach. Singleton Swash, Bear Creek, Canepatch Swash, Withers Swash, and Pebble Beach or Midway Swash drain directly into the Atlantic Ocean. Whale Creek, Main Creek, Woodland Creek, Parsonage Creek, Flagg Creek, Allston Creek, Oaks Creek, and Oyster Cove all drain to the ocean through Murrells Inlet. There are a total of 91.5 stream miles, 148.8 acres of lake waters, and 2,365.7 acres of estuarine areas in this watershed. All streams in the watershed are classified SFH with the exception of the AIWW. The AIWW and its tributaries from the crossing of S.C. Hwy 9 to the North Carolina state line are classified SA, and southward from the S.C. Hwy 9 crossing are classified FW. Huntington Beach State Park is a natural resource in the watershed.

Surface Water Quality

Station #	Type	Class	Description
MD-162	P/W	SA	LITTLE RIVER AT S END OF ISLAND DUE E OF TOWN
MD-125	S/INT	FW/SA	AIWW (LITTLE RIVER) ON SC 9 (US 17)
MD-091	S/W	FW	AIWW 4 MI N OF BRIDGE ON US 501
MD-276	INT	SFH	HOUSE CREEK AT 53RD AVE OUT FROM BOAT LANDING (01-19)
MD-277	INT	SFH	PARSONNAGE CREEK AT INLET PORT BASIN (04-17)
RT-01655	RT01	SFH	ALLSTON CREEK, 10 MI SSE OF SOCASTEE

MD-085	S/INT	FW	AIWW AT POINT 3 MI N OF BRIDGE ON US 501
MD-087	P/W	FW	AIWW JUST N OF BRIDGE ON US 501

Little River (MD-162) – Aquatic life uses are fully supported. Although there were pH excursions, these were typical of values seen in tidally influenced systems with limited flushing and significant marsh drainage. As such they were considered to be natural in origin, and are not considered to be standards violations. There is a significant increasing trend in pH. Recreational uses are fully supported and a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter.

Atlantic Intracoastal Waterway – There are four SCDHEC monitoring sites along this section of the AIWW. Recreational uses are fully supported at **all sites** and significant decreasing trends in fecal coliform bacteria concentration suggest improving conditions for this parameter at **all sites.** This section of the AIWW is influenced by tidal pressures from both the Little River and the Winyah Bay ends, so flushing and mixing are limited, causing a bathtub effect whereby the water moves back and forth, but takes a long time to actually move out of the waterway. At the furthest upstream site ***(MD-085)***, aquatic life uses are fully supported; however, there is a significant increasing trend in turbidity. There is a significant increasing trend in pH. Although dissolved oxygen excursions occurred, they were typical of values seen in tidally influenced systems with limited flushing and significant marsh drainage and were considered natural, not standards violations. A significant increasing trend in dissolved oxygen suggests improving conditions for this parameter.

At the next downstream site ***(MD-087)***, aquatic life uses are fully supported; however, there is a significant increasing trend in turbidity. Although dissolved oxygen and pH excursions occurred, they were typical of values seen in tidally influenced systems with limited flushing and significant marsh drainage and were considered natural, not standards violations. A significant decreasing trend in total nitrogen concentration suggests improving conditions for this parameter. Further downstream ***(MD-125)***, aquatic life uses are not supported due to occurrences of copper in excess of the aquatic life acute criterion. There is a significant increasing trend in pH. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter. At the furthest downstream site ***(MD-091)***, aquatic life uses are fully supported; however, there is a significant increasing trend in turbidity. Although dissolved oxygen and pH excursions occurred, they were typical of values seen in tidally influenced systems with limited flushing and significant marsh drainage and were considered natural, not standards violations.

House Creek (MD-276) – Aquatic life uses are not supported due to occurrences of copper in excess of the aquatic life acute criterion and dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. There is a significant decreasing trend in pH. Recreational uses are fully supported.

Parsonnage Creek (MD-277) – Aquatic life uses are partially supported due to dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. Recreational uses are fully supported.

Allston Creek (RT-01655) – Aquatic life and recreational uses are fully supported.

*A fish consumption advisory has been issued by the Department for mercury and includes the **Atlantic Intracoastal Waterway** and the **Atlantic Ocean** within this watershed (see advisory p.210).*

Shellfish Monitoring Stations

Station #	Description
01-01	Little River Jetty
01-02	Mouth of Dunn Sound Creek
01-03	AIWW - Marker #9 (d3-02)
01-04	Mouth of Calabash Creek at AIWW
01-05	Big bend up Dunn Sound Creek
01-06	Bridge to Waites Island
01-07	Hog Inlet
01-08	AIWW - Marker #116
01-09	AIWW - Marker #6
01-10	AIWW at U. S. Highway 17(d3-02)
01-11	Dock - Bird Island, North Carolina (1966-98)
01-12	Clayton Creek at Little River Inlet (1968-98)
01-13	Boat Landing - Bonaparte, North Carolina (1968-98)
01-14	Palmetto Shores Marina Entrance
01-15	Ocean Drive Outfall at AIWW
01-16	50 Yards North of Ocean Drive Outfall
01-17	42nd Avenue - Cherry Grove
01-17A	53rd Avenue Bridge on Canal
01-18	Dunn Sound at Hog Inlet
01-19	53rd Avenue at Main Creek
02-01	White Point Swash
02-02	Singleton Swash
02-03	Canepatch Swash
03-01	Withers Swash
03-02	Midway Swash - Pebble Beach
04-01	Main Creek at Atlantic Avenue Bridge
04-01A	Main Creek at Stanley Drive
04-02	Main Creek at Mickey Spillane's Home
04-03	Main Creek at Captain Dick's Marina
04-03A	Main Creek Southeast side of Prohibited area near Captain Dick's Marina
04-03B	AIWW - Marker #9 (d3-02)
04-04	Main Creek at Marlin Quay Marina
04-04A	Garden City Canal due E of Entrance to Flagg Creek
04-04B	Northern boundary of Marlin Quay closure zone – Main Creek
04-04C	Western boundary of Marlin Quay closure zone – Main Creek
04-05	Murrells Inlet - Range Marker
04-06	Allston Creek at Weston Flat
04-07	Allston Creek Pog - Hughes Landing
04-08	Parsonage Creek at Nance's Dock
04-08A	Oyster (Carr) Landing at Huntington Beach Station Park
04-16	Parsonage Creek at Chicken Farm Ditch
04-17	Parsonage Creek at Voyager View Basin

04-17A	Southwest Corner of Voyager View Marina Prohibited Zone in Parsonage Creek
04-18	North Boundary of Clambank Flats POG
04-22	Huntington State Park Pond Outfall - 23 Main Creek at Oyster Cove (1986-94)
04-23	Main Creek at Oyster Cover
04-24	Oaks Creek at First Curve
04-25	Main Creek at Flagg Creek
04-26	Garden City Canal at the "Old Boat Wreck"
04-27	Main Creek, Opposite Entrance to Mt. Gilead Canal
04-28	Oaks Creek, Approx. 150 Meters from the Huntington Beach State Park Causeway
04-29	Oyster Cove, South Branch
04-30	Oyster Cove, North Branch
04-31	Woodland Creek, 100 meters east of mainland

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-015	GB	Black Creek	Myrtlewood
AMB-014	GB	Black Creek	Surfside-Poplar Street

NPDES Program

Active NPDES Facilities

RECEIVING STREAM ***FACILITY NAME*** ***PERMITTED FLOW @ PIPE (MGD)***	***NPDES#*** ***TYPE*** ***COMMENT***
LITTLE RIVER TRIBUTARY LITTLE RIVER W&S PIPE #: 001 FLOW: M/R	SCG645018 MINOR DOMESTIC
ATLANTIC INTRACOASTAL WATERWAY GSW&SA/VEREEN WWTP PIPES #: 001 FLOW: 7.0	SC0041696 MAJOR DOMESTIC TOTAL FLOW IN 001-005 IS 7.0
CAROLINA BAYS GSW&SA/VEREEN WWTP PIPES #: 002-005 FLOW: 2.5	SC0041696 MAJOR DOMESTIC TOTAL FLOW IN 001-005 IS 7.0
ATLANTIC INTRACOASTAL WATERWAY CITY OF N. MYRTLE BEACH/OCEAN DRIVE PIPE #: 001 FLOW: 4.5	SC0022152 MAJOR DOMESTIC
ATLANTIC INTRACOASTAL WATERWAY CITY OF N. MYRTLE BEACH/CRESCENT BEACH PIPE #: 001 FLOW: 2.9	SC0022161 MAJOR DOMESTIC
ATLANTIC INTRACOASTAL WATERWAY CITY OF MYRTLE BEACH WTP PIPE #: 001 FLOW: M/R	SCG641012 MINOR DOMESTIC
ATLANTIC INTRACOASTAL WATERWAY MYRTLE BEACH FARMS CO., INC./BENTON MINE PIPE #: 001 FLOW: M/R	SCG730075 MINOR INDUSTRIAL

AIWW TRIBUTARY	SCG730351
PALMETTO LAND PARTNERS LLC/BAREFOOT PIT	MINOR INDUSTRIAL
PIPE #: 001 FLOW: M/R	
ATLANTIC INTRACOASTAL WATERWAY	SCG730081
P-MINING CO./P-MINING PIT #1	MINOR INDUSTRIAL
PIPE #: 001 FLOW: M/R	
ATLANTIC INTRACOASTAL WATERWAY	SCG730272
P-MINING CO./P-MINING PIT #2	MINOR INDUSTRIAL
PIPE #: 001 FLOW: M/R	
ATLANTIC INTRACOASTAL WATERWAY	SCG730576
VEREEN CONCRETE/SAND RIDGE MINE	MINOR INDUSTRIAL
PIPE #: 001 FLOW: M/R	
ATLANTIC OCEAN	SC0002097
USAF/MYRTLE BEACH AFB	MINOR INDUSTRIAL
PIPE #: 005 FLOW: 0.141	
WITHERS SWASH	SC0047953
AUX CORP./MYRTLE BEACH PLANT	MINOR INDUSTRIAL
PIPE #: 001 FLOW: 0.052	

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME	***PERMIT #***
FACILITY TYPE	***STATUS***
CITY OF MYRTLE BEACH DUMP	-----------
MUNICIPAL	CLOSED
CITY OF MYRTLE BEACH	-----------
INDUSTRIAL	CLOSED
CITY OF MYRTLE BEACH TRANSFER STA.	261003-6001
MUNICIPAL	ACTIVE
CITY OF N. MYRTLE BEACH TRANSFER STA.	261004-6001
MUNICIPAL	ACTIVE
VENTURE MANUFACTURING	342433-5201
INDUSTRIAL	ACTIVE
P-MINING COMPOSTING	262650-3001
COMPOSTING	ACTIVE
VEREEN COMPOSTING SITE	262484-3001
COMPOSTING	INACTIVE
DIRTY WORK INC.	222671-3001
COMPOSTING	INACTIVE

Mining Activities

MINING COMPANY / ***MINE NAME***	***PERMIT #*** / ***MINERAL***
P MINING CO. P MINING PIT	0776-51 LIMESTONE
P MINING CO. P MINING SITE II	1157-51 LIMESTONE
VEREEN CONCRETE CO., INC. SAND RIDGE	0928-51 SAND
PALMETTO LAND PARTNERS LLC BAREFOOT PIT	1407-51 LIMESTONE/COQUINA SAND
LIVINGSTON & SON SERVICES LIVINGSTON MINE	1178-51 SAND; SAND/CLAY
MYRTLE BEACH FARMS CO., INC. 79TH AVE. NORTH BORROW PIT	0362-51 SAND/CLAY

Water Quantity

Portions of this watershed fall within the Waccamaw Capacity Use Area and large groundwater uses must be reported (see Capacity Use Program p.27).

WATER USER / ***STREAM***	***REGULATED CAPACITY (MGD)*** / ***PUMPING CAPACITY (MGD)***
CITY OF MYRTLE BEACH AIWW	40.0 50.0

Growth Potential

There is a high potential for residential/resort and commercial growth in this watershed, which contains the Cities of North Myrtle and Myrtle Beach as well as the Towns of Atlantic Beach, and Surfside Beach. This "Grand Strand" area is expected to experience a significant increase in population as the popular tourist destination lures year-round residents. Water infrastructure is located throughout the watershed, and sewerage is available in the northern tip as well as in many of the residential/resort developments on the Waccamaw Neck. All developed areas on the Waccamaw Neck will have sewer services in the near future. The closing of the Myrtle Beach Air Force Base has opened the door for additional growth in industry and commerce in the Myrtle Beach area. The City of North Myrtle Beach has an interconnection with Grand Strand Water and Sewer Authority/Wetlands projects to handle additional wastewater flows in the North Myrtle Beach area, which should encourage additional growth. The proposed Preferred Alternative route of I-73 (Southern Corridor) would cross this watershed and could bring some growth to the area, especially around interchanges.

Watershed Protection and Restoration

Total Maximum Daily Loads (TMDLs)

A total maximum daily load (TMDL) for oxygen demanding substances has been developed for the main stem of the Waccamaw River and the Atlantic Intracoastal Waterway (AIWW) in watersheds 02040206-09, 03040206-10, and 03040208-030. The TMDL addresses 12 separate monitoring stations on the State's 1998 303(d) list of impaired waters. The TMDL, based on a maximum 0.1 mg/l deficit allowed in waters that do not meet applicable dissolved oxygen standards due to natural conditions, will result in a decrease of approximately 63% in the permitted oxygen demanding load discharged to the system. The decreased loadings are being implemented through the NPDES permitting system with new, more restrictive limits becoming final at the conclusion of appropriate compliance schedules.

Special Projects

Beach Monitoring Workgroup Results

The Department ceased collection of water samples in the surf zone in 1980 due to resource limitations. There were no ocean discharges of treated wastewater and other sources of ocean pollution were limited. Prior to 1980, data did not show violations of the water quality standards in the surf zone related to stormwater discharge. A Beach Monitoring workgroup, consisting of Department personnel and coastal municipal and county leaders, was initiated in response to concerns of stormwater inputs in South Carolina's surf zone. The consensus of the workgroup was that a voluntary baseline surf water quality project should be conducted to evaluate whether South Carolina needs to implement an ocean beach bacteria sampling program. The results of the study indicated that stormwater inflows via swashes and drain pipes are responsible for the observed high levels of bacteria in surf during wet weather. Recommendations from the workgroup include: ***Do not swim or allow children to play in swashes or stormwater***; ***in areas with swashes or stormwater outfalls, do not swim in the ocean during rainfall; educate and advise the public about the health risks of swimming; maintain a State/local partnership to regularly monitor surf in areas with beach stormwater discharges during swimming season***; ***reduce bacteria inputs to surface waters from residences and parks***; ***and prevent and control sources of pathogens to beaches from stormwater discharges and nonpoint sources***.
The findings of the workgroup support the posting of permanent signs at specific beach swashes and storm drain outfalls. A voluntary surf water quality monitoring program, with SCDHEC oversight, supported by local coastal municipalities and counties continues.

Development Implementation of a S.C. Coast-A-Syst

The S.C. Coast-A-Syst project targets homeowners living along the Atlantic Intracoastal Waterway (AIWW) and Socastee Creek (watershed 03040206-09) and the AIWW and Little River (watershed 03040208-03). Like much of the coast, these areas are experiencing rapid development and increased populations, while also harboring fragile water resources for recreation and marine ecology. High fecal coliform bacteria counts, water quality non-supportive of aquatic life because of low dissolved oxygen, and pH excursions exist in local waterbodies.

S.C. Sea Grant Consortium and Clemson University developed a program called South Carolina Coast-A-Syst. This product, modeled after the Home*A*Syst and Farm-A-Syst programs, is used to teach watershed residents and waterbody users responsible practices for protecting water quality, with the ultimate goal to reduce bacteria and nutrient input into nearby waterbodies from urban/suburban activities and land development. Research was conducted through surveys to determine what BMPs were appropriate for coastal South Carolina, where education about nonpoint source was lacking, and how best to reach homeowners in providing continued education. Education of coastal residents included identification of practices, which detrimentally affect water quality, reasons why those practices do so, and instructions in better water quality management practices.

Sea Grant Extension and Clemson Extension published a S.C. Coast-A-Syst packet, which includes self-assessments and fact sheets on homeowner practices. Sea Grant Extension trained Extension agents, Master Gardeners, and homeowner associations to administer this homestead self-assessment program, distribute the program and materials through homeowner associations and other public groups, provide support for the program through the Horry County Extension Service, and provide electronic distribution of the program via the world wide web.

03040208-04

(North Inlet)

General Description

Watershed 03040208-04 (formerly a portion of 03040207-040) is a *coastal frontage basin* located in Georgetown County and consists primarily of ***North Inlet***, ***Midway Inlet***, and ***Pawleys Inlet*** and their tributaries draining to the ***Atlantic Ocean***. The watershed occupies 53,330 acres of the Coastal Zone region of South Carolina. Land use/land cover in the watershed includes: 62.3% water, 12.4% forested wetland, 10.7% nonforested wetland, 7.0% forested land, 4.2% urban land, 1.5% agricultural land, 1.4% barren land, and 0.5% scrub/shrub land.

Jones Creek (SB, SFH, ORW) connects Mud Bay to North Inlet (ORW). Streams draining into Jones Creek above Oyster Bay include Wood Creek (Double Prong Creek, Little Wood Creek), Duck Creek, Perry Creek, and Bobs Garden Creek, all classified ORW. Town Creek (SA, SFH, ORW) drains to Mud Bay through Oyster Bay and to North Inlet. Town Creek accepts drainage from Sawmill Creek (SB), Cutoff Creek (SFH), and Mud Creek (SFH), together with Clambank Creek, Bread and Butter Creek, and Old Man Creek (Bly Creek, Sea Creek Bay, Bass Hole Creek, Bass Hole Bay), which are all classified ORW. Sixty Bass Creek (SFH, ORW) connects Town Creek to North Inlet, and Debidue Creek (SFH, ORW) accepts drainage from Cooks Creek (ORW) and joins Town Creek in North Inlet. Pawleys Island Creek (SFH) drains out of Pawleys Inlet (SFH) and also out of Midway Inlet (Clubhouse Creek) at the top of the watershed. There are a total of 6.6 acres of lake waters and 1,155.2 acres of estuarine areas in this watershed.

Surface Water Quality

Station #	Type	Class	Description
RT-01645	RT01	ORW	COOKS CREEK, 6 MI E OF GEORGETOWN

Cooks Creek (RT-01645) – Aquatic life and recreational uses are fully supported. Although there were dissolved oxygen excursions, these were typical of values seen in tidally influenced systems with limited flushing and significant marsh drainage. As such they were considered to be natural in origin, and are not considered to be standards violations.

A fish consumption advisory has been issued by the Department for mercury and includes the ***Atlantic Ocean*** *within this watershed (see advisory p.210).*

Shellfish Monitoring Stations

Station #	Description
04-09	CLUBHOUSE CREEK AT LITCHFIELD BOULEVARD BRIDGE
04-10	SHELL AVENUE AND PAWLEYS ISLAND CREEK
04-11	NORTH CAUSEWAY BRIDGE AT PAWLEYS ISLAND CREEK
04-12	SOUTH CAUSEWAY BRIDGE AT PAWLEYS ISLAND CREEK
04-13	PAWLEYS INLET
04-14	DOCK - END OF SPORTSMAN BOULEVARD

04-15	Midway Inlet
04-19	Clubhouse Creek - First Bend South of Salt Marsh Cove
04-21	South Pawleys Island Boat Landing
05-03	North Inlet
05-04	Town Creek at Debidue Creek
05-08	Town Creek at Sixty Bass Creek
05-09	Town Creek at Southern Reach of Clambank Creek
05-10	Jones Creek at Duck Creek
05-11	Town Creek at Bread and Butter Creek
05-12	Old Man Creek and Sea Creek Bay
05-13	Debidue Creek at Boat Basin
05-14	Mid Channel Island, Bly Creek
05-15	Debidue Creek and Cooks Creek
05-16	Debidue Creek and Bass Hole Bay

Nonpoint Source Management Program

Land Disposal Activities

Land Application Sites

LAND APPLICATION SYSTEM ***FACILITY NAME***	***ND#*** ***TYPE***
SPRAYFIELD- 001, 002 INLET POINT SOUTH, PHASE 3	ND0074616 DOMESTIC
SPRAYFIELD GCW&SA/DEBORDIEU COLONY	ND0065668 DOMESTIC

Landfill Facilities

LANDFILL NAME ***FACILITY TYPE***	***PERMIT #*** ***STATUS***
CHOPPEE ROAD COMPOSTING SITE COMPOSTING	222674-3001 INACTIVE

Water Quantity

Portions of this watershed fall within the Waccamaw Capacity Use Area and large groundwater uses must be reported (see Capacity Use Program p.27).

Growth Potential

There is an overall low potential for growth in this watershed, which contains the Town of Pawleys Island. The northern most area is expected to experience a high population increase and the remaining area is only expected to experience a low increase due to lands protected from development by land trusts. Water and sewer infrastructure is located in the Georgetown area and in several large developments on the Waccamaw Neck. The watershed is largely rural with residential uses, timberlands, and large tracts of protected land.

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APPENDIX A.

Lynches River Basin

Ambient Water Quality Monitoring Site Descriptions

Station #	Type	Class	Description
03040202-01			
PD-333	S/W/BIO	FW	HILLS CREEK AT S-13-105
PD-366	INT	FW	HILLS CREEK AT S-13-545
PD-113	P/INT	FW	LYNCHES RIVER AT SC 9 WEST OF PAGELAND
PD-679	BIO	FW	NORTH BRANCH WILDCAT CREEK AT SR 178
PD-179	S/W	FW	N. BRANCH WILDCAT CREEK AT S-29-39 1 MI S OF TRADESVILLE
PD-180	S/W/BIO	FW	S. BRANCH WILDCAT CREEK AT S-29-39 2 MI S OF TRADESVILLE
RS-01058	S/W/BIO	FW	S. BRANCH WILDCAT CREEK AT S-29-39 2 MI S OF TRADESVILLE
PD-182	BIO	FW	FLAT CREEK AT SR 601
PD-342	W/INT	FW	FLAT CREEK AT S-29-123
(PD-001)	W/INT/BIO	FW	LYNCHES RIVER AT SC 265
03040202-02			
PD-640	BIO	FW	LITTLE LYNCHES RIVER AT S-29-88
PD-335	S/W	FW	HORTON CREEK AT S-29-95
PD-005	S/W	FW	TODDS BRANCH AT S-29-564 1.5 MI NE OF KERSHAW
PD-006	P/W	FW	LITTLE LYNCHES RIVER AT US 601 2 MI E KERSHAW
PD-334	S/W	FW	HAILE GOLD MINE CREEK AT S-29-188
PD-632	BIO	FW	LITTLE LYNCHES RIVER AT SC 157
PD-109	P/W	FW	LITTLE LYNCHES RIVER AT SC 341, 4 MI SE OF KERSHAW
PD-329	S/W	FW	LICK CREEK AT S-29-13 ABOVE KERSHAW PLANT
PD-328	S/W	FW	HANGING ROCK CREEK OFF S-29-84 1.6 MI S OF KERSHAW
PD-669	BIO	FW	HANGING ROCK CREEK AT SR 770
PD-704	BIO	FW	COW BRANCH AT SPEARS ROAD
PD-343	W/INT	FW	LITTLE LYNCHES RIVER AT S-28-42
PD-678	BIO	FW	BEAVER DAM CREEK AT SR 59
PD-344	W/INT	FW	LITTLE LYNCHES RIVER AT SC 341, 3.5 MI SE OF BETHUNE
03040202-03			
PD-001	W/INT/BIO	FW	LYNCHES RIVER AT SC 265
PD-647	BIO	FW	LITTLE FORK CREEK AT COUNTY RD 39
PD-215	S/INT	FW	LITTLE FORK CREEK AT S-13-265 1.5 MI SW JEFFERSON
PD-067	S/W	FW	FORK CREEK AT SC 151
PD-068	S/INT	FW	FORK CREEK AT UNNUMBERED ROAD 1.5 MI SW JEFFERSON
PD-066	S/W	FW	LYNCHES RIVER AT S-28-42
PD-009	S/INT	FW	LYNCHES RIVER AT US 1
(PD-080)P/W		FW	LYNCHES RIVER AT S-28-15 4.5 MI SE BETHUNE
03040202-04			
PD-229	S/W	FW*	NEWMAN SWAMP AT S-16-449 0.9 MI NE OF LAMAR
PD-072	S/W	FW*	SPARROW SWAMP AT S-16-697 2.5 MI E OF LAMAR
PD-345	W/INT	FW*	LAKE SWAMP AT S-21-38
PD-332	P/INT	FW*	SPARROW SWAMP AT S-21-55 NEAR JOHNSONS CROSSROADS
03040202-05			
PD-080	P/W	FW	LYNCHES RIVER AT S-28-15 4.5 MI SE BETHUNE
PD-071	P/W	FW	LYNCHES RIVER AT US 15/SC 34
PD-112	S/W	FW	COUSAR BRANCH 1/4 MI BELOW BISHOPVILLE FINISHING CO.
PD-364	P/SPRP	FW	LYNCHES RIVER AT US 401

Station #	Type	Class	Description
03040202-05 (continued)			
PD-319	P/W	FW	LYNCHES RIVER AT SC 403
PD-093	P/INT	FW	LYNCHES RIVER AT S-21-55
03040202-06			
PD-346	W/INT	FW	CAMP BRANCH AT S-21-278
PD-085	S/W	FW*	LAKE SWAMP AT US 378
PD-086A	S/INT	FW*	LAKE SWAMP ON SC 341
RS-02318	RS02	FW*	LAKE SWAMP ON SC 341
PD-314	W/INT	FW	SINGLETON SWAMP AT S-21-67
PD-087	S/INT	FW*	LAKE SWAMP AT SC 341 2.6 MI W OF JOHNSONVILLE
03040202-07			
PD-041	P/W	FW	LYNCHES RIVER AT US 52 NEAR EFFINGHAM
PD-281	P/INT	FW	LYNCHES RIVER AT S-21-49 5 MI NW OF JOHNSONVILLE
PD-168	S/W	FW*	BIG SWAMP AT S-21-360 1.1 MI W OF PAMPLICO
PD-631	BIO	FW	TRIBUTARY TO BIG SWAMP AT SR 164
PD-169	S/INT	FW*	BIG SWAMP AT US 378 & SC 51 0.9 MI W OF SALEM

For further details concerning sampling frequency and parameters sampled, please visit our website at www.scdhec.gov/eqc/admin/html/eqcpubs.html#wqreportsT 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 Pee Dee 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)	**NH3**	Ammonia (mg/l)
BOD	Five-Day Biochemical Oxygen Demand (mg/l)	**CD**	Cadmium (ug/l)
pH	pH (SU)	**CR**	Chromium (ug/l)
TP	Total Phosphorus (mg/l)	**CU**	Copper (ug/l)
TN	Total Nitrogen (mg/l)	**PB**	Lead (ug/l)
TURB	Turbidity (NTU)	**HG**	Mercury (ug/l)
TSS	Total Suspended Solids (mg/l)	**NI**	Nickel (ug/l)
BACT	Fecal Coliform Bacteria (#/100 ml)	**ZN**	Zinc (ug/l)

Statistical Abbreviations:

N For *standards compliance*, number of surface samples collected between January 1999 and December 2003.
For *trends*, number of surface samples collected between January 1989 and December 2003.
For *total phosphorus*, an additional trend period of January 1992 to December 2003 is also reported.

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 1999 and December 2003. 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 1999 and December 2003

Key to Trends:

D Statistically significant decreasing trend in parameter concentration
I Statistically significant increasing trend in parameter concentration
***** No statistically significant trend

Lynches River Basin

STATION					DO	DO	DO	MEAN	TRENDS (89 -2003)				
NUMBER	TYPE	WATERBODY NAME	CLASS		N	EXC.	%	EXC.	DO	N	MAG	BOD	N
	0304020201												
PD-333	PD / BIO	HILLS CK	FW		22	0	0		*	82	0.013	I	82
PD-366	INT	HILLS CK	FW		31	3	10	2.873	*	31	0.779	*	31
PD-113	INT	LYNCHES RVR	FW		57	3	5	4.32	D	173	-0.041	I	170
PD-679	BIO	N BRANCH WILDCAT CK											
PD-179	PD	N BRANCH WILDCAT CK	FW		24	0	0		D	83	-0.049	I	80
PD-180 / RS-01058	PD / BIO	S BRANCH WILDCAT CK	FW		34	1	3	4.2	D	92	-0.075	I	88
PD-182	BIO	FLAT CK											
PD-342	INT	FLAT CK	FW		34	2	6	3.545	*	54	-0.038	*	54
PD-001	INT / BIO	LYNCHES RVR	FW		34	1	3	3.78	*	60	-0.002	*	55
	0304020203												
PD-647	BIO	LITTLE FORK CK											
PD-215	INT	LITTLE FORK CK	FW		46	1	2	3.18	*	117	-0.02	*	112
PD-067	PD	FORK CK	FW		23	0	0		D	86	-0.04	I	81
PD-068	INT	FORK CK	FW		45	2	4	3.315	*	116	-0.024	I	111
PD-066	PD	LYNCHES RVR	FW		24	0	0		D	87	-0.05	*	82
PD-009	INT	LYNCHES RVR	FW		30	1	3	3.8	I	88	0.056	I	83
	0304020202												
PD-640	BIO	LITTLE LYNCHES RVR											
PD-335	PD	HORTON CK	FW		24	0	0		*	74	0.005	I	72
PD-005	PD	TODDS BRANCH	FW		22	0	0		*	80	0.034	I	77
PD-006	PD	LITTLE LYNCHES RVR	FW		36	1	3	4.6	*	152	0	I	148
PD-334	PD	HAILE GOLD MINE CK	FW		23	1	4	4.09	*	76	0	D	71
PD-632	BIO	LITTLE LYNCHES RVR											
PD-109	PD	LITTLE LYNCHES RVR	FW		36	0	0		I	124	0.087	*	123
PD-329	PD	LICK CK	FW		24	0	0		*	80	0.011	*	76
PD-328	PD	HANGING ROCK CK	FW		24	0	0		*	79	-0.025	I	76
PD-669	BIO	HANGING ROCK CK											
PD-704	BIO	COW BRANCH											
PD-343	INT	LITTLE LYNCHES RVR	FW		36	3	8	3.633	*	56	0.015	*	55
PD-678	BIO	BEAVER DAM CK											
PD-344	INT	LITTLE LYNCHES RVR	FW		36	0	0		I	56	0.039	*	55
	0304020205												
PD-080	PD	LYNCHES RVR	FW		36	2	6	2.86	I	152	0.056	*	149
PD-071	PD	LYNCHES RVR	FW		34	0	0		*	134	0	D	131
PD-112	PD	COUSAR BRANCH	FW		23	0	0		*	73	0.009	D	69
PD-106	I*	LYNCHES RVR	FW										
PD-364	SPRP	LYNCHES RVR	FW		56	0	0		*	117	0.05	D	115
PD-319	PD	LYNCHES RVR	FW		33	1	3	4.9	I	126	0.043	D	124
PD-093	INT	LYNCHES RVR	FW		56	0	0		I	116	0.079	D	115
	0304020204												
PD-229	PD	NEWMAN SWAMP	FW-SP		22	17	77	1.888	*	70	0.043	D	66
PD-072	PD	SPARROW SWAMP	FW-SP		22	11	50	2.582	I	83	0.122	D	80
PD-345	INT	LAKE SWAMP	FW-SP		11	0	0		*	30	0.164	D	30
PD-332	INT	SPARROW SWAMP	FW-SP		34	1	3	0.75	*	154	0.027	D	154
	0304020207												
PD-041	PD	LYNCHES RVR	FW		35	0	0		*	155	0.022	D	152
PD-281	INT	LYNCHES RVR	FW		56	4	7	3.7	*	175	0	D	170
PD-168	PD	BIG SWAMP	FW-SP		21	9	43	2.167	*	70	-0.036	*	67
PD-631	BIO	TRIB TO BIG SWP											
PD-169	INT	BIG SWAMP	FW-SP		36	11	31	2.219	I	104	0.101	*	102
	0304020206												
PD-346	INT	CAMP BRANCH	FW		34	21	62	2.4	I	54	0.162	*	54
PD-085	PD	LAKE SWAMP	FW-SP		9	8	89	2.456	*	57	-0.074	*	56

Lynches River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	MAG
	0304020201			
PD-333	PD / BIO	HILLS CK	FW	0.067
PD-366	INT	HILLS CK	FW	0.293
PD-113	INT	LYNCHES RVR	FW	0.04
PD-679	BIO	N BRANCH WILDCAT CK		
PD-179	PD	N BRANCH WILDCAT CK	FW	0.098
PD-180 / RS-01058	PD / BIO	S BRANCH WILDCAT CK	FW	0.067
PD-182	BIO	FLAT CK		
PD-342	INT	FLAT CK	FW	0.05
PD-001	INT / BIO	LYNCHES RVR	FW	0
	0304020203			
PD-647	BIO	LITTLE FORK CK		
PD-215	INT	LITTLE FORK CK	FW	0.045
PD-067	PD	FORK CK	FW	0.051
PD-068	INT	FORK CK	FW	0.066
PD-066	PD	LYNCHES RVR	FW	0.042
PD-009	INT	LYNCHES RVR	FW	0.085
	0304020202			
PD-640	BIO	LITTLE LYNCHES RVR		
PD-335	PD	HORTON CK	FW	0.08
PD-005	PD	TODDS BRANCH	FW	0.065
PD-006	PD	LITTLE LYNCHES RVR	FW	0.067
PD-334	PD	HAILE GOLD MINE CK	FW	-0.101
PD-632	BIO	LITTLE LYNCHES RVR		
PD-109	PD	LITTLE LYNCHES RVR	FW	0.033
PD-329	PD	LICK CK	FW	-0.015
PD-328	PD	HANGING ROCK CK	FW	0.101
PD-669	BIO	HANGING ROCK CK		
PD-704	BIO	COW BRANCH		
PD-343	INT	LITTLE LYNCHES RVR	FW	0
PD-678	BIO	BEAVER DAM CK		
PD-344	INT	LITTLE LYNCHES RVR	FW	0
	0304020205			
PD-080	PD	LYNCHES RVR	FW	0
PD-071	PD	LYNCHES RVR	FW	-0.069
PD-112	PD	COUSAR BRANCH	FW	-0.076
PD-106	I*	LYNCHES RVR	FW	
PD-364	SPRP	LYNCHES RVR	FW	-0.152
PD-319	PD	LYNCHES RVR	FW	-0.074
PD-093	INT	LYNCHES RVR	FW	-0.134
	0304020204			
PD-229	PD	NEWMAN SWAMP	FW-SP	-0.1
PD-072	PD	SPARROW SWAMP	FW-SP	-0.076
PD-345	INT	LAKE SWAMP	FW-SP	-0.101
PD-332	INT	SPARROW SWAMP	FW-SP	-0.05
	0304020207			
PD-041	PD	LYNCHES RVR	FW	-0.045
PD-281	INT	LYNCHES RVR	FW	-0.071
PD-168	PD	BIG SWAMP	FW-SP	0
PD-631	BIO	TRIB TO BIG SWP		
PD-169	INT	BIG SWAMP	FW-SP	-0.061
	0304020206			
PD-346	INT	CAMP BRANCH	FW	-0.14
PD-085	PD	LAKE SWAMP	FW-SP	0

Lynches River Basin

STATION				pH	pH	pH	MEAN	TRENDS (89-2003)			TURB
NUMBER	TYPE	WATERBODY NAME	CLASS	N	EXC.	%	EXC.	PH	N	MAG	N
	0304020201										
PD-333	PD / BIO	HILLS CK	FW	23	1	4	5.99	*	82	-0.01	23
PD-366	INT	HILLS CK	FW	31	0	0		*	31	-0.087	31
PD-113	INT	LYNCHES RVR	FW	57	1	2	9.7	D	173	-0.032	57
PD-679	BIO	N BRANCH WILDCAT CK									
PD-179	PD	N BRANCH WILDCAT CK	FW	24	1	4	5.85	D	82	-0.046	24
PD-180 / RS-01058	PD / BIO	S BRANCH WILDCAT CK	FW	34	0	0		D	91	-0.032	34
PD-182	BIO	FLAT CK									
PD-342	INT	FLAT CK	FW	34	4	12	5.893	*	54	-0.037	34
PD-001	INT / BIO	LYNCHES RVR	FW	34	0	0		D	60	-0.027	34
	0304020203										
PD-647	BIO	LITTLE FORK CK									
PD-215	INT	LITTLE FORK CK	FW	46	2	4	4.85	*	117	-0.011	46
PD-067	PD	FORK CK	FW	23	0	0		*	86	0.016	23
PD-068	INT	FORK CK	FW	45	0	0		D	116	-0.045	45
PD-066	PD	LYNCHES RVR	FW	24	0	0		D	87	-0.017	24
PD-009	INT	LYNCHES RVR	FW	30	0	0		*	88	0.02	30
	0304020202										
PD-640	BIO	LITTLE LYNCHES RVR									
PD-335	PD	HORTON CK	FW	24	0	0		*	73	-0.004	24
PD-005	PD	TODDS BRANCH	FW	22	2	9	5.88	*	79	0	22
PD-006	PD	LITTLE LYNCHES RVR	FW	36	3	8	5.823	*	151	-0.012	36
PD-334	PD	HAILE GOLD MINE CK	FW	23	16	70	4.704	I	74	0.174	23
PD-632	BIO	LITTLE LYNCHES RVR									
PD-109	PD	LITTLE LYNCHES RVR	FW	36	5	14	5.756	*	124	-0.006	35
PD-329	PD	LICK CK	FW	24	0	0		*	79	0	24
PD-328	PD	HANGING ROCK CK	FW	24	0	0		*	78	0	24
PD-669	BIO	HANGING ROCK CK									
PD-704	BIO	COW BRANCH									
PD-343	INT	LITTLE LYNCHES RVR	FW	36	9	25	5.768	*	56	-0.02	36
PD-678	BIO	BEAVER DAM CK									
PD-344	INT	LITTLE LYNCHES RVR	FW	36	11	31	5.616	D	56	-0.037	36
	0304020205										
PD-080	PD	LYNCHES RVR	FW	36	6	17	5.563	*	152	0.001	36
PD-071	PD	LYNCHES RVR	FW	34	14	41	5.689	*	136	-0.008	34
PD-112	PD	COUSAR BRANCH	FW	23	20	87	5.228	D	71	-0.06	23
PD-106	I*	LYNCHES RVR	FW								
PD-364	SPRP	LYNCHES RVR	FW	56	15	27	5.747	D	117	-0.051	54
PD-319	PD	LYNCHES RVR	FW	33	8	24	5.615	D	126	-0.025	33
PD-093	INT	LYNCHES RVR	FW	56	12	21	5.578	D	116	-0.056	56
	0304020204										
PD-229	PD	NEWMAN SWAMP	FW-SP	22	0	0		*	69	-0.012	22
PD-072	PD	SPARROW SWAMP	FW-SP	22	1	5	4.07	*	82	0	22
PD-345	INT	LAKE SWAMP	FW-SP	11	0	0		*	30	0	11
PD-332	INT	SPARROW SWAMP	FW-SP	34	1	3	4.32	*	154	0.001	34
	0304020207										
PD-041	PD	LYNCHES RVR	FW	35	9	26	5.57	*	154	-0.007	35
PD-281	INT	LYNCHES RVR	FW	56	7	13	5.579	*	174	-0.009	56
PD-168	PD	BIG SWAMP	FW-SP	21	0	0		*	69	-0.005	21
PD-631	BIO	TRIB TO BIG SWP									
PD-169	INT	BIG SWAMP	FW-SP	36	1	3	4.24	D	103	-0.014	36
	0304020206										
PD-346	INT	CAMP BRANCH	FW	34	12	35	5.733	*	54	-0.001	34
PD-085	PD	LAKE SWAMP	FW-SP	9	0	0		*	57	0	9

Lynches River Basin

STATION				TURB	TURB	MEAN	TRENDS (89-2003)				TP	TP
NUMBER	TYPE	WATERBODY NAME	CLASS	EXC.	%	EXC.	TURB	N	MAG		N	EXC.
	0304020201											
PD-333	PD / BIO	HILLS CK	FW	2	9	77	*	83	-0.114			
PD-366	INT	HILLS CK	FW	1	3	70	*	31	0.943			
PD-113	INT	LYNCHES RVR	FW	5	9	73.8	*	172	-0.067			
PD-679	BIO	N BRANCH WILDCAT CK										
PD-179	PD	N BRANCH WILDCAT CK	FW	1	4	60	I	83	0.308			
PD-180 / RS-01058	PD / BIO	S BRANCH WILDCAT CK	FW	0	0		*	91	0.05			
PD-182	BIO	FLAT CK										
PD-342	INT	FLAT CK	FW	3	9	150	*	54	-0.127			
PD-001	INT / BIO	LYNCHES RVR	FW	3	9	101.67	D	55	-0.249			
	0304020203											
PD-647	BIO	LITTLE FORK CK										
PD-215	INT	LITTLE FORK CK	FW	3	7	100	*	112	-0.143			
PD-067	PD	FORK CK	FW	1	4	89	*	81	-0.04			
PD-068	INT	FORK CK	FW	0	0		D	110	-0.231			
PD-066	PD	LYNCHES RVR	FW	2	8	85	*	82	0.067			
PD-009	INT	LYNCHES RVR	FW	3	10	158.33	*	83	0.259			
	0304020202											
PD-640	BIO	LITTLE LYNCHES RVR										
PD-335	PD	HORTON CK	FW	1	4	100	*	73	-0.063			
PD-005	PD	TODDS BRANCH	FW	1	5	230	I	80	0.749			
PD-006	PD	LITTLE LYNCHES RVR	FW	2	6	230	*	151	-0.123			
PD-334	PD	HAILE GOLD MINE CK	FW	0	0		*	74	-0.101			
PD-632	BIO	LITTLE LYNCHES RVR										
PD-109	PD	LITTLE LYNCHES RVR	FW	2	6	228	I	121	0.329			
PD-329	PD	LICK CK	FW	3	13	1441.7	*	78	0.251			
PD-328	PD	HANGING ROCK CK	FW	2	8	60	*	78	0.2			
PD-669	BIO	HANGING ROCK CK										
PD-704	BIO	COW BRANCH										
PD-343	INT	LITTLE LYNCHES RVR	FW	0	0		*	56	-0.111			
PD-678	BIO	BEAVER DAM CK										
PD-344	INT	LITTLE LYNCHES RVR	FW	0	0		*	56	0.05			
	0304020205											
PD-080	PD	LYNCHES RVR	FW	1	3	160	*	148	0.029			
PD-071	PD	LYNCHES RVR	FW	1	3	64	*	136	-0.02			
PD-112	PD	COUSAR BRANCH	FW	1	4	98	*	71	-0.065			
PD-106	I*	LYNCHES RVR	FW									
PD-364	SPRP	LYNCHES RVR	FW	1	2	54	D	115	-0.459			
PD-319	PD	LYNCHES RVR	FW	0	0		*	126	0.143			
PD-093	INT	LYNCHES RVR	FW	0	0		D	116	-0.201			
	0304020204											
PD-229	PD	NEWMAN SWAMP	FW-SP	0	0		*	68	-0.091			
PD-072	PD	SPARROW SWAMP	FW-SP	0	0		*	82	-0.055			
PD-345	INT	LAKE SWAMP	FW-SP	0	0		*	30	0.086			
PD-332	INT	SPARROW SWAMP	FW-SP	0	0		*	153	-0.05			
	0304020207											
PD-041	PD	LYNCHES RVR	FW	0	0		*	153	0.045			
PD-281	INT	LYNCHES RVR	FW	0	0		D	173	-0.326			
PD-168	PD	BIG SWAMP	FW-SP	0	0		*	69	-0.166			
PD-631	BIO	TRIB TO BIG SWP										
PD-169	INT	BIG SWAMP	FW-SP	2	6	77	I	103	0.2			
	0304020206											
PD-346	INT	CAMP BRANCH	FW	0	0		*	54	0.127			
PD-085	PD	LAKE SWAMP	FW-SP	0	0		D	57	-0.314			

Lynches River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	TP %	MEAN EXC.	TRENDS (92-2003) TP	N	MAG		TRENDS (89-2003) TP	N	MAG
	0304020201											
PD-333	PD / BIO	HILLS CK	FW			*	55	-0.001		*	66	-0.003
PD-366	INT	HILLS CK	FW									
PD-113	INT	LYNCHES RVR	FW			*	99	0.001		*	132	0
PD-679	BIO	N BRANCH WILDCAT CK										
PD-179	PD	N BRANCH WILDCAT CK	FW			*	49	0		*	67	0
PD-180 / RS-01058	PD / BIO	S BRANCH WILDCAT CK	FW			*	51	0		*	68	0
PD-182	BIO	FLAT CK										
PD-342	INT	FLAT CK	FW			*	42	0		*	42	0
PD-001	INT / BIO	LYNCHES RVR	FW			*	43	-0.001		*	43	-0.001
	0304020203											
PD-647	BIO	LITTLE FORK CK										
PD-215	INT	LITTLE FORK CK	FW			I	70	0.001		*	88	0
PD-067	PD	FORK CK	FW			*	50	0		D	68	-0.002
PD-068	INT	FORK CK	FW			D	66	-0.104		D	84	-0.04
PD-066	PD	LYNCHES RVR	FW			*	52	0.003		*	70	0.008
PD-009	INT	LYNCHES RVR	FW			D	51	-0.004		*	57	-0.002
	0304020202											
PD-640	BIO	LITTLE LYNCHES RVR										
PD-335	PD	HORTON CK	FW			*	48	0		*	60	0
PD-005	PD	TODDS BRANCH	FW			*	50	-0.003		*	68	0
PD-006	PD	LITTLE LYNCHES RVR	FW			D	88	-0.001		D	123	0
PD-334	PD	HAILE GOLD MINE CK	FW			D	49	0		D	59	0
PD-632	BIO	LITTLE LYNCHES RVR										
PD-109	PD	LITTLE LYNCHES RVR	FW			*	91	0		*	97	0
PD-329	PD	LICK CK	FW			*	49	-0.001		D	67	-0.002
PD-328	PD	HANGING ROCK CK	FW			*	47	0		*	64	0
PD-669	BIO	HANGING ROCK CK										
PD-704	BIO	COW BRANCH										
PD-343	INT	LITTLE LYNCHES RVR	FW			D	44	0		D	44	0
PD-678	BIO	BEAVER DAM CK										
PD-344	INT	LITTLE LYNCHES RVR	FW			*	43	-0.001		*	43	-0.001
	0304020205											
PD-080	PD	LYNCHES RVR	FW			D	88	-0.003		*	122	-0.001
PD-071	PD	LYNCHES RVR	FW			D	93	-0.001		D	110	0
PD-112	PD	COUSAR BRANCH	FW			D	39	0		D	57	-0.002
PD-106	I*	LYNCHES RVR	FW									
PD-364	SPRP	LYNCHES RVR	FW			D	82	-0.003		D	82	-0.003
PD-319	PD	LYNCHES RVR	FW			D	86	-0.001		D	99	-0.003
PD-093	INT	LYNCHES RVR	FW			D	77	-0.002		D	77	-0.002
	0304020204											
PD-229	PD	NEWMAN SWAMP	FW-SP			*	40	-0.006		*	58	-0.003
PD-072	PD	SPARROW SWAMP	FW-SP			D	52	-0.002		D	70	-0.003
PD-345	INT	LAKE SWAMP	FW-SP									
PD-332	INT	SPARROW SWAMP	FW-SP			*	84	0		D	118	0
	0304020207											
PD-041	PD	LYNCHES RVR	FW			D	91	-0.002		D	127	-0.002
PD-281	INT	LYNCHES RVR	FW			D	102	-0.001		D	138	-0.002
PD-168	PD	BIG SWAMP	FW-SP			*	39	-0.003		D	56	-0.003
PD-631	BIO	TRIB TO BIG SWP										
PD-169	INT	BIG SWAMP	FW-SP			*	66	-0.004		*	84	-0.003
	0304020206											
PD-346	INT	CAMP BRANCH	FW			*	43	-0.002		*	43	-0.002
PD-085	PD	LAKE SWAMP	FW-SP							D	46	-0.012

Lynches River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS		TN N	TN EXC.	TN %	MEAN EXC.	TRENDS (89-2003) TN	N	MAG		CHL N
	0304020201												
PD-333	PD / BIO	HILLS CK	FW										
PD-366	INT	HILLS CK	FW										
PD-113	INT	LYNCHES RVR	FW						*	151	-0.006		
PD-679	BIO	N BRANCH WILDCAT CK											
PD-179	PD	N BRANCH WILDCAT CK	FW										
PD-180 / RS-01058	PD / BIO	S BRANCH WILDCAT CK	FW										
PD-182	BIO	FLAT CK											
PD-342	INT	FLAT CK	FW						I	38	0.027		
PD-001	INT / BIO	LYNCHES RVR	FW						I	39	0.024		
	0304020203												
PD-647	BIO	LITTLE FORK CK											
PD-215	INT	LITTLE FORK CK	FW						*	38	-0.007		
PD-067	PD	FORK CK	FW										
PD-068	INT	FORK CK	FW						D	36	-0.057		
PD-066	PD	LYNCHES RVR	FW										
PD-009	INT	LYNCHES RVR	FW						*	30	-0.025		
	0304020202												
PD-640	BIO	LITTLE LYNCHES RVR											
PD-335	PD	HORTON CK	FW										
PD-005	PD	TODDS BRANCH	FW										
PD-006	PD	LITTLE LYNCHES RVR	FW						*	140	0.005		
PD-334	PD	HAILE GOLD MINE CK	FW										
PD-632	BIO	LITTLE LYNCHES RVR											
PD-109	PD	LITTLE LYNCHES RVR	FW						I	105	0.01		
PD-329	PD	LICK CK	FW										
PD-328	PD	HANGING ROCK CK	FW										
PD-669	BIO	HANGING ROCK CK											
PD-704	BIO	COW BRANCH											
PD-343	INT	LITTLE LYNCHES RVR	FW						I	39	0.047		
PD-678	BIO	BEAVER DAM CK											
PD-344	INT	LITTLE LYNCHES RVR	FW						I	38	0.02		
	0304020205												
PD-080	PD	LYNCHES RVR	FW						*	138	0		
PD-071	PD	LYNCHES RVR	FW						D	128	-0.008		
PD-112	PD	COUSAR BRANCH	FW										
PD-106	I*	LYNCHES RVR	FW										
PD-364	SPRP	LYNCHES RVR	FW						D	100	-0.036		
PD-319	PD	LYNCHES RVR	FW						D	100	-0.031		
PD-093	INT	LYNCHES RVR	FW						D	96	-0.044		
	0304020204												
PD-229	PD	NEWMAN SWAMP	FW-SP										
PD-072	PD	SPARROW SWAMP	FW-SP										
PD-345	INT	LAKE SWAMP	FW-SP										
PD-332	INT	SPARROW SWAMP	FW-SP						D	144	-0.02		
	0304020207												
PD-041	PD	LYNCHES RVR	FW						D	141	-0.016		
PD-281	INT	LYNCHES RVR	FW						D	157	-0.013		
PD-168	PD	BIG SWAMP	FW-SP										
PD-631	BIO	TRIB TO BIG SWP											
PD-169	INT	BIG SWAMP	FW-SP						D	34	-0.026		
	0304020206												
PD-346	INT	CAMP BRANCH	FW						*	41	-0.013		
PD-085	PD	LAKE SWAMP	FW-SP										

Lynches River Basin

STATION				CHL	CHL	MEAN		TRENDS (89-2003)		
NUMBER	TYPE	WATERBODY NAME	CLASS	EXC.	%	EXC.		TSS	N	MAG
	0304020201									
PD-333	PD / BIO	HILLS CK	FW							
PD-366	INT	HILLS CK	FW							
PD-113	INT	LYNCHES RVR	FW							
PD-679	BIO	N BRANCH WILDCAT CK								
PD-179	PD	N BRANCH WILDCAT CK	FW							
PD-180 / RS-01058	PD / BIO	S BRANCH WILDCAT CK	FW							
PD-182	BIO	FLAT CK								
PD-342	INT	FLAT CK	FW							
PD-001	INT / BIO	LYNCHES RVR	FW							
	0304020203									
PD-647	BIO	LITTLE FORK CK								
PD-215	INT	LITTLE FORK CK	FW							
PD-067	PD	FORK CK	FW							
PD-068	INT	FORK CK	FW							
PD-066	PD	LYNCHES RVR	FW							
PD-009	INT	LYNCHES RVR	FW							
	0304020202									
PD-640	BIO	LITTLE LYNCHES RVR								
PD-335	PD	HORTON CK	FW							
PD-005	PD	TODDS BRANCH	FW							
PD-006	PD	LITTLE LYNCHES RVR	FW							
PD-334	PD	HAILE GOLD MINE CK	FW							
PD-632	BIO	LITTLE LYNCHES RVR								
PD-109	PD	LITTLE LYNCHES RVR	FW							
PD-329	PD	LICK CK	FW							
PD-328	PD	HANGING ROCK CK	FW							
PD-669	BIO	HANGING ROCK CK								
PD-704	BIO	COW BRANCH								
PD-343	INT	LITTLE LYNCHES RVR	FW							
PD-678	BIO	BEAVER DAM CK								
PD-344	INT	LITTLE LYNCHES RVR	FW							
	0304020205									
PD-080	PD	LYNCHES RVR	FW							
PD-071	PD	LYNCHES RVR	FW							
PD-112	PD	COUSAR BRANCH	FW							
PD-106	I*	LYNCHES RVR	FW							
PD-364	SPRP	LYNCHES RVR	FW							
PD-319	PD	LYNCHES RVR	FW							
PD-093	INT	LYNCHES RVR	FW							
	0304020204									
PD-229	PD	NEWMAN SWAMP	FW-SP							
PD-072	PD	SPARROW SWAMP	FW-SP							
PD-345	INT	LAKE SWAMP	FW-SP							
PD-332	INT	SPARROW SWAMP	FW-SP							
	0304020207									
PD-041	PD	LYNCHES RVR	FW							
PD-281	INT	LYNCHES RVR	FW							
PD-168	PD	BIG SWAMP	FW-SP							
PD-631	BIO	TRIB TO BIG SWP								
PD-169	INT	BIG SWAMP	FW-SP							
	0304020206									
PD-346	INT	CAMP BRANCH	FW							
PD-085	PD	LAKE SWAMP	FW-SP							

Lynches River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS		GEO MEAN	BACT N	BACT EXC.	BACT %	MEAN EXC.	TRENDS (BACT	N
	0304020201										
PD-333	PD / BIO	HILLS CK	FW		332.8826	23	10	43	1123	*	83
PD-366	INT	HILLS CK	FW		88.5024	31	2	6	1150	*	31
PD-113	INT	LYNCHES RVR	FW		159.4252	57	9	16	2607.778	*	174
PD-679	BIO	N BRANCH WILDCAT CK									
PD-179	PD	N BRANCH WILDCAT CK	FW		247.5825	24	8	33	1523.75	*	83
PD-180 / RS-01058	PD / BIO	S BRANCH WILDCAT CK	FW		201.5308	34	8	24	1011.25	*	92
PD-182	BIO	FLAT CK									
PD-342	INT	FLAT CK	FW		231.3388	34	6	18	1211.667	*	54
PD-001	INT / BIO	LYNCHES RVR	FW		140.5617	34	3	9	5366.667	*	54
	0304020203										
PD-647	BIO	LITTLE FORK CK									
PD-215	INT	LITTLE FORK CK	FW		73.3459	46	6	13	1605	I	111
PD-067	PD	FORK CK	FW		276.8818	23	9	39	1001.111	I	81
PD-068	INT	FORK CK	FW		230.4906	45	13	29	745.3846	*	111
PD-066	PD	LYNCHES RVR	FW		183.9951	24	5	21	1616	I	82
PD-009	INT	LYNCHES RVR	FW		81.7103	30	0	0		*	82
	0304020202										
PD-640	BIO	LITTLE LYNCHES RVR									
PD-335	PD	HORTON CK	FW		198.1355	24	4	17	1187.5	*	74
PD-005	PD	TODDS BRANCH	FW		313.0563	22	9	41	2162.222	*	80
PD-006	PD	LITTLE LYNCHES RVR	FW		347.5936	36	12	33	1838.333	*	152
PD-334	PD	HAILE GOLD MINE CK	FW		7.2903	23	0	0		*	75
PD-632	BIO	LITTLE LYNCHES RVR									
PD-109	PD	LITTLE LYNCHES RVR	FW		78.087	36	2	6	1815	D	124
PD-329	PD	LICK CK	FW		285.2546	24	6	25	1736.667	D	80
PD-328	PD	HANGING ROCK CK	FW		110.9079	23	3	13	520	*	78
PD-669	BIO	HANGING ROCK CK									
PD-704	BIO	COW BRANCH									
PD-343	INT	LITTLE LYNCHES RVR	FW		54.2955	36	0	0		D	56
PD-678	BIO	BEAVER DAM CK									
PD-344	INT	LITTLE LYNCHES RVR	FW		35.571	36	0	0		*	54
	0304020205										
PD-080	PD	LYNCHES RVR	FW		73.5899	36	1	3	820	*	151
PD-071	PD	LYNCHES RVR	FW		60.4191	34	0	0		D	135
PD-112	PD	COUSAR BRANCH	FW		7.1241	22	1	5	900	D	72
PD-106	I*	LYNCHES RVR	FW								
PD-364	SPRP	LYNCHES RVR	FW		68.3136	51	3	6	550	*	111
PD-319	PD	LYNCHES RVR	FW		94.7241	33	2	6	1825	*	126
PD-093	INT	LYNCHES RVR	FW		73.0621	54	1	2	550	*	114
	0304020204										
PD-229	PD	NEWMAN SWAMP	FW-SP		94.6955	22	3	14	743.3333	D	70
PD-072	PD	SPARROW SWAMP	FW-SP		145.8811	22	5	23	608	*	83
PD-345	INT	LAKE SWAMP	FW-SP		149.0402	11	0	0		*	30
PD-332	INT	SPARROW SWAMP	FW-SP		100.8252	34	1	3	790	*	153
	0304020207										
PD-041	PD	LYNCHES RVR	FW		78.7454	35	2	6	1015	*	154
PD-281	INT	LYNCHES RVR	FW		75.1408	55	2	4	850	*	174
PD-168	PD	BIG SWAMP	FW-SP		132.0909	21	2	10	1200	D	70
PD-631	BIO	TRIB TO BIG SWP									
PD-169	INT	BIG SWAMP	FW-SP		162.948	35	7	20	911.4286	*	103
	0304020206										
PD-346	INT	CAMP BRANCH	FW		74.473	33	3	9	733.3333	*	53
PD-085	PD	LAKE SWAMP	FW-SP		115.6172	9	1	11	800	D	58

Lynches River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	89-2003) MAG		NH3 N	NH3 EXC.	NH3 %	MEAN EXC.
	0304020201								
PD-333	PD / BIO	HILLS CK	FW	8.843		6	0	0	
PD-366	INT	HILLS CK	FW	2.666		17	0	0	
PD-113	INT	LYNCHES RVR	FW	-2.5		41	0	0	
PD-679	BIO	N BRANCH WILDCAT CK							
PD-179	PD	N BRANCH WILDCAT CK	FW	-10.115		6	0	0	
PD-180 / RS-01058	PD / BIO	S BRANCH WILDCAT CK	FW	0.852		12	0	0	
PD-182	BIO	FLAT CK							
PD-342	INT	FLAT CK	FW	1.868		18	0	0	
PD-001	INT / BIO	LYNCHES RVR	FW	5.53		18	0	0	
	0304020203								
PD-647	BIO	LITTLE FORK CK							
PD-215	INT	LITTLE FORK CK	FW	4.695		18	0	0	
PD-067	PD	FORK CK	FW	10.034		6	0	0	
PD-068	INT	FORK CK	FW	0		17	0	0	
PD-066	PD	LYNCHES RVR	FW	6.713		6	0	0	
PD-009	INT	LYNCHES RVR	FW	0		11	0	0	
	0304020202								
PD-640	BIO	LITTLE LYNCHES RVR							
PD-335	PD	HORTON CK	FW	2.501		6	0	0	
PD-005	PD	TODDS BRANCH	FW	-9.812		6	0	0	
PD-006	PD	LITTLE LYNCHES RVR	FW	0		30	0	0	
PD-334	PD	HAILE GOLD MINE CK	FW	-0.046		6	0	0	
PD-632	BIO	LITTLE LYNCHES RVR							
PD-109	PD	LITTLE LYNCHES RVR	FW	-3.67		29	0	0	
PD-329	PD	LICK CK	FW	-29.267		6	0	0	
PD-328	PD	HANGING ROCK CK	FW	0		6	0	0	
PD-669	BIO	HANGING ROCK CK							
PD-704	BIO	COW BRANCH							
PD-343	INT	LITTLE LYNCHES RVR	FW	-6.462		17	0	0	
PD-678	BIO	BEAVER DAM CK							
PD-344	INT	LITTLE LYNCHES RVR	FW	-3.395		17	0	0	
	0304020205								
PD-080	PD	LYNCHES RVR	FW	0.042		30	0	0	
PD-071	PD	LYNCHES RVR	FW	-2.014		30	0	0	
PD-112	PD	COUSAR BRANCH	FW	-14.255		8	0	0	
PD-106	I*	LYNCHES RVR	FW						
PD-364	SPRP	LYNCHES RVR	FW	-2.065		44	0	0	
PD-319	PD	LYNCHES RVR	FW	0		28	0	0	
PD-093	INT	LYNCHES RVR	FW	-1.362		46	0	0	
	0304020204								
PD-229	PD	NEWMAN SWAMP	FW-SP	-5.235		7	0	0	
PD-072	PD	SPARROW SWAMP	FW-SP	3.318		7	0	0	
PD-345	INT	LAKE SWAMP	FW-SP	1.434		9	0	0	
PD-332	INT	SPARROW SWAMP	FW-SP	0		33	0	0	
	0304020207								
PD-041	PD	LYNCHES RVR	FW	1		29	0	0	
PD-281	INT	LYNCHES RVR	FW	0		43	0	0	
PD-168	PD	BIG SWAMP	FW-SP	-6.89		7	0	0	
PD-631	BIO	TRIB TO BIG SWP							
PD-169	INT	BIG SWAMP	FW-SP	4.993		15	0	0	
	0304020206								
PD-346	INT	CAMP BRANCH	FW	4.365		21	0	0	
PD-085	PD	LAKE SWAMP	FW-SP	-12.798					

Lynches River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	CD N	CD EXC.	CD %	MEAN EXC.	CR N	CR EXC.	CR %	CU N	CU EXC.
	0304020201											
PD-333	PD / BIO	HILLS CK	FW	4	0	0		4	0	0	4	0
PD-366	INT	HILLS CK	FW	10	0	0		10	0	0	10	0
PD-113	INT	LYNCHES RVR	FW	19	1	5	20	19	0	0	19	3
PD-679	BIO	N BRANCH WILDCAT CK										
PD-179	PD	N BRANCH WILDCAT CK	FW	4	0	0		4	0	0	4	0
PD-180 / RS-01058	PD / BIO	S BRANCH WILDCAT CK	FW	8	0	0		8	0	0	8	0
PD-182	BIO	FLAT CK										
PD-342	INT	FLAT CK	FW	11	0	0		11	0	0	11	3
PD-001	INT / BIO	LYNCHES RVR	FW	11	0	0		11	0	0	11	2
	0304020203											
PD-647	BIO	LITTLE FORK CK										
PD-215	INT	LITTLE FORK CK	FW	11	0	0		11	0	0	11	4
PD-067	PD	FORK CK	FW	4	0	0		4	0	0	4	0
PD-068	INT	FORK CK	FW	11	0	0		11	0	0	11	0
PD-066	PD	LYNCHES RVR	FW	8	0	0		8	0	0	8	1
PD-009	INT	LYNCHES RVR	FW	5	0	0		6	0	0	6	0
	0304020202											
PD-640	BIO	LITTLE LYNCHES RVR										
PD-335	PD	HORTON CK	FW	4	1	25	5100	4	0	0	4	0
PD-005	PD	TODDS BRANCH	FW	4	0	0		4	0	0	4	0
PD-006	PD	LITTLE LYNCHES RVR	FW	12	0	0		12	0	0	12	2
PD-334	PD	HAILE GOLD MINE CK	FW	7	0	0		7	0	0	7	0
PD-632	BIO	LITTLE LYNCHES RVR										
PD-109	PD	LITTLE LYNCHES RVR	FW	12	0	0		12	0	0	12	1
PD-329	PD	LICK CK	FW	4	0	0		4	0	0	4	0
PD-328	PD	HANGING ROCK CK	FW	4	0	0		4	0	0	4	0
PD-669	BIO	HANGING ROCK CK										
PD-704	BIO	COW BRANCH										
PD-343	INT	LITTLE LYNCHES RVR	FW	12	0	0		12	0	0	12	0
PD-678	BIO	BEAVER DAM CK										
PD-344	INT	LITTLE LYNCHES RVR	FW	12	0	0		12	0	0	12	0
	0304020205											
PD-080	PD	LYNCHES RVR	FW	12	0	0		12	0	0	12	0
PD-071	PD	LYNCHES RVR	FW	12	0	0		12	0	0	12	0
PD-112	PD	COUSAR BRANCH	FW	5	0	0		5	0	0	5	0
PD-106	I*	LYNCHES RVR	FW									
PD-364	SPRP	LYNCHES RVR	FW	19	0	0		19	0	0	19	0
PD-319	PD	LYNCHES RVR	FW	12	0	0		12	0	0	12	0
PD-093	INT	LYNCHES RVR	FW	21	0	0		21	0	0	21	0
	0304020204											
PD-229	PD	NEWMAN SWAMP	FW-SP	4	0	0		4	0	0	4	1
PD-072	PD	SPARROW SWAMP	FW-SP	4	0	0		4	0	0	4	0
PD-345	INT	LAKE SWAMP	FW-SP	4	0	0		4	0	0	4	1
PD-332	INT	SPARROW SWAMP	FW-SP	12	0	0		12	0	0	12	0
	0304020207											
PD-041	PD	LYNCHES RVR	FW	13	0	0		13	0	0	13	0
PD-281	INT	LYNCHES RVR	FW	19	0	0		19	0	0	19	3
PD-168	PD	BIG SWAMP	FW-SP	4	0	0		4	0	0	4	1
PD-631	BIO	TRIB TO BIG SWP										
PD-169	INT	BIG SWAMP	FW-SP	8	0	0		8	0	0	8	0
	0304020206											
PD-346	INT	CAMP BRANCH	FW	12	0	0		12	0	0	12	0
PD-085	PD	LAKE SWAMP	FW-SP									

Lynches River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	CU %	MEAN EXC.		PB N	PB EXC.	PB %	MEAN EXC.
	0304020201									
PD-333	PD / BIO	HILLS CK	FW	0			4	0	0	
PD-366	INT	HILLS CK	FW	0			10	0	0	
PD-113	INT	LYNCHES RVR	FW	16	52.333		19	0	0	
PD-679	BIO	N BRANCH WILDCAT CK								
PD-179	PD	N BRANCH WILDCAT CK	FW	0			4	0	0	
PD-180 / RS-01058	PD / BIO	S BRANCH WILDCAT CK	FW	0			8	0	0	
PD-182	BIO	FLAT CK								
PD-342	INT	FLAT CK	FW	27	28		11	0	0	
PD-001	INT / BIO	LYNCHES RVR	FW	18	27.5		11	0	0	
	0304020203									
PD-647	BIO	LITTLE FORK CK								
PD-215	INT	LITTLE FORK CK	FW	36	48.25		11	0	0	
PD-067	PD	FORK CK	FW	0			4	0	0	
PD-068	INT	FORK CK	FW	0			11	0	0	
PD-066	PD	LYNCHES RVR	FW	13	20		8	0	0	
PD-009	INT	LYNCHES RVR	FW	0			6	0	0	
	0304020202									
PD-640	BIO	LITTLE LYNCHES RVR								
PD-335	PD	HORTON CK	FW	0			4	0	0	
PD-005	PD	TODDS BRANCH	FW	0			4	0	0	
PD-006	PD	LITTLE LYNCHES RVR	FW	17	16		12	0	0	
PD-334	PD	HAILE GOLD MINE CK	FW	0			7	0	0	
PD-632	BIO	LITTLE LYNCHES RVR								
PD-109	PD	LITTLE LYNCHES RVR	FW	8	20		12	0	0	
PD-329	PD	LICK CK	FW	0			4	0	0	
PD-328	PD	HANGING ROCK CK	FW	0			4	0	0	
PD-669	BIO	HANGING ROCK CK								
PD-704	BIO	COW BRANCH								
PD-343	INT	LITTLE LYNCHES RVR	FW	0			12	0	0	
PD-678	BIO	BEAVER DAM CK								
PD-344	INT	LITTLE LYNCHES RVR	FW	0			12	0	0	
	0304020205									
PD-080	PD	LYNCHES RVR	FW	0			12	0	0	
PD-071	PD	LYNCHES RVR	FW	0			11	0	0	
PD-112	PD	COUSAR BRANCH	FW	0			4	0	0	
PD-106	I*	LYNCHES RVR	FW							
PD-364	SPRP	LYNCHES RVR	FW	0			19	0	0	
PD-319	PD	LYNCHES RVR	FW	0			12	0	0	
PD-093	INT	LYNCHES RVR	FW	0			21	0	0	
	0304020204									
PD-229	PD	NEWMAN SWAMP	FW-SP	25	11		4	0	0	
PD-072	PD	SPARROW SWAMP	FW-SP	0			4	0	0	
PD-345	INT	LAKE SWAMP	FW-SP	25	20		4	0	0	
PD-332	INT	SPARROW SWAMP	FW-SP	0			12	0	0	
	0304020207									
PD-041	PD	LYNCHES RVR	FW	0			13	0	0	
PD-281	INT	LYNCHES RVR	FW	16	17		19	0	0	
PD-168	PD	BIG SWAMP	FW-SP	25	22		4	0	0	
PD-631	BIO	TRIB TO BIG SWP								
PD-169	INT	BIG SWAMP	FW-SP	0			8	0	0	
	0304020206									
PD-346	INT	CAMP BRANCH	FW	0			12	0	0	
PD-085	PD	LAKE SWAMP	FW-SP							

Lynches River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	HG N	HG EXC.	HG %	MEAN EXC.	NI N	NI EXC.	NI %	ZN N	ZN EXC.	ZN %
	0304020201												
PD-333	PD / BIO	HILLS CK	FW	4	0	0		4	0	0	4	0	0
PD-366	INT	HILLS CK	FW	10	0	0		10	0	0	10	0	0
PD-113	INT	LYNCHES RVR	FW	19	0	0		19	0	0	19	0	0
PD-679	BIO	N BRANCH WILDCAT CK											
PD-179	PD	N BRANCH WILDCAT CK	FW	4	0	0		4	0	0	4	0	0
PD-180 / RS-01058	PD / BIO	S BRANCH WILDCAT CK	FW	8	0	0		8	0	0	8	0	0
PD-182	BIO	FLAT CK											
PD-342	INT	FLAT CK	FW	11	0	0		11	0	0	11	1	9
PD-001	INT / BIO	LYNCHES RVR	FW	11	0	0		11	0	0	11	0	0
	0304020203												
PD-647	BIO	LITTLE FORK CK											
PD-215	INT	LITTLE FORK CK	FW	11	0	0		11	0	0	11	0	0
PD-067	PD	FORK CK	FW	5	0	0		4	0	0	4	0	0
PD-068	INT	FORK CK	FW	11	0	0		11	0	0	11	0	0
PD-066	PD	LYNCHES RVR	FW	8	0	0		8	0	0	8	0	0
PD-009	INT	LYNCHES RVR	FW	6	0	0		6	0	0	6	0	0
	0304020202												
PD-640	BIO	LITTLE LYNCHES RVR											
PD-335	PD	HORTON CK	FW	4	0	0		4	0	0	4	0	0
PD-005	PD	TODDS BRANCH	FW	4	0	0		4	0	0	4	0	0
PD-006	PD	LITTLE LYNCHES RVR	FW	12	0	0		12	0	0	12	0	0
PD-334	PD	HAILE GOLD MINE CK	FW	7	0	0		7	0	0	7	0	0
PD-632	BIO	LITTLE LYNCHES RVR											
PD-109	PD	LITTLE LYNCHES RVR	FW	12	0	0		12	0	0	12	0	0
PD-329	PD	LICK CK	FW	4	0	0		4	0	0	4	0	0
PD-328	PD	HANGING ROCK CK	FW	4	0	0		4	0	0	4	0	0
PD-669	BIO	HANGING ROCK CK											
PD-704	BIO	COW BRANCH											
PD-343	INT	LITTLE LYNCHES RVR	FW	12	0	0		12	0	0	12	0	0
PD-678	BIO	BEAVER DAM CK											
PD-344	INT	LITTLE LYNCHES RVR	FW	12	0	0		12	0	0	12	0	0
	0304020205												
PD-080	PD	LYNCHES RVR	FW	12	0	0		12	0	0	12	0	0
PD-071	PD	LYNCHES RVR	FW	12	0	0		12	0	0	12	1	8
PD-112	PD	COUSAR BRANCH	FW	5	0	0		5	0	0	5	0	0
PD-106	I*	LYNCHES RVR	FW										
PD-364	SPRP	LYNCHES RVR	FW	19	0	0		19	0	0	19	0	0
PD-319	PD	LYNCHES RVR	FW	12	0	0		12	0	0	12	0	0
PD-093	INT	LYNCHES RVR	FW	21	0	0		21	0	0	21	0	0
	0304020204												
PD-229	PD	NEWMAN SWAMP	FW-SP	4	0	0		4	0	0	4	0	0
PD-072	PD	SPARROW SWAMP	FW-SP	4	0	0		4	0	0	4	0	0
PD-345	INT	LAKE SWAMP	FW-SP	4	0	0		4	0	0	4	0	0
PD-332	INT	SPARROW SWAMP	FW-SP	12	0	0		12	0	0	12	0	0
	0304020207												
PD-041	PD	LYNCHES RVR	FW	13	0	0		13	0	0	13	0	0
PD-281	INT	LYNCHES RVR	FW	19	0	0		19	0	0	19	0	0
PD-168	PD	BIG SWAMP	FW-SP	4	0	0		4	0	0	4	0	0
PD-631	BIO	TRIB TO BIG SWP											
PD-169	INT	BIG SWAMP	FW-SP	8	0	0		8	0	0	8	0	0
	0304020206												
PD-346	INT	CAMP BRANCH	FW	12	0	0		12	0	0	12	0	0
PD-085	PD	LAKE SWAMP	FW-SP										

Lynches River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	MEAN EXC.
	0304020201			
PD-333	PD / BIO	HILLS CK	FW	
PD-366	INT	HILLS CK	FW	
PD-113	INT	LYNCHES RVR	FW	
PD-679	BIO	N BRANCH WILDCAT CK		
PD-179	PD	N BRANCH WILDCAT CK	FW	
PD-180 / RS-01058	PD / BIO	S BRANCH WILDCAT CK	FW	
PD-182	BIO	FLAT CK		
PD-342	INT	FLAT CK	FW	88
PD-001	INT / BIO	LYNCHES RVR	FW	
	0304020203			
PD-647	BIO	LITTLE FORK CK		
PD-215	INT	LITTLE FORK CK	FW	
PD-067	PD	FORK CK	FW	
PD-068	INT	FORK CK	FW	
PD-066	PD	LYNCHES RVR	FW	
PD-009	INT	LYNCHES RVR	FW	
	0304020202			
PD-640	BIO	LITTLE LYNCHES RVR		
PD-335	PD	HORTON CK	FW	
PD-005	PD	TODDS BRANCH	FW	
PD-006	PD	LITTLE LYNCHES RVR	FW	
PD-334	PD	HAILE GOLD MINE CK	FW	
PD-632	BIO	LITTLE LYNCHES RVR		
PD-109	PD	LITTLE LYNCHES RVR	FW	
PD-329	PD	LICK CK	FW	
PD-328	PD	HANGING ROCK CK	FW	
PD-669	BIO	HANGING ROCK CK		
PD-704	BIO	COW BRANCH		
PD-343	INT	LITTLE LYNCHES RVR	FW	
PD-678	BIO	BEAVER DAM CK		
PD-344	INT	LITTLE LYNCHES RVR	FW	
	0304020205			
PD-080	PD	LYNCHES RVR	FW	
PD-071	PD	LYNCHES RVR	FW	90
PD-112	PD	COUSAR BRANCH	FW	
PD-106	I*	LYNCHES RVR	FW	
PD-364	SPRP	LYNCHES RVR	FW	
PD-319	PD	LYNCHES RVR	FW	
PD-093	INT	LYNCHES RVR	FW	
	0304020204			
PD-229	PD	NEWMAN SWAMP	FW-SP	
PD-072	PD	SPARROW SWAMP	FW-SP	
PD-345	INT	LAKE SWAMP	FW-SP	
PD-332	INT	SPARROW SWAMP	FW-SP	
	0304020207			
PD-041	PD	LYNCHES RVR	FW	
PD-281	INT	LYNCHES RVR	FW	
PD-168	PD	BIG SWAMP	FW-SP	
PD-631	BIO	TRIB TO BIG SWP		
PD-169	INT	BIG SWAMP	FW-SP	
	0304020206			
PD-346	INT	CAMP BRANCH	FW	
PD-085	PD	LAKE SWAMP	FW-SP	

Lynches River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS		DO N	DO EXC.	DO %	MEAN EXC.	TRENDS (89 -2003) DO	N	MAG	BOD	N
PD-086A / RS-02318	INT	LAKE SWAMP	FW-SP		40	26	65	1.404	*	107	0	I	107
PD-314	INT	SINGLETON SWAMP	FW		29	19	66	2.521	*	49	0.045	D	49
PD-087	INT	LAKE SWAMP	FW-SP		30	14	47	2.736	*	99	0	*	99

Lynches River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	MAG
PD-086A / RS-02318	INT	LAKE SWAMP	FW-SP	0.058
PD-314	INT	SINGLETON SWAMP	FW	-0.158
PD-087	INT	LAKE SWAMP	FW-SP	0

Lynches River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS		pH N	pH EXC.	pH %	MEAN EXC.	TRENDS (89-2003) PH	N	MAG		TURB N
PD-086A / RS-02318	INT	LAKE SWAMP	FW-SP		40	1	3	4.86	D	107	-0.023		40
PD-314	INT	SINGLETON SWAMP	FW		28	10	36	5.548	*	48	-0.011		29
PD-087	INT	LAKE SWAMP	FW-SP		30	1	3	4.6	*	99	0		30

Lynches River Basin

STATION				TURB	TURB	MEAN	TRENDS (89-2003)				TP	TP
NUMBER	TYPE	WATERBODY NAME	CLASS	EXC.	%	EXC.	TURB	N	MAG		N	EXC.
PD-086A / RS-02318	INT	LAKE SWAMP	FW-SP	0	0		*	107	0.044			
PD-314	INT	SINGLETON SWAMP	FW	0	0		*	49	0.037			
PD-087	INT	LAKE SWAMP	FW-SP	0	0		*	99	0			

Lynches River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	TP %	MEAN EXC.	TRENDS (92-2003) TP	N	MAG		TRENDS (89-2003) TP	N	MAG
PD-086A / RS-02318	INT	LAKE SWAMP	FW-SP			*	65	-0.019		*	82	-0.014
PD-314	INT	SINGLETON SWAMP	FW			*	39	-0.004		*	39	-0.004
PD-087	INT	LAKE SWAMP	FW-SP			*	57	0		*	75	-0.003

Lynches River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS		TN N	TN EXC.	TN %	MEAN EXC.	TRENDS (89-2003) TN	N	MAG		CHL N
PD-086A / RS-02318	INT	LAKE SWAMP	FW-SP						*	36	0.007		
PD-314	INT	SINGLETON SWAMP	FW						*	34	-0.033		
PD-087	INT	LAKE SWAMP	FW-SP						*	31	-0.026		

Lynches River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	CHL EXC.	CHL %	MEAN EXC.		TRENDS (89-2003) TSS	N	MAG
PD-086A / RS-02318	INT	LAKE SWAMP	FW-SP							
PD-314	INT	SINGLETON SWAMP	FW							
PD-087	INT	LAKE SWAMP	FW-SP							

Lynches River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS		GEO MEAN	BACT N	BACT EXC.	BACT %	MEAN EXC.	TRENDS (BACT	N
PD-086A / RS-02318	INT	LAKE SWAMP	FW-SP		77.3497	39	1	3	600	*	107
PD-314	INT	SINGLETON SWAMP	FW		61.8564	29	1	3	960	*	49
PD-087	INT	LAKE SWAMP	FW-SP		117.1442	29	2	7	1220	*	97

Lynches River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	89-2003) MAG		NH3 N	NH3 EXC.	NH3 %	MEAN EXC.
PD-086A / RS-02318	INT	LAKE SWAMP	FW-SP	-3.34		18	0	0	
PD-314	INT	SINGLETON SWAMP	FW	0.75		17	0	0	
PD-087	INT	LAKE SWAMP	FW-SP	0.125		13	0	0	

Lynches River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS		CD N	CD EXC.	CD %	MEAN EXC.		CR N	CR EXC.	CR %		CU N	CU EXC.
PD-086A / RS-02318	INT	LAKE SWAMP	FW-SP		10	0	0			10	0	0		10	1
PD-314	INT	SINGLETON SWAMP	FW		9	0	0			9	0	0		9	1
PD-087	INT	LAKE SWAMP	FW-SP		6	0	0			6	0	0		6	0

Lynches River Basin

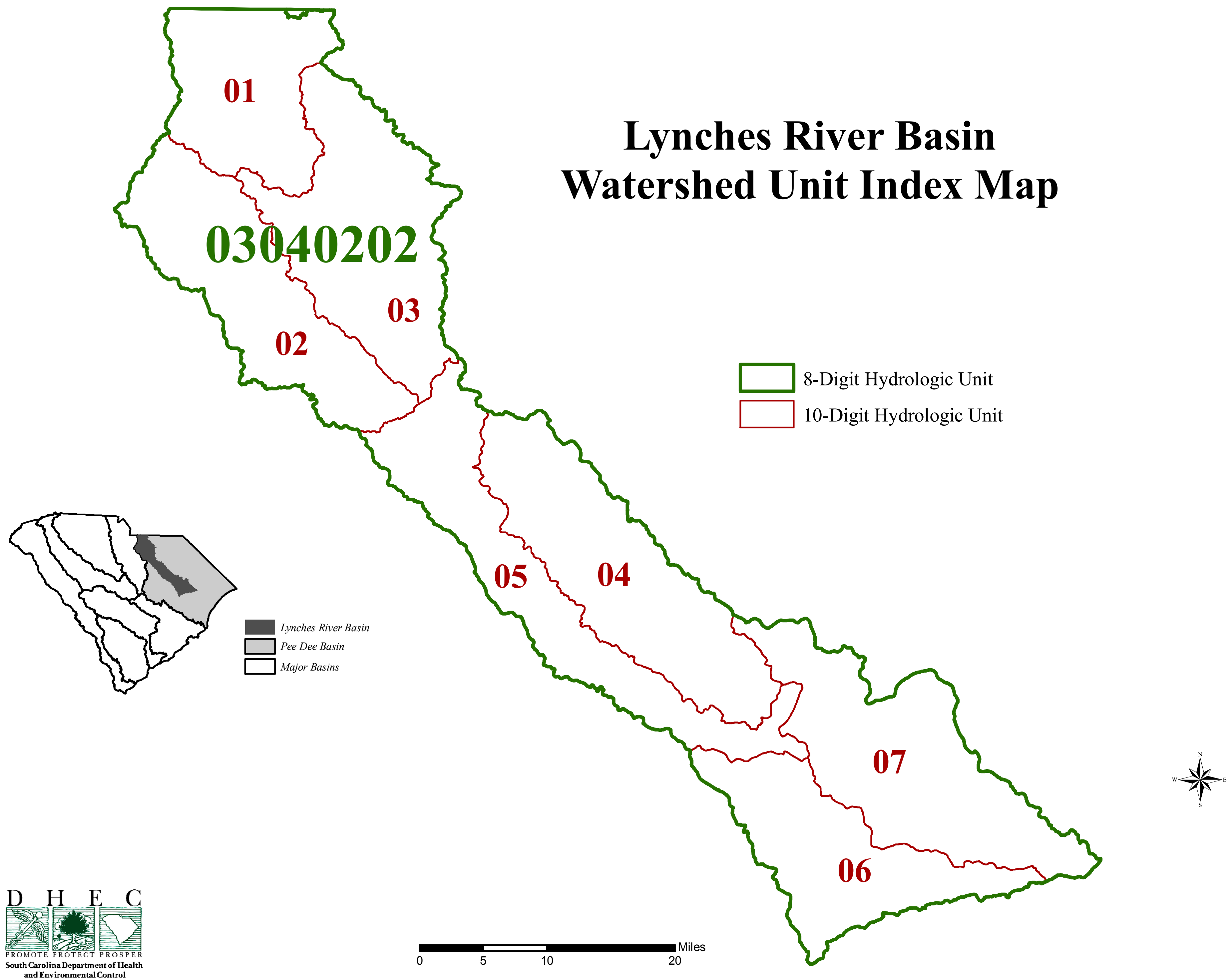
STATION NUMBER	TYPE	WATERBODY NAME	CLASS	CU %	MEAN EXC.		PB N	PB EXC.	PB %	MEAN EXC.
PD-086A / RS-02318	INT	LAKE SWAMP	FW-SP	10	12		10	0	0	
PD-314	INT	SINGLETON SWAMP	FW	11	12		9	0	0	
PD-087	INT	LAKE SWAMP	FW-SP	0			6	0	0	

Lynches River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS		HG N	HG EXC.	HG %	MEAN EXC.		NI N	NI EXC.	NI %		ZN N	ZN EXC.	ZN %
PD-086A / RS-02318	INT	LAKE SWAMP	FW-SP		10	0	0			10	0	0		10	0	0
PD-314	INT	SINGLETON SWAMP	FW		8	0	0			9	0	0		9	0	0
PD-087	INT	LAKE SWAMP	FW-SP		6	0	0			6	0	0		6	0	0

Lynches River Basin

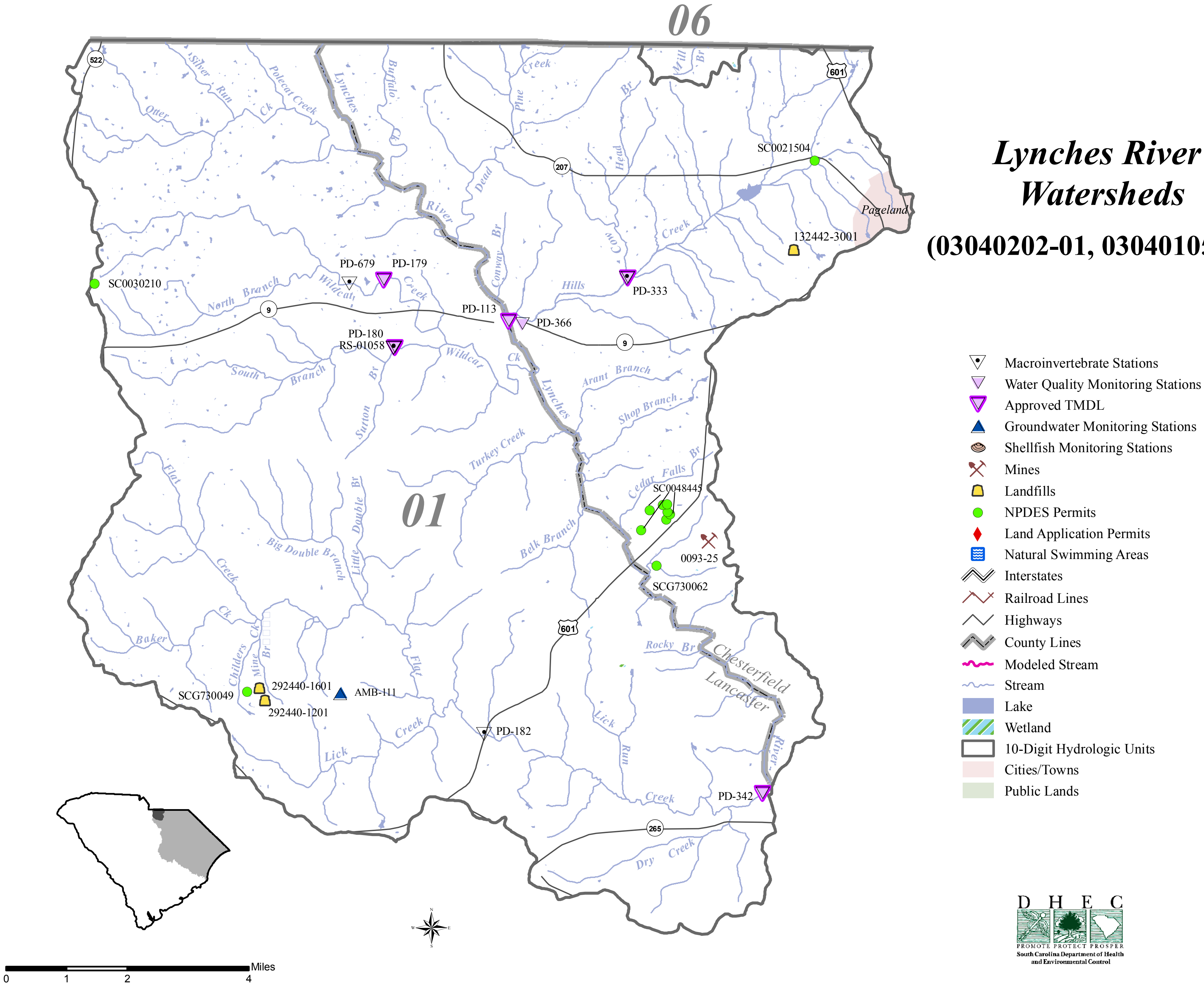
STATION NUMBER	TYPE	WATERBODY NAME	CLASS	MEAN EXC.
PD-086A / RS-02318	INT	LAKE SWAMP	FW-SP	
PD-314	INT	SINGLETON SWAMP	FW	
PD-087	INT	LAKE SWAMP	FW-SP	



Lynches River Basin
Watershed Unit Index Map
03040202
01
02
03
04
05
06
07
8-Digit Hydrologic Unit
10-Digit Hydrologic Unit
Lynches River Basin
Pee Dee Basin
Major Basins
Miles
0
5
10
20
N
S
E
W
D H E C
PROMOTE PROTECT PROSPER
South Carolina Department of Health
and Environmental Control

Lynches River Watersheds

(03040202-01, 03040105-06)



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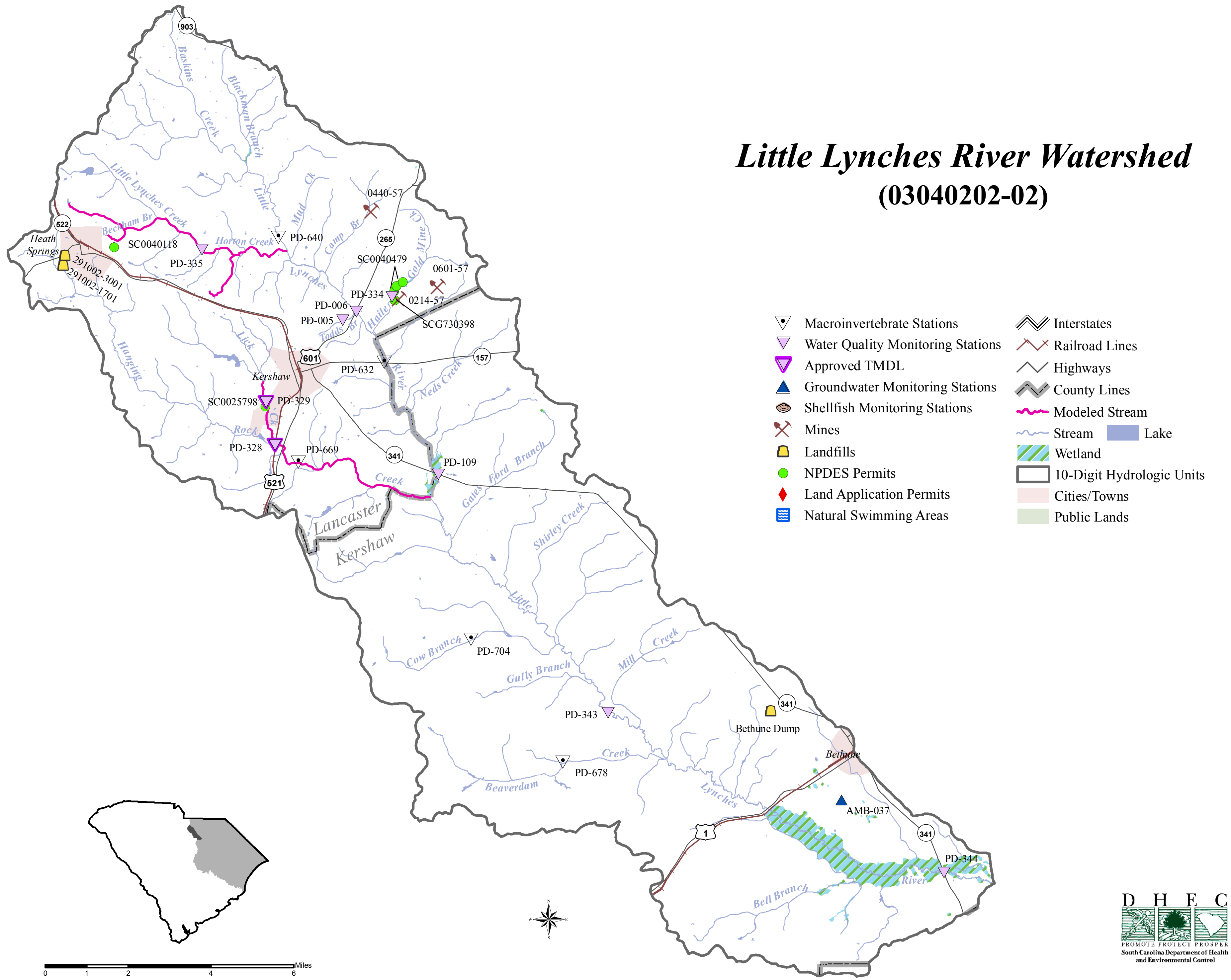
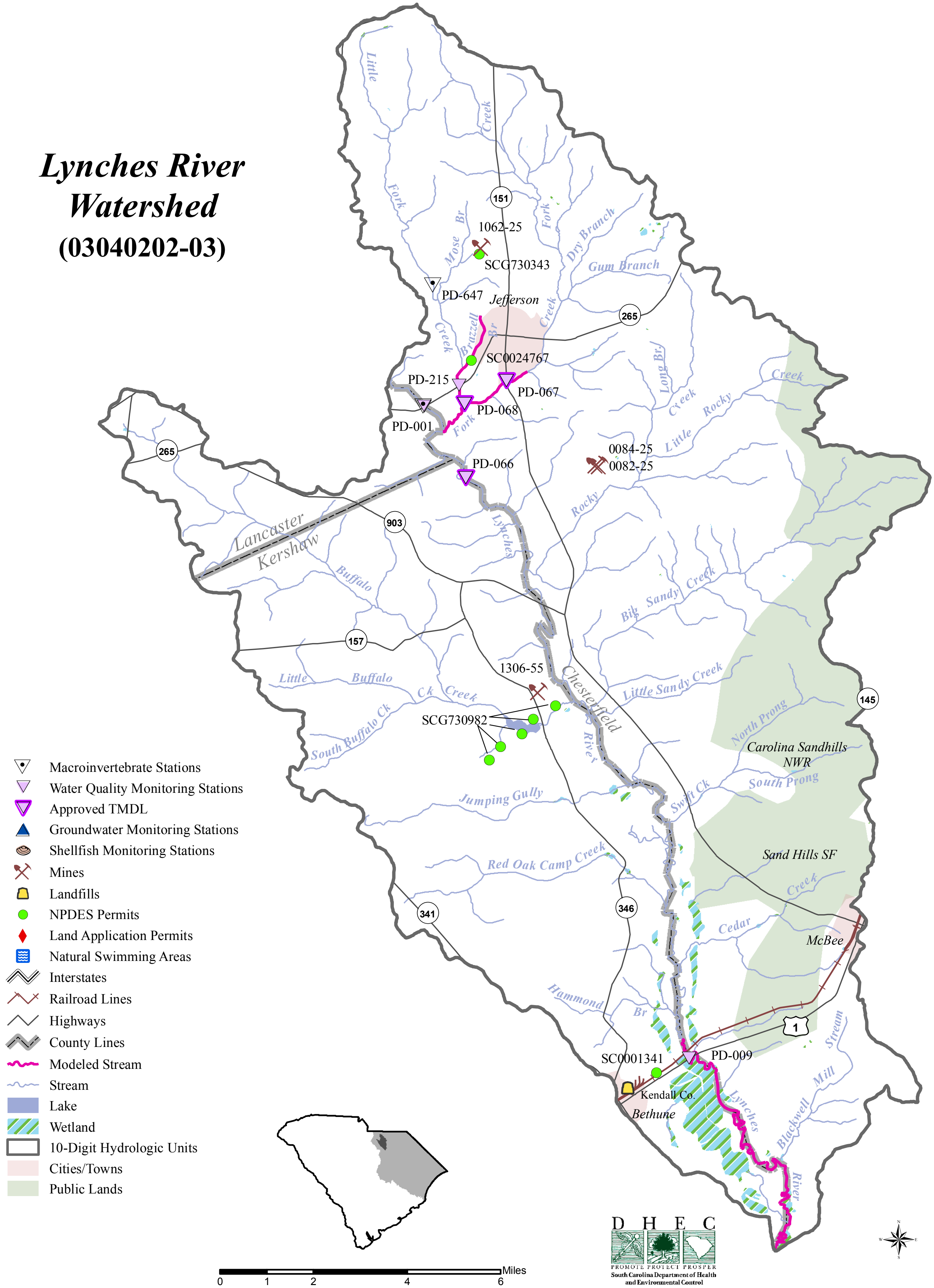
PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control


Little Lynches River Watershed
(03040202-02)
Macroinvertebrate Stations
Water Quality Monitoring Stations
Approved TMDL
Groundwater Monitoring Stations
Shellfish Monitoring 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
Heath Springs
Kershaw
Bethune
Lancaster
Kershaw
Little Lynches Creek
Beckham Br
Horton Creek
Baskins Creek
Blackman Branch
Little Mud Ck
Camp Br
Gold Mine Ck
Hailey River
Todds Br
Lick Ck
Hanging Rock Creek
Neds Creek
Gates Ford Branch
Shirley Creek
Little Lynches River
Cow Branch
Gully Branch
Mill Creek
Beaverdam Creek
Bell Branch
SC0040118
PD-335
PD-640
0440-57
SC0040479
0601-57
PD-334
0214-57
SCG730398
PD-006
PD-005
291002-3001
291002-1701
PD-632
SC0025798
PD-329
PD-328
PD-669
PD-109
PD-704
PD-343
Bethune Dump
PD-678
AMB-037
PD-344
903
522
265
601
157
341
521
1
0
1
2
4
6
Miles
D H E C
PROMOTE PROTECT PROSPER
South Carolina Department of Health and Environmental Control

Lynches River Watershed
(03040202-03)



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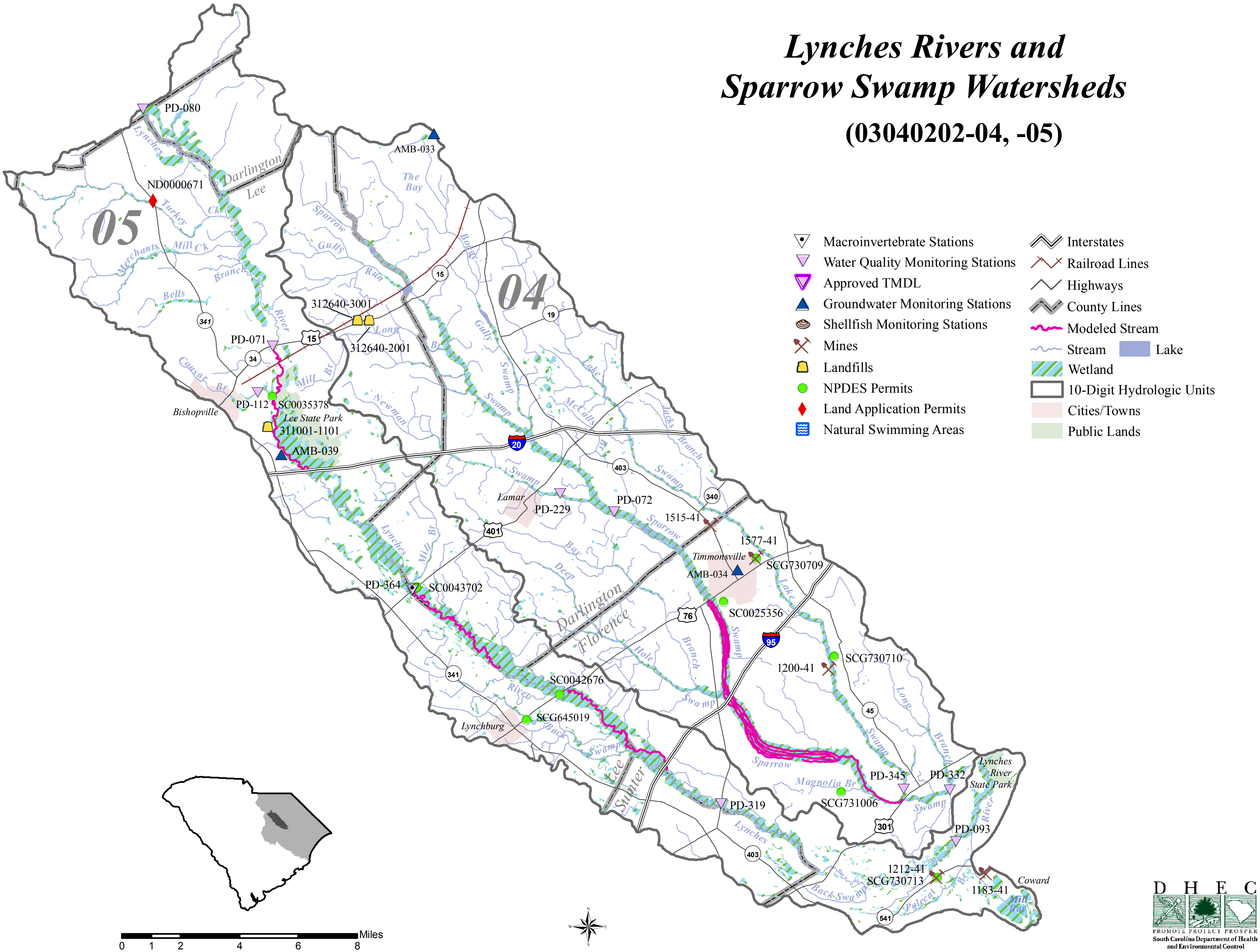
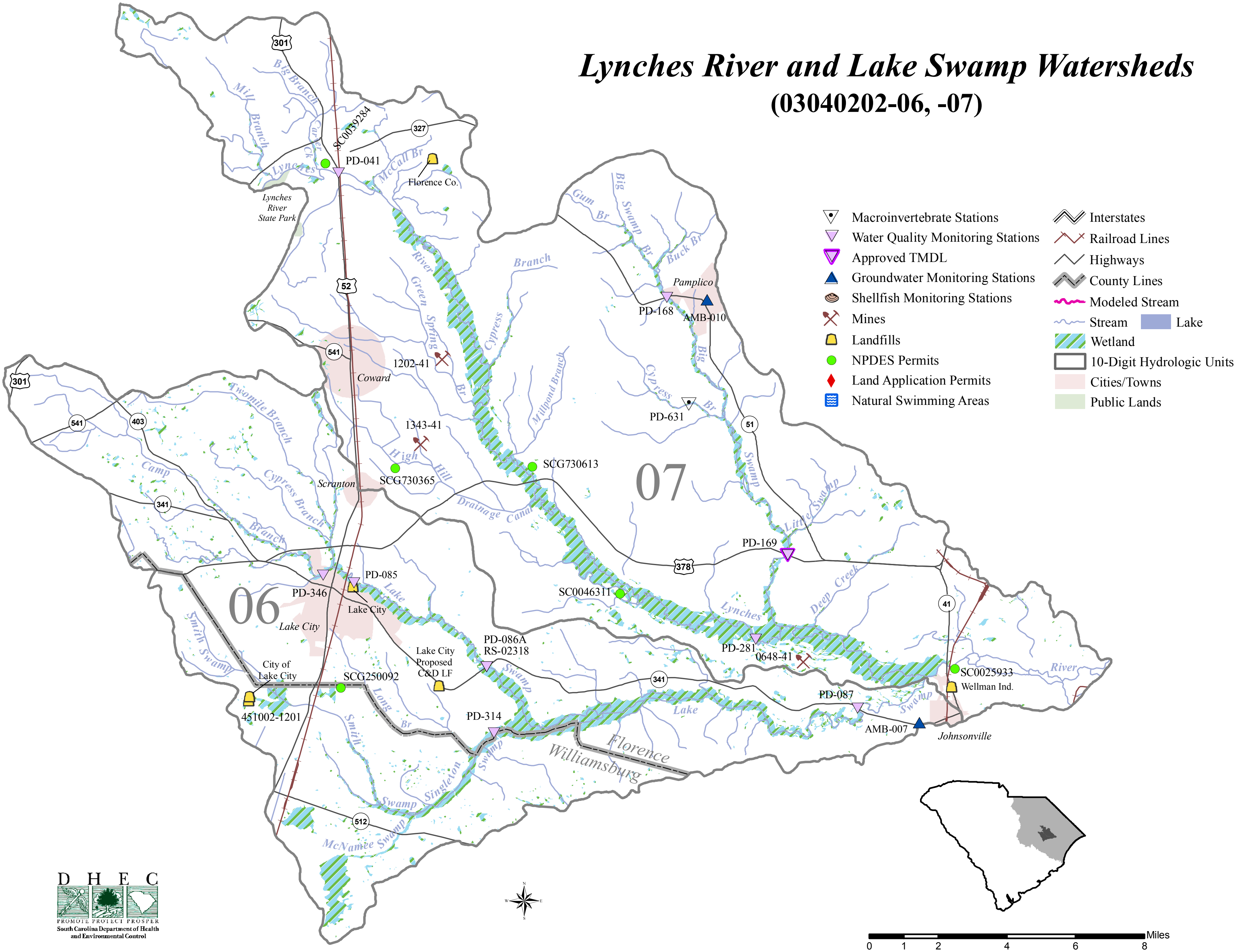
Lynches Rivers and Sparrow Swamp Watersheds

(03040202-04, -05)



Lynches River and Lake Swamp Watersheds

(03040202-06, -07)



APPENDIX B.

Black River Basin

Ambient Water Quality Monitoring Site Descriptions

Station #	Type	Class	Description
03040205-01			
PD-355	W/INT	FW	SCAPE ORE SWAMP AT S-31-108
RS-01017	W-RS01	FW	MCGRITS CREEK AT CR 73, 7.5M SW OF BISHOPVILLE
CL-077	W	FW	LAKE ASHWOOD , FOREBAY EQUIDISTANT FROM DAM AND SHORE LINES
PD-356	W/INT	FW	MECHANICSVILLE SWAMP AT S-31-500
PD-357	W/INT	FW*	ROCKY BLUFF SWAMP AT US 76
PD-201	W/INT	FW*	SCAPE ORE SWAMP AT S-43-41
03040205-02			
PD-353	S/INT	FW*	BLACK RIVER AT S-43-57
PD-354	W/INT	FW	CANAL TO ATKINS DRAINAGE CANAL AT SC 527 (.75 MI N OF US 76)
03040205-03			
RS-03345	RS03/BIO	FW	BRUNSON SWAMP AT S-43-251, 9.25 MI SW OF SUMTER
PD-239	S/W	FW	NASTY BRANCH AT S-43-251 7.5 MI SW OF SUMTER
PD-039	S/W	FW*	GREEN SWAMP AT S-43-33
03040205-04			
PD-091	P/INT	FW*	POCOTALIGO RIVER AT US 15, 3.5 MI S OF SUMTER
PD-098	S/W	FW*	TURKEY CREEK AT LIBERTY ST IN SUMTER BY SANTEE PRINT WORKS
PD-040	W	FW*	TURKEY CREEK AT US 521
PD-202	P/W	FW*	POCOTALIGO RIVER AT S-43-32, 9 MI SE OF SUMTER
PD-627	BIO	FW*	BIG BRANCH AT SC 261
PD-115	S/W	FW*	POCOTALIGO RIVER AT THIRD BRIDGE N OF MANNING ON US 301
PD-693	BIO	FW	DEEP CREEK AT S-14-25, 1.2 MI NE OF BLOOMSVILLE
RS-03347	RS03	FW	DEEP CREEK AT S-14-25, 1.2 MI NE OF BLOOMSVILLE
PD-043	P/INT	FW*	POCOTALIGO RIVER AT S-14-50, 9.5 MI NE OF MANNING
03040205-05			
PD-157	BIO	FW*	PUDDING SWAMP AT US 301
RS-01002	RS01	FW*	DOUGLAS SWAMP OFF THIGPEN RD, 3.5 MI E OF TURBEVILLE
PD-695	BIO	FW*	DOUGLAS SWAMP AT US 378
PD-203	S/INT	FW*	PUDDING SWAMP AT SC 527 8.1 MI NW OF KINGSTREE
03040205-06			
RS-02477	RS02	FW	TEARCOAT BRANCH AT S-14-50
PD-116	S/INT	FW*	BLACK RIVER AT S-14-40 E OF MANNING
PD-227	P/INT	FW*	BLACK RIVER AT S-45-35 8.6 MI NW OF KINGSTREE
03040205-07			
PD-696	BIO	FW	CLAPP SWAMP AT SR 47
RS-02325	RS02	FW	CLAPP SWAMP AT SC 527
PD-044	S/INT	FW*	BLACK RIVER AT US 52 AT KINGSTREE
PD-358	W/INT	FW	KINGSTREE SWAMP CANAL AT SC 527
PD-206	BIO	FW	DICKIE SWAMP AT SR 220
PD-045	S/W	FW*	BLACK RIVER AT SC 377 AT BRYAN'S CROSSROADS
PD-697	BIO	FW	BOGGY SWAMP AT SC 527

Station #	Type	Class	Description
03040205-07 (continued)			
PD-629	BIO	FW	Ox Swamp at US 521
(PD-359)	W	FW*	Black River at S-45-30
03040205-08			
PD-703	BIO	FW	Paisley Swamp at SC 261
PD-360	W/INT	FW	Black Mingo Creek at S-45-121
PD-361	S/INT	FW	Black Mingo Creek at Cowhead landing off SC 51
03040205-09			
PD-359	W/INT	FW*	Black River at S-45-30
PD-698	BIO	FW	Burch Creek at S-45-30
PD-694	BIO	FW	Johnson Swamp at S-45-30
PD-170	W/INT	FW*	Black River at SC 51, 11.6mi NE of Andrews
RS-03353	W/RS03	FW	Greens Creek at S-22-318 (Johnson Rd), 7.7 mi NW of Georgetown
PD-325	P/INT	SA	Black River at S-22-489 4 mi NE of Georgetown

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

Statistical Abbreviations:

N For *standards compliance*, number of surface samples collected between January 1999 and December 2003.
For *trends*, number of surface samples collected between January 1989 and December 2003.
For *total phosphorus*, an additional trend period of January 1992 to December 2003 is also reported.

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 1999 and December 2003. 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 1999 and December 2003

Key to Trends:

D Statistically significant decreasing trend in parameter concentration

I Statistically significant increasing trend in parameter concentration

***** No statistically significant trend

Black River Basin

STATION				DO	DO	DO	MEAN	TRENDS (89 -2003)				
NUMBER	TYPE	WATERBODY NAME	CLASS	N	EXC.	%	EXC.	DO	N	MAG	BOD	N
	0304020502											
PD-354	INT	UNNAMED DRAINAGE CANAL	FW	21	11	52	2.927	D	41	-0.31	*	41
PD-186	I*	BLACK RVR	FW-SP									
PD-353	INT	BLACK RVR	FW-SP	37	14	38	2.421	*	75	-0.033	*	75
	0304020501											
PD-355	INT	SCAPE ORE SWAMP	FW	34	14	41	3.263	*	54	-0.087	D	53
RS-01017	RS01	MCGRITS CK	FW	7	2	29	2.1					
CL-077	PD	LAKE ASHWOOD	FW	11	2	18	3.845					
PD-356	INT	MECHANICSVILLE SWAMP	FW	31	21	68	2.549	D	50	-0.39	*	50
PD-357	INT	ROCKY BLUFF SWAMP	FW-SP	12	3	25	2.5	*	32	0	*	32
PD-201	INT	ROCKY BLUFF SWAMP	FW-SP	20	3	15	3.633	I	48	0.202	D	48
	0304020506											
RS-02477	RS02	TEARCOAT BRANCH	FW	10	5	50	4.1					
PD-116	INT	BLACK RVR	FW-SP	44	11	25	2.973	D	111	-0.084	*	108
PD-227	INT	BLACK RVR	FW-SP	56	2	4	3.35	*	172	0	D	169
	0304020503											
RS-03345	RS03 / BIO	BRUNSON SWAMP CREEK	FW	10	3	30	4.533					
PD-239	PD	NASTY BRANCH	FW	20	13	65	2.731	D	66	-0.265	*	65
PD-039	PD	GREEN SWAMP	FW-SP	20	11	55	3.309	D	67	-0.131	*	67
PD-091	INT	POCOTALIGO RVR	FW-SP	52	24	46	1.704	D	170	-0.1	D	167
	0304020504											
PD-098	PD	TURKEY CK	FW-SP	22	1	5	2.6	*	69	-0.05	*	70
PD-040	PD	TURKEY CK	FW-SP	11	2	18	2.7	*	31	0.002	*	31
PD-202	PD	POCOTALIGO RVR	FW-SP	33	17	52	1.924	I	153	0.1	*	152
PD-627	BIO	BIG BRANCH										
PD-115	PD	POCOTALIGO RVR	FW-SP	22	15	68	3.013	*	69	0.038	*	65
RS-03347 / PD-693	RS03 / BIO	DEEP CREEK	FW	9	4	44	3.3					
PD-043	INT	POCOTALIGO RVR	FW-SP	45	5	11	3.3	*	163	0	*	162
	0304020505											
PD-157	BIO	PUDDING SWAMP										
RS-01002	RS01	DOUGLAS SWAMP	FW-SP	11	6	55	2.283					
PD-695	BIO	DOUGLASS SWAMP										
PD-203	INT	PUDDING SWAMP	FW-SP	32	10	31	2.52	*	98	-0.071	D	98

Black River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	MAG
	0304020502			
PD-354	INT	UNNAMED DRAINAGE CANAL	FW	-0.135
PD-186	I*	BLACK RVR	FW-SP	
PD-353	INT	BLACK RVR	FW-SP	-0.118
	0304020501			
PD-355	INT	SCAPE ORE SWAMP	FW	-0.124
RS-01017	RS01	MCGRITS CK	FW	
CL-077	PD	LAKE ASHWOOD	FW	
PD-356	INT	MECHANICSVILLE SWAMP	FW	-0.033
PD-357	INT	ROCKY BLUFF SWAMP	FW-SP	-0.159
PD-201	INT	ROCKY BLUFF SWAMP	FW-SP	-0.177
	0304020506			
RS-02477	RS02	TEARCOAT BRANCH	FW	
PD-116	INT	BLACK RVR	FW-SP	0
PD-227	INT	BLACK RVR	FW-SP	-0.06
	0304020503			
RS-03345	RS03 / BIO	BRUNSON SWAMP CREEK	FW	
PD-239	PD	NASTY BRANCH	FW	0
PD-039	PD	GREEN SWAMP	FW-SP	0
PD-091	INT	POCOTALIGO RVR	FW-SP	-0.07
	0304020504			
PD-098	PD	TURKEY CK	FW-SP	0.005
PD-040	PD	TURKEY CK	FW-SP	-0.195
PD-202	PD	POCOTALIGO RVR	FW-SP	0
PD-627	BIO	BIG BRANCH		
PD-115	PD	POCOTALIGO RVR	FW-SP	0
RS-03347 / PD-693	RS03 / BIO	DEEP CREEK	FW	
PD-043	INT	POCOTALIGO RVR	FW-SP	-0.01
	0304020505			
PD-157	BIO	PUDDING SWAMP		
RS-01002	RS01	DOUGLAS SWAMP	FW-SP	
PD-695	BIO	DOUGLASS SWAMP		
PD-203	INT	PUDDING SWAMP	FW-SP	-0.05

Black River Basin

STATION				pH	pH	pH	MEAN	TRENDS (89-2003)			TURB
NUMBER	TYPE	WATERBODY NAME	CLASS	N	EXC.	%	EXC.	PH	N	MAG	N
	0304020502										
PD-354	INT	UNNAMED DRAINAGE CANAL	FW	21	4	19	5.775	*	41	-0.001	20
PD-186	I*	BLACK RVR	FW-SP					*	30	0.029	
PD-353	INT	BLACK RVR	FW-SP	37	0	0		*	75	0	36
	0304020501										
PD-355	INT	SCAPE ORE SWAMP	FW	34	28	82	5.276	*	54	-0.057	36
RS-01017	RS01	MCGRITS CK	FW	7	6	86	5.468				7
CL-077	PD	LAKE ASHWOOD	FW	11	3	27	5.677				11
PD-356	INT	MECHANICSVILLE SWAMP	FW	31	20	65	5.468	*	50	-0.038	33
PD-357	INT	ROCKY BLUFF SWAMP	FW-SP	12	1	8	4.35	*	32	-0.03	12
PD-201	INT	ROCKY BLUFF SWAMP	FW-SP	20	2	10	4.595	*	48	-0.001	19
	0304020506										
RS-02477	RS02	TEARCOAT BRANCH	FW	10	6	60	5.735				9
PD-116	INT	BLACK RVR	FW-SP	44	3	7	4.687	D	110	-0.029	43
PD-227	INT	BLACK RVR	FW-SP	56	2	4	4.88	*	172	0	55
	0304020503										
RS-03345	RS03 / BIO	BRUNSON SWAMP CREEK	FW	10	10	100	5.483				10
PD-239	PD	NASTY BRANCH	FW	20	15	75	5.596	*	67	0	20
PD-039	PD	GREEN SWAMP	FW-SP	20	0	0		*	68	-0.018	20
PD-091	INT	POCOTALIGO RVR	FW-SP	54	1	2	4.8	D	173	-0.014	52
	0304020504										
PD-098	PD	TURKEY CK	FW-SP	22	0	0		*	70	0	22
PD-040	PD	TURKEY CK	FW-SP	11	0	0		*	31	0	11
PD-202	PD	POCOTALIGO RVR	FW-SP	33	0	0		I	153	0.033	33
PD-627	BIO	BIG BRANCH									
PD-115	PD	POCOTALIGO RVR	FW-SP	22	0	0		I	69	0.032	22
RS-03347 / PD-693	RS03 / BIO	DEEP CREEK	FW	9	4	44	5.848				9
PD-043	INT	POCOTALIGO RVR	FW-SP	45	1	2	4.79	I	162	0.043	44
	0304020505										
PD-157	BIO	PUDDING SWAMP									
RS-01002	RS01	DOUGLAS SWAMP	FW-SP	11	0	0					11
PD-695	BIO	DOUGLASS SWAMP									
PD-203	INT	PUDDING SWAMP	FW-SP	32	0	0		*	98	-0.007	31

Black River Basin

STATION				TURB	TURB	MEAN	TRENDS (89-2003)				TP	TP
NUMBER	TYPE	WATERBODY NAME	CLASS	EXC.	%	EXC.	TURB	N	MAG		N	EXC.
	0304020502											
PD-354	INT	UNNAMED DRAINAGE CANAL	FW	0	0		*	40	0.163			
PD-186	I*	BLACK RVR	FW-SP				*	30	-0.519			
PD-353	INT	BLACK RVR	FW-SP	0	0		*	74	0.025			
	0304020501											
PD-355	INT	SCAPE ORE SWAMP	FW	0	0		D	55	-0.264			
RS-01017	RS01	MCGRITS CK	FW	2	29	295						
CL-077	PD	LAKE ASHWOOD	FW	0	0						11	0
PD-356	INT	MECHANICSVILLE SWAMP	FW	0	0		*	52	-0.043			
PD-357	INT	ROCKY BLUFF SWAMP	FW-SP	0	0		*	32	-0.014			
PD-201	INT	ROCKY BLUFF SWAMP	FW-SP	0	0		*	47	-0.02			
	0304020506											
RS-02477	RS02	TEARCOAT BRANCH	FW	0	0							
PD-116	INT	BLACK RVR	FW-SP	0	0		*	109	-0.1			
PD-227	INT	BLACK RVR	FW-SP	0	0		*	172	0			
	0304020503											
RS-03345	RS03 / BIO	BRUNSON SWAMP CREEK	FW	1	10	100						
PD-239	PD	NASTY BRANCH	FW	0	0		D	67	-0.138			
PD-039	PD	GREEN SWAMP	FW-SP	0	0		*	68	-0.021			
PD-091	INT	POCOTALIGO RVR	FW-SP	0	0		*	171	0.02			
	0304020504											
PD-098	PD	TURKEY CK	FW-SP	0	0		D	69	-0.346			
PD-040	PD	TURKEY CK	FW-SP	0	0		*	31	-0.117			
PD-202	PD	POCOTALIGO RVR	FW-SP	0	0		*	153	0			
PD-627	BIO	BIG BRANCH										
PD-115	PD	POCOTALIGO RVR	FW-SP	0	0		I	69	0.069			
RS-03347 / PD-693	RS03 / BIO	DEEP CREEK	FW	0	0							
PD-043	INT	POCOTALIGO RVR	FW-SP	0	0		D	162	-0.04			
	0304020505											
PD-157	BIO	PUDDING SWAMP										
RS-01002	RS01	DOUGLAS SWAMP	FW-SP	0	0							
PD-695	BIO	DOUGLASS SWAMP										
PD-203	INT	PUDDING SWAMP	FW-SP	0	0		*	98	0			

Black River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	TP %	MEAN EXC.	TRENDS (92-2003) TP	N	MAG		TRENDS (89-2003) TP	N	MAG
	0304020502											
PD-354	INT	UNNAMED DRAINAGE CANAL	FW									
PD-186	I*	BLACK RVR	FW-SP									
PD-353	INT	BLACK RVR	FW-SP			D	55	-0.005		D	55	-0.005
	0304020501											
PD-355	INT	SCAPE ORE SWAMP	FW			D	42	0		D	42	0
RS-01017	RS01	MCGRITS CK	FW									
CL-077	PD	LAKE ASHWOOD	FW	0								
PD-356	INT	MECHANICSVILLE SWAMP	FW			D	41	-0.001		D	41	-0.001
PD-357	INT	ROCKY BLUFF SWAMP	FW-SP									
PD-201	INT	ROCKY BLUFF SWAMP	FW-SP							D	37	-0.004
	0304020506											
RS-02477	RS02	TEARCOAT BRANCH	FW									
PD-116	INT	BLACK RVR	FW-SP			D	67	-0.003		D	85	-0.003
PD-227	INT	BLACK RVR	FW-SP			*	96	0		*	132	-0.001
	0304020503											
RS-03345	RS03 / BIO	BRUNSON SWAMP CREEK	FW									
PD-239	PD	NASTY BRANCH	FW			*	37	0		*	55	-0.002
PD-039	PD	GREEN SWAMP	FW-SP			*	36	-0.002		D	54	-0.001
PD-091	INT	POCOTALIGO RVR	FW-SP			*	99	0		D	133	-0.002
	0304020504											
PD-098	PD	TURKEY CK	FW-SP			*	38	-0.005		D	56	-0.006
PD-040	PD	TURKEY CK	FW-SP									
PD-202	PD	POCOTALIGO RVR	FW-SP			*	89	0.006		I	122	0.007
PD-627	BIO	BIG BRANCH										
PD-115	PD	POCOTALIGO RVR	FW-SP			*	39	0.007		*	55	0
RS-03347 / PD-693	RS03 / BIO	DEEP CREEK	FW									
PD-043	INT	POCOTALIGO RVR	FW-SP			*	87	0.004		*	123	0
	0304020505											
PD-157	BIO	PUDDING SWAMP										
RS-01002	RS01	DOUGLAS SWAMP	FW-SP									
PD-695	BIO	DOUGLASS SWAMP										
PD-203	INT	PUDDING SWAMP	FW-SP			D	56	-0.004		D	73	-0.003

Black River Basin

STATION				TN	TN	TN	MEAN	TRENDS (89-2003)			CHL
NUMBER	TYPE	WATERBODY NAME	CLASS	N	EXC.	%	EXC.	TN	N	MAG	N
	0304020502										
PD-354	INT	UNNAMED DRAINAGE CANAL	FW					*	33	-0.001	
PD-186	I*	BLACK RVR	FW-SP								
PD-353	INT	BLACK RVR	FW-SP					*	40	-0.011	
	0304020501										
PD-355	INT	SCAPE ORE SWAMP	FW					I	35	0.015	
RS-01017	RS01	MCGRITS CK	FW								
CL-077	PD	LAKE ASHWOOD	FW	5	3	60	1.5533				6
PD-356	INT	MECHANICSVILLE SWAMP	FW					I	35	0.04	
PD-357	INT	ROCKY BLUFF SWAMP	FW-SP								
PD-201	INT	ROCKY BLUFF SWAMP	FW-SP					D	34	-0.086	
	0304020506										
RS-02477	RS02	TEARCOAT BRANCH	FW								
PD-116	INT	BLACK RVR	FW-SP					*	39	-0.006	
PD-227	INT	BLACK RVR	FW-SP					I	151	0.012	
	0304020503										
RS-03345	RS03 / BIO	BRUNSON SWAMP CREEK	FW								
PD-239	PD	NASTY BRANCH	FW								
PD-039	PD	GREEN SWAMP	FW-SP								
PD-091	INT	POCOTALIGO RVR	FW-SP					*	156	-0.008	
	0304020504										
PD-098	PD	TURKEY CK	FW-SP								
PD-040	PD	TURKEY CK	FW-SP								
PD-202	PD	POCOTALIGO RVR	FW-SP					I	141	0.032	
PD-627	BIO	BIG BRANCH									
PD-115	PD	POCOTALIGO RVR	FW-SP								
RS-03347 / PD-693	RS03 / BIO	DEEP CREEK	FW								
PD-043	INT	POCOTALIGO RVR	FW-SP					I	148	0.016	
	0304020505										
PD-157	BIO	PUDDING SWAMP									
RS-01002	RS01	DOUGLAS SWAMP	FW-SP								
PD-695	BIO	DOUGLASS SWAMP									
PD-203	INT	PUDDING SWAMP	FW-SP					*	34	-0.018	

Black River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	CHL EXC.	CHL %	MEAN EXC.		TRENDS (89-2003) TSS	N	MAG
	0304020502									
PD-354	INT	UNNAMED DRAINAGE CANAL	FW							
PD-186	I*	BLACK RVR	FW-SP							
PD-353	INT	BLACK RVR	FW-SP							
	0304020501									
PD-355	INT	SCAPE ORE SWAMP	FW							
RS-01017	RS01	MCGRITS CK	FW							
CL-077	PD	LAKE ASHWOOD	FW	2	33	66.65				
PD-356	INT	MECHANICSVILLE SWAMP	FW							
PD-357	INT	ROCKY BLUFF SWAMP	FW-SP							
PD-201	INT	ROCKY BLUFF SWAMP	FW-SP							
	0304020506									
RS-02477	RS02	TEARCOAT BRANCH	FW							
PD-116	INT	BLACK RVR	FW-SP							
PD-227	INT	BLACK RVR	FW-SP							
	0304020503									
RS-03345	RS03 / BIO	BRUNSON SWAMP CREEK	FW							
PD-239	PD	NASTY BRANCH	FW							
PD-039	PD	GREEN SWAMP	FW-SP							
PD-091	INT	POCOTALIGO RVR	FW-SP							
	0304020504									
PD-098	PD	TURKEY CK	FW-SP							
PD-040	PD	TURKEY CK	FW-SP							
PD-202	PD	POCOTALIGO RVR	FW-SP					I	110	0
PD-627	BIO	BIG BRANCH								
PD-115	PD	POCOTALIGO RVR	FW-SP							
RS-03347 / PD-693	RS03 / BIO	DEEP CREEK	FW							
PD-043	INT	POCOTALIGO RVR	FW-SP							
	0304020505									
PD-157	BIO	PUDDING SWAMP								
RS-01002	RS01	DOUGLAS SWAMP	FW-SP							
PD-695	BIO	DOUGLASS SWAMP								
PD-203	INT	PUDDING SWAMP	FW-SP							

Black River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS		GEO MEAN	BACT N	BACT EXC.	BACT %	MEAN EXC.	TRENDS (BACT	N
	0304020502										
PD-354	INT	UNNAMED DRAINAGE CANAL	FW		65.9613	21	1	5	520	*	41
PD-186	I*	BLACK RVR	FW-SP							*	30
PD-353	INT	BLACK RVR	FW-SP		99.6752	36	1	3	600	D	74
	0304020501										
PD-355	INT	SCAPE ORE SWAMP	FW		208.7519	36	9	25	1061.111	*	53
RS-01017	RS01	MCGRITS CK	FW		51.4107	7	2	29	1365		
CL-077	PD	LAKE ASHWOOD	FW		3.4905	11	0	0			
PD-356	INT	MECHANICSVILLE SWAMP	FW		69.2894	33	1	3	540	*	51
PD-357	INT	ROCKY BLUFF SWAMP	FW-SP		61.0257	12	0	0		D	32
PD-201	INT	ROCKY BLUFF SWAMP	FW-SP		66.1471	20	0	0		*	48
	0304020506										
RS-02477	RS02	TEARCOAT BRANCH	FW		107.9181	9	1	11	600		
PD-116	INT	BLACK RVR	FW-SP		49.3538	43	2	5	630	*	110
PD-227	INT	BLACK RVR	FW-SP		59.2446	55	1	2	500	*	170
	0304020503										
RS-03345	RS03 / BIO	BRUNSON SWAMP CREEK	FW		203.3549	10	4	40	695		
PD-239	PD	NASTY BRANCH	FW		138.5052	20	3	15	540	*	66
PD-039	PD	GREEN SWAMP	FW-SP		95.2464	20	1	5	420	D	68
PD-091	INT	POCOTALIGO RVR	FW-SP		60.1933	54	2	4	1550	D	173
	0304020504										
PD-098	PD	TURKEY CK	FW-SP		452.7675	21	15	71	746	D	68
PD-040	PD	TURKEY CK	FW-SP		63.4437	11	2	18	560	*	31
PD-202	PD	POCOTALIGO RVR	FW-SP		79.1459	33	1	3	960	*	153
PD-627	BIO	BIG BRANCH									
PD-115	PD	POCOTALIGO RVR	FW-SP		73.7074	22	1	5	690	I	69
RS-03347 / PD-693	RS03 / BIO	DEEP CREEK	FW		155.4638	9	3	33	610		
PD-043	INT	POCOTALIGO RVR	FW-SP		85.7062	44	1	2	1100	I	162
	0304020505										
PD-157	BIO	PUDDING SWAMP									
RS-01002	RS01	DOUGLAS SWAMP	FW-SP		82.7305	11	1	9	820		
PD-695	BIO	DOUGLASS SWAMP									
PD-203	INT	PUDDING SWAMP	FW-SP		90.5343	31	1	3	600	*	98

Black River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	89-2003) MAG		NH3 N	NH3 EXC.	NH3 %	MEAN EXC.
	0304020502								
PD-354	INT	UNNAMED DRAINAGE CANAL	FW	-2.792		14	0	0	
PD-186	I*	BLACK RVR	FW-SP	-11.242					
PD-353	INT	BLACK RVR	FW-SP	-12.381		20	0	0	
	0304020501								
PD-355	INT	SCAPE ORE SWAMP	FW	1.413		17	0	0	
RS-01017	RS01	MCGRITS CK	FW			2	0	0	
CL-077	PD	LAKE ASHWOOD	FW			5	0	0	
PD-356	INT	MECHANICSVILLE SWAMP	FW	-1.743		16	0	0	
PD-357	INT	ROCKY BLUFF SWAMP	FW-SP	-6.473		8	0	0	
PD-201	INT	ROCKY BLUFF SWAMP	FW-SP	-6.741		15	0	0	
	0304020506								
RS-02477	RS02	TEARCOAT BRANCH	FW			8	0	0	
PD-116	INT	BLACK RVR	FW-SP	-0.867		22	0	0	
PD-227	INT	BLACK RVR	FW-SP	0.501		43	0	0	
	0304020503								
RS-03345	RS03 / BIO	BRUNSON SWAMP CREEK	FW			5	0	0	
PD-239	PD	NASTY BRANCH	FW	1.256		6	0	0	
PD-039	PD	GREEN SWAMP	FW-SP	-5.872		5	0	0	
PD-091	INT	POCOTALIGO RVR	FW-SP	-1.405		46	0	0	
	0304020504								
PD-098	PD	TURKEY CK	FW-SP	-199.09		6	0	0	
PD-040	PD	TURKEY CK	FW-SP	-3.324		6	0	0	
PD-202	PD	POCOTALIGO RVR	FW-SP	0.208		30	0	0	
PD-627	BIO	BIG BRANCH							
PD-115	PD	POCOTALIGO RVR	FW-SP	3.39		5	0	0	
RS-03347 / PD-693	RS03 / BIO	DEEP CREEK	FW			5	0	0	
PD-043	INT	POCOTALIGO RVR	FW-SP	3.754		40	0	0	
	0304020505								
PD-157	BIO	PUDDING SWAMP							
RS-01002	RS01	DOUGLAS SWAMP	FW-SP			6	0	0	
PD-695	BIO	DOUGLASS SWAMP							
PD-203	INT	PUDDING SWAMP	FW-SP	-3.588		16	0	0	

Black River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS		CD N	CD EXC.	CD %	MEAN EXC.		CR N	CR EXC.	CR %		CU N	CU EXC.
	0304020502														
PD-354	INT	UNNAMED DRAINAGE CANAL	FW		7	0	0			7	0	0		7	0
PD-186	I*	BLACK RVR	FW-SP												
PD-353	INT	BLACK RVR	FW-SP		10	0	0			10	0	0		10	0
	0304020501														
PD-355	INT	SCAPE ORE SWAMP	FW		11	0	0			11	0	0		11	0
RS-01017	RS01	MCGRITS CK	FW		2	0	0			2	0	0		2	0
CL-077	PD	LAKE ASHWOOD	FW		3	0	0			3	0	0		3	0
PD-356	INT	MECHANICSVILLE SWAMP	FW		11	0	0			11	0	0		11	0
PD-357	INT	ROCKY BLUFF SWAMP	FW-SP		4	0	0			4	0	0		4	0
PD-201	INT	ROCKY BLUFF SWAMP	FW-SP		6	0	0			6	0	0		6	0
	0304020506														
RS-02477	RS02	TEARCOAT BRANCH	FW		3	0	0			3	0	0		3	0
PD-116	INT	BLACK RVR	FW-SP		11	0	0			11	0	0		11	0
PD-227	INT	BLACK RVR	FW-SP		18	0	0			18	0	0		18	0
	0304020503														
RS-03345	RS03 / BIO	BRUNSON SWAMP CREEK	FW		4	0	0			4	0	0		4	1
PD-239	PD	NASTY BRANCH	FW		4	0	0			4	0	0		4	0
PD-039	PD	GREEN SWAMP	FW-SP		4	0	0			4	0	0		4	0
PD-091	INT	POCOTALIGO RVR	FW-SP		19	0	0			19	0	0		19	1
	0304020504														
PD-098	PD	TURKEY CK	FW-SP		4	0	0			4	0	0		4	1
PD-040	PD	TURKEY CK	FW-SP		4	0	0			4	0	0		4	0
PD-202	PD	POCOTALIGO RVR	FW-SP		12	0	0			12	0	0		12	0
PD-627	BIO	BIG BRANCH													
PD-115	PD	POCOTALIGO RVR	FW-SP		4	0	0			4	0	0		4	1
RS-03347 / PD-693	RS03 / BIO	DEEP CREEK	FW		3	0	0			3	0	0		3	0
PD-043	INT	POCOTALIGO RVR	FW-SP		13	0	0			13	0	0		12	0
	0304020505														
PD-157	BIO	PUDDING SWAMP													
RS-01002	RS01	DOUGLAS SWAMP	FW-SP		3	0	0			3	0	0		3	0
PD-695	BIO	DOUGLASS SWAMP													
PD-203	INT	PUDDING SWAMP	FW-SP		7	0	0			7	0	0		7	0

Black River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	CU %	MEAN EXC.		PB N	PB EXC.	PB %	MEAN EXC.
	0304020502									
PD-354	INT	UNNAMED DRAINAGE CANAL	FW	0			7	0	0	
PD-186	I*	BLACK RVR	FW-SP							
PD-353	INT	BLACK RVR	FW-SP	0			9	0	0	
	0304020501									
PD-355	INT	SCAPE ORE SWAMP	FW	0			11	0	0	
RS-01017	RS01	MCGRITS CK	FW	0			2	0	0	
CL-077	PD	LAKE ASHWOOD	FW	0			3	0	0	
PD-356	INT	MECHANICSVILLE SWAMP	FW	0			11	0	0	
PD-357	INT	ROCKY BLUFF SWAMP	FW-SP	0			4	0	0	
PD-201	INT	ROCKY BLUFF SWAMP	FW-SP	0			6	0	0	
	0304020506									
RS-02477	RS02	TEARCOAT BRANCH	FW	0			3	0	0	
PD-116	INT	BLACK RVR	FW-SP	0			11	0	0	
PD-227	INT	BLACK RVR	FW-SP	0			18	0	0	
	0304020503									
RS-03345	RS03 / BIO	BRUNSON SWAMP CREEK	FW	25	19		3	0	0	
PD-239	PD	NASTY BRANCH	FW	0			3	0	0	
PD-039	PD	GREEN SWAMP	FW-SP	0			3	0	0	
PD-091	INT	POCOTALIGO RVR	FW-SP	5	13		18	0	0	
	0304020504									
PD-098	PD	TURKEY CK	FW-SP	25	16		3	1	33	62
PD-040	PD	TURKEY CK	FW-SP	0			3	0	0	
PD-202	PD	POCOTALIGO RVR	FW-SP	0			11	0	0	
PD-627	BIO	BIG BRANCH								
PD-115	PD	POCOTALIGO RVR	FW-SP	25	24		4	0	0	
RS-03347 / PD-693	RS03 / BIO	DEEP CREEK	FW	0			3	0	0	
PD-043	INT	POCOTALIGO RVR	FW-SP	0			13	0	0	
	0304020505									
PD-157	BIO	PUDDING SWAMP								
RS-01002	RS01	DOUGLAS SWAMP	FW-SP	0			3	0	0	
PD-695	BIO	DOUGLASS SWAMP								
PD-203	INT	PUDDING SWAMP	FW-SP	0			7	0	0	

Black River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS		HG N	HG EXC.	HG %	MEAN EXC.		NI N	NI EXC.	NI %		ZN N	ZN EXC.	ZN %
	0304020502															
PD-354	INT	UNNAMED DRAINAGE CANAL	FW		7	0	0			7	0	0		7	0	0
PD-186	I*	BLACK RVR	FW-SP													
PD-353	INT	BLACK RVR	FW-SP		9	0	0			10	0	0		10	0	0
	0304020501															
PD-355	INT	SCAPE ORE SWAMP	FW		11	0	0			11	0	0		11	0	0
RS-01017	RS01	MCGRITS CK	FW		2	0	0			2	0	0		2	0	0
CL-077	PD	LAKE ASHWOOD	FW		3	0	0			3	0	0		3	0	0
PD-356	INT	MECHANICSVILLE SWAMP	FW		11	0	0			11	0	0		11	0	0
PD-357	INT	ROCKY BLUFF SWAMP	FW-SP		4	0	0			4	0	0		4	0	0
PD-201	INT	ROCKY BLUFF SWAMP	FW-SP		6	0	0			6	0	0		6	0	0
	0304020506															
RS-02477	RS02	TEARCOAT BRANCH	FW		3	0	0			3	0	0		3	0	0
PD-116	INT	BLACK RVR	FW-SP		11	0	0			11	0	0		11	0	0
PD-227	INT	BLACK RVR	FW-SP		18	0	0			18	0	0		18	0	0
	0304020503															
RS-03345	RS03 / BIO	BRUNSON SWAMP CREEK	FW		3	0	0			4	0	0		4	0	0
PD-239	PD	NASTY BRANCH	FW		3	0	0			4	0	0		4	0	0
PD-039	PD	GREEN SWAMP	FW-SP		3	0	0			4	0	0		4	0	0
PD-091	INT	POCOTALIGO RVR	FW-SP		18	0	0			19	0	0		19	0	0
	0304020504															
PD-098	PD	TURKEY CK	FW-SP		3	0	0			4	0	0		4	1	25
PD-040	PD	TURKEY CK	FW-SP		3	0	0			4	0	0		4	0	0
PD-202	PD	POCOTALIGO RVR	FW-SP		11	0	0			12	0	0		12	0	0
PD-627	BIO	BIG BRANCH														
PD-115	PD	POCOTALIGO RVR	FW-SP		4	0	0			4	0	0		4	0	0
RS-03347 / PD-693	RS03 / BIO	DEEP CREEK	FW		3	0	0			3	0	0		3	0	0
PD-043	INT	POCOTALIGO RVR	FW-SP		13	0	0			13	0	0		13	0	0
	0304020505															
PD-157	BIO	PUDDING SWAMP														
RS-01002	RS01	DOUGLAS SWAMP	FW-SP		3	0	0			3	0	0		3	0	0
PD-695	BIO	DOUGLASS SWAMP														
PD-203	INT	PUDDING SWAMP	FW-SP		7	0	0			7	0	0		7	0	0

Black River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	MEAN EXC.
	0304020502			
PD-354	INT	UNNAMED DRAINAGE CANAL	FW	
PD-186	I*	BLACK RVR	FW-SP	
PD-353	INT	BLACK RVR	FW-SP	
	0304020501			
PD-355	INT	SCAPE ORE SWAMP	FW	
RS-01017	RS01	MCGRITS CK	FW	
CL-077	PD	LAKE ASHWOOD	FW	
PD-356	INT	MECHANICSVILLE SWAMP	FW	
PD-357	INT	ROCKY BLUFF SWAMP	FW-SP	
PD-201	INT	ROCKY BLUFF SWAMP	FW-SP	
	0304020506			
RS-02477	RS02	TEARCOAT BRANCH	FW	
PD-116	INT	BLACK RVR	FW-SP	
PD-227	INT	BLACK RVR	FW-SP	
	0304020503			
RS-03345	RS03 / BIO	BRUNSON SWAMP CREEK	FW	
PD-239	PD	NASTY BRANCH	FW	
PD-039	PD	GREEN SWAMP	FW-SP	
PD-091	INT	POCOTALIGO RVR	FW-SP	
	0304020504			
PD-098	PD	TURKEY CK	FW-SP	130
PD-040	PD	TURKEY CK	FW-SP	
PD-202	PD	POCOTALIGO RVR	FW-SP	
PD-627	BIO	BIG BRANCH		
PD-115	PD	POCOTALIGO RVR	FW-SP	
RS-03347 / PD-693	RS03 / BIO	DEEP CREEK	FW	
PD-043	INT	POCOTALIGO RVR	FW-SP	
	0304020505			
PD-157	BIO	PUDDING SWAMP		
RS-01002	RS01	DOUGLAS SWAMP	FW-SP	
PD-695	BIO	DOUGLASS SWAMP		
PD-203	INT	PUDDING SWAMP	FW-SP	

Black River Basin

STATION					DO	DO	DO	MEAN	TRENDS (89 -2003)				
NUMBER	TYPE	WATERBODY NAME	CLASS		N	EXC.	%	EXC.	DO	N	MAG	BOD	N
	0304020507												
PD-696	BIO	CLAPPS SWAMP											
RS-02325	RS02	CLAPP SWAMP	FW		8	6	75	2.6					
PD-358	INT	KINGSTREE SWAMP CANAL	FW		21	9	43	3.317	*	39	0.012	D	39
PD-044	INT	BLACK RVR	FW-SP		42	6	14	2.783	*	108	0	D	107
PD-206	BIO	DICKIE SWAMP											
PD-045	PD	BLACK RVR	FW-SP		21	3	14	3.367	*	80	0	D	80
PD-697	BIO	BOGGY SWAMP											
PD-629	BIO	OX SWAMP											
PD-359	INT	BLACK RVR	FW-SP		33	4	12	3.375	*	52	0.034	D	50
	0304020509												
PD-698	BIO	BURCH CREEK											
PD-694	BIO	JOHNSON SWAMP											
PD-170	INT	BLACK RVR	FW-SP		55	10	18	3.453	D	174	-0.05	D	172
RS-03353	RS03	GREENS CK	FW		12	5	42	3.44					
PD-325	INT	BLACK RVR	SA		57	14	25	3.983	D	177	-0.06	D	169
	0304020508												
PD-703	BIO	PAISLEY SWAMP											
PD-360	INT	BLACK MINGO CK	FW		27	15	56	3.17	*	47	0.078	D	46
PD-172	I*	BLACK MINGO CK	FW						*	34	-0.175	D	33
PD-361	INT	BLACK MINGO CK	FW		27	14	52	3.807	*	64	0.017	D	64

Black River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	MAG
	0304020507			
PD-696	BIO	CLAPPS SWAMP		
RS-02325	RS02	CLAPP SWAMP	FW	
PD-358	INT	KINGSTREE SWAMP CANAL	FW	-0.124
PD-044	INT	BLACK RVR	FW-SP	-0.067
PD-206	BIO	DICKIE SWAMP		
PD-045	PD	BLACK RVR	FW-SP	-0.033
PD-697	BIO	BOGGY SWAMP		
PD-629	BIO	OX SWAMP		
PD-359	INT	BLACK RVR	FW-SP	-0.163
	0304020509			
PD-698	BIO	BURCH CREEK		
PD-694	BIO	JOHNSON SWAMP		
PD-170	INT	BLACK RVR	FW-SP	-0.101
RS-03353	RS03	GREENS CK	FW	
PD-325	INT	BLACK RVR	SA	-0.086
	0304020508			
PD-703	BIO	PAISLEY SWAMP		
PD-360	INT	BLACK MINGO CK	FW	-0.179
PD-172	I*	BLACK MINGO CK	FW	-0.15
PD-361	INT	BLACK MINGO CK	FW	-0.13

Black River Basin

STATION					pH	pH	pH	MEAN	TRENDS (89-2003)				TURB
NUMBER	TYPE	WATERBODY NAME	CLASS		N	EXC.	%	EXC.	PH	N	MAG		N
	0304020507												
PD-696	BIO	CLAPPS SWAMP											
RS-02325	RS02	CLAPP SWAMP	FW		8	5	63	5.644					7
PD-358	INT	KINGSTREE SWAMP CANAL	FW		21	0	0		*	39	-0.002		21
PD-044	INT	BLACK RVR	FW-SP		43	0	0		*	109	0.005		43
PD-206	BIO	DICKIE SWAMP											
PD-045	PD	BLACK RVR	FW-SP		22	0	0		*	81	0.006		22
PD-697	BIO	BOGGY SWAMP											
PD-629	BIO	OX SWAMP											
PD-359	INT	BLACK RVR	FW-SP		33	0	0		*	52	-0.019		33
	0304020509												
PD-698	BIO	BURCH CREEK											
PD-694	BIO	JOHNSON SWAMP											
PD-170	INT	BLACK RVR	FW-SP		56	1	2	4.93	I	175	0.013		55
RS-03353	RS03	GREENS CK	FW		13	12	92	5.349					13
PD-325	INT	BLACK RVR	SA		57	16	28	6.151	I	177	0.027		55
	0304020508												
PD-703	BIO	PAISLEY SWAMP											
PD-360	INT	BLACK MINGO CK	FW		28	0	0		*	48	-0.036		28
PD-172	I*	BLACK MINGO CK	FW						*	34	0.044		
PD-361	INT	BLACK MINGO CK	FW		27	4	15	5.905	*	64	-0.018		27

Black River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	TURB EXC.	TURB %	MEAN EXC.	TRENDS (89-2003) TURB	N	MAG		TP N	TP EXC.
	0304020507											
PD-696	BIO	CLAPPS SWAMP										
RS-02325	RS02	CLAPP SWAMP	FW	0	0							
PD-358	INT	KINGSTREE SWAMP CANAL	FW	0	0		D	39	-0.274			
PD-044	INT	BLACK RVR	FW-SP	0	0		*	109	0.004			
PD-206	BIO	DICKIE SWAMP										
PD-045	PD	BLACK RVR	FW-SP	0	0		*	81	0			
PD-697	BIO	BOGGY SWAMP										
PD-629	BIO	OX SWAMP										
PD-359	INT	BLACK RVR	FW-SP	0	0		*	51	-0.006			
	0304020509											
PD-698	BIO	BURCH CREEK										
PD-694	BIO	JOHNSON SWAMP										
PD-170	INT	BLACK RVR	FW-SP	0	0		*	172	0.02			
RS-03353	RS03	GREENS CK	FW	1	8	63						
PD-325	INT	BLACK RVR	SA	9	16	39.444	*	171	-0.017			
	0304020508											
PD-703	BIO	PAISLEY SWAMP										
PD-360	INT	BLACK MINGO CK	FW	0	0		*	48	-0.041			
PD-172	I*	BLACK MINGO CK	FW				*	33	-0.483			
PD-361	INT	BLACK MINGO CK	FW	0	0		*	64	-0.014			

Black River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	TP %	MEAN EXC.	TRENDS (92-2003) TP	N	MAG		TRENDS (89-2003) TP	N	MAG
	0304020507											
PD-696	BIO	CLAPPS SWAMP										
RS-02325	RS02	CLAPP SWAMP	FW									
PD-358	INT	KINGSTREE SWAMP CANAL	FW									
PD-044	INT	BLACK RVR	FW-SP			*	69	0		*	87	-0.001
PD-206	BIO	DICKIE SWAMP										
PD-045	PD	BLACK RVR	FW-SP			*	50	-0.008		*	68	-0.002
PD-697	BIO	BOGGY SWAMP										
PD-629	BIO	OX SWAMP										
PD-359	INT	BLACK RVR	FW-SP			*	41	0.003		*	41	0.003
	0304020509											
PD-698	BIO	BURCH CREEK										
PD-694	BIO	JOHNSON SWAMP										
PD-170	INT	BLACK RVR	FW-SP			I	101	0.003		*	136	0
RS-03353	RS03	GREENS CK	FW									
PD-325	INT	BLACK RVR	SA			*	102	-0.001		D	134	-0.002
	0304020508											
PD-703	BIO	PAISLEY SWAMP										
PD-360	INT	BLACK MINGO CK	FW			*	39	-0.006		*	39	-0.006
PD-172	I*	BLACK MINGO CK	FW							*	32	-0.003
PD-361	INT	BLACK MINGO CK	FW			*	42	0		*	42	0

Black River Basin

STATION					TN	TN	TN	MEAN	TRENDS (89-2003)				CHL
NUMBER	TYPE	WATERBODY NAME	CLASS		N	EXC.	%	EXC.	TN	N	MAG		N
	0304020507												
PD-696	BIO	CLAPPS SWAMP											
RS-02325	RS02	CLAPP SWAMP	FW										
PD-358	INT	KINGSTREE SWAMP CANAL	FW						*	32	-0.034		
PD-044	INT	BLACK RVR	FW-SP						*	39	-0.01		
PD-206	BIO	DICKIE SWAMP											
PD-045	PD	BLACK RVR	FW-SP										
PD-697	BIO	BOGGY SWAMP											
PD-629	BIO	OX SWAMP											
PD-359	INT	BLACK RVR	FW-SP						*	39	0.01		
	0304020509												
PD-698	BIO	BURCH CREEK											
PD-694	BIO	JOHNSON SWAMP											
PD-170	INT	BLACK RVR	FW-SP						D	156	-0.015		
RS-03353	RS03	GREENS CK	FW										
PD-325	INT	BLACK RVR	SA						D	154	-0.013		
	0304020508												
PD-703	BIO	PAISLEY SWAMP											
PD-360	INT	BLACK MINGO CK	FW						*	35	0.022		
PD-172	I*	BLACK MINGO CK	FW										
PD-361	INT	BLACK MINGO CK	FW						*	32	-0.026		

Black River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	CHL EXC.	CHL %	MEAN EXC.		TRENDS (89-2003) TSS	N	MAG
	0304020507									
PD-696	BIO	CLAPPS SWAMP								
RS-02325	RS02	CLAPP SWAMP	FW							
PD-358	INT	KINGSTREE SWAMP CANAL	FW							
PD-044	INT	BLACK RVR	FW-SP							
PD-206	BIO	DICKIE SWAMP								
PD-045	PD	BLACK RVR	FW-SP							
PD-697	BIO	BOGGY SWAMP								
PD-629	BIO	OX SWAMP								
PD-359	INT	BLACK RVR	FW-SP							
	0304020509									
PD-698	BIO	BURCH CREEK								
PD-694	BIO	JOHNSON SWAMP								
PD-170	INT	BLACK RVR	FW-SP							
RS-03353	RS03	GREENS CK	FW							
PD-325	INT	BLACK RVR	SA							
	0304020508									
PD-703	BIO	PAISLEY SWAMP								
PD-360	INT	BLACK MINGO CK	FW							
PD-172	I*	BLACK MINGO CK	FW							
PD-361	INT	BLACK MINGO CK	FW							

Black River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS		GEO MEAN	BACT N	BACT EXC.	BACT %	MEAN EXC.	TRENDS (BACT	N
	0304020507										
PD-696	BIO	CLAPPS SWAMP									
RS-02325	RS02	CLAPP SWAMP	FW		60.644	7	0	0			
PD-358	INT	KINGSTREE SWAMP CANAL	FW		97.5525	20	0	0		*	38
PD-044	INT	BLACK RVR	FW-SP		53.1802	41	1	2	1000	*	107
PD-206	BIO	DICKIE SWAMP									
PD-045	PD	BLACK RVR	FW-SP		43.8924	21	0	0		*	80
PD-697	BIO	BOGGY SWAMP									
PD-629	BIO	OX SWAMP									
PD-359	INT	BLACK RVR	FW-SP		51.4972	32	0	0		*	51
	0304020509										
PD-698	BIO	BURCH CREEK									
PD-694	BIO	JOHNSON SWAMP									
PD-170	INT	BLACK RVR	FW-SP		38.2029	53	0	0		*	172
RS-03353	RS03	GREENS CK	FW		82.0113	13	2	15	1000		
PD-325	INT	BLACK RVR	SA		52.7626	54	0	0		*	172
	0304020508										
PD-703	BIO	PAISLEY SWAMP									
PD-360	INT	BLACK MINGO CK	FW		143.6174	28	1	4	600	*	48
PD-172	I*	BLACK MINGO CK	FW							*	34
PD-361	INT	BLACK MINGO CK	FW		78.2328	27	1	4	540	I	63

Black River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	89-2003) MAG		NH3 N	NH3 EXC.	NH3 %	MEAN EXC.
	0304020507								
PD-696	BIO	CLAPPS SWAMP							
RS-02325	RS02	CLAPP SWAMP	FW			7	0	0	
PD-358	INT	KINGSTREE SWAMP CANAL	FW	1.613		15	0	0	
PD-044	INT	BLACK RVR	FW-SP	0.899		21	0	0	
PD-206	BIO	DICKIE SWAMP							
PD-045	PD	BLACK RVR	FW-SP	-1.5		5	0	0	
PD-697	BIO	BOGGY SWAMP							
PD-629	BIO	OX SWAMP							
PD-359	INT	BLACK RVR	FW-SP	-2.224		20	0	0	
	0304020509								
PD-698	BIO	BURCH CREEK							
PD-694	BIO	JOHNSON SWAMP							
PD-170	INT	BLACK RVR	FW-SP	0		43	0	0	
RS-03353	RS03	GREENS CK	FW			5	0	0	
PD-325	INT	BLACK RVR	SA	0		43	0	0	
	0304020508								
PD-703	BIO	PAISLEY SWAMP							
PD-360	INT	BLACK MINGO CK	FW	3.814		15	0	0	
PD-172	I*	BLACK MINGO CK	FW	-2.764					
PD-361	INT	BLACK MINGO CK	FW	3.804		14	0	0	

Black River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS		CD N	CD EXC.	CD %	MEAN EXC.		CR N	CR EXC.	CR %		CU N	CU EXC.
	0304020507														
PD-696	BIO	CLAPPS SWAMP													
RS-02325	RS02	CLAPP SWAMP	FW		2	0	0			2	0	0		2	0
PD-358	INT	KINGSTREE SWAMP CANAL	FW		7	0	0			7	0	0		7	0
PD-044	INT	BLACK RVR	FW-SP		11	0	0			11	0	0		11	0
PD-206	BIO	DICKIE SWAMP													
PD-045	PD	BLACK RVR	FW-SP		4	0	0			4	0	0		4	0
PD-697	BIO	BOGGY SWAMP													
PD-629	BIO	OX SWAMP													
PD-359	INT	BLACK RVR	FW-SP		11	0	0			11	0	0		11	1
	0304020509														
PD-698	BIO	BURCH CREEK													
PD-694	BIO	JOHNSON SWAMP													
PD-170	INT	BLACK RVR	FW-SP		19	0	0			19	0	0		19	2
RS-03353	RS03	GREENS CK	FW		4	0	0			4	0	0		4	0
PD-325	INT	BLACK RVR	SA		18	0	0			18	0	0		18	0
	0304020508														
PD-703	BIO	PAISLEY SWAMP													
PD-360	INT	BLACK MINGO CK	FW		9	0	0			9	0	0		9	1
PD-172	I*	BLACK MINGO CK	FW												
PD-361	INT	BLACK MINGO CK	FW		6	0	0			6	0	0		6	0

Black River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	CU %	MEAN EXC.		PB N	PB EXC.	PB %	MEAN EXC.
	0304020507									
PD-696	BIO	CLAPPS SWAMP								
RS-02325	RS02	CLAPP SWAMP	FW	0			2	0	0	
PD-358	INT	KINGSTREE SWAMP CANAL	FW	0			7	0	0	
PD-044	INT	BLACK RVR	FW-SP	0			11	0	0	
PD-206	BIO	DICKIE SWAMP								
PD-045	PD	BLACK RVR	FW-SP	0			4	0	0	
PD-697	BIO	BOGGY SWAMP								
PD-629	BIO	OX SWAMP								
PD-359	INT	BLACK RVR	FW-SP	9	11		11	0	0	
	0304020509									
PD-698	BIO	BURCH CREEK								
PD-694	BIO	JOHNSON SWAMP								
PD-170	INT	BLACK RVR	FW-SP	11	39.5		19	0	0	
RS-03353	RS03	GREENS CK	FW	0			4	0	0	
PD-325	INT	BLACK RVR	SA	0			18	0	0	
	0304020508									
PD-703	BIO	PAISLEY SWAMP								
PD-360	INT	BLACK MINGO CK	FW	11	20		9	0	0	
PD-172	I*	BLACK MINGO CK	FW							
PD-361	INT	BLACK MINGO CK	FW	0			6	0	0	

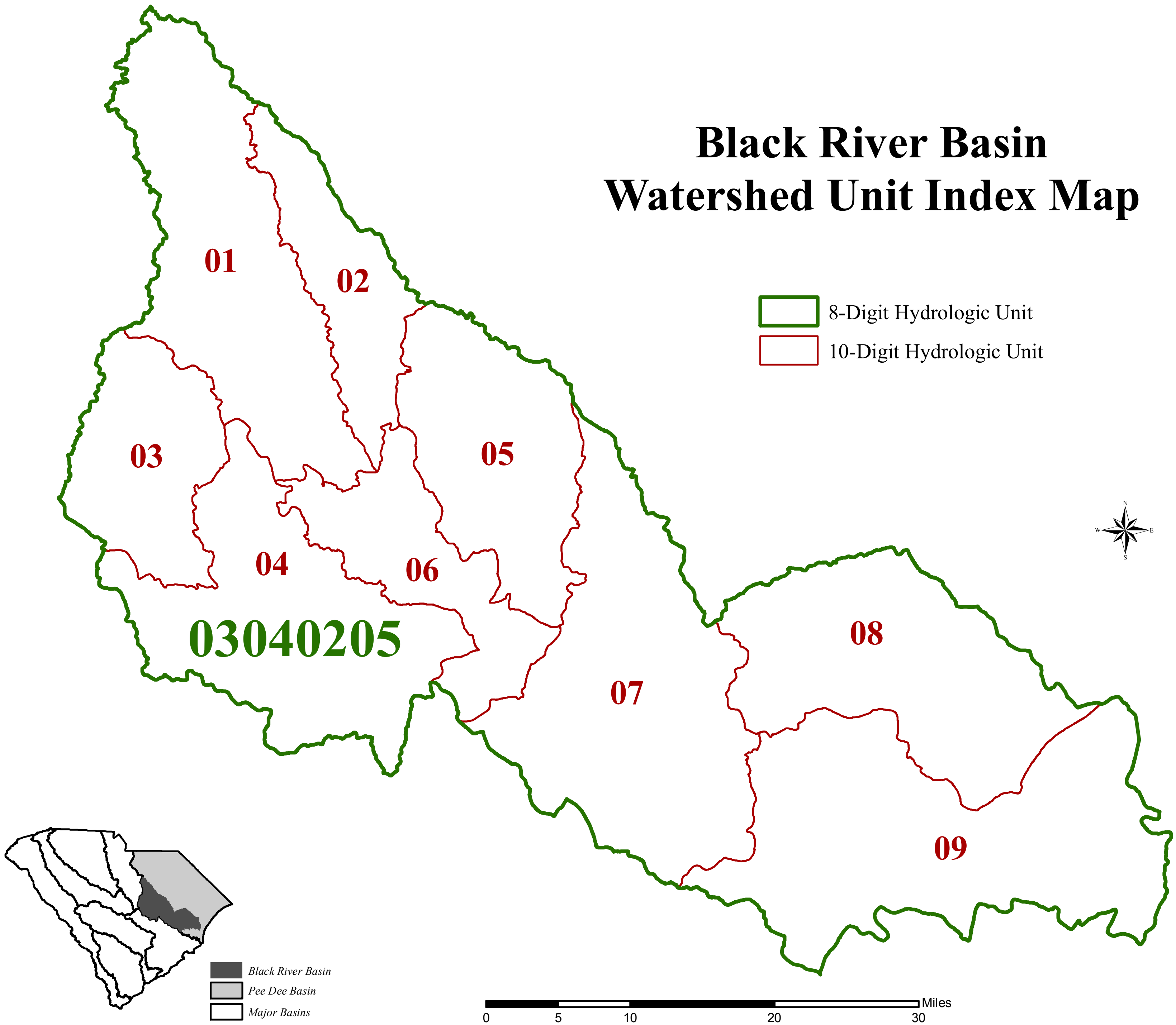
Black River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS		HG N	HG EXC.	HG %	MEAN EXC.		NI N	NI EXC.	NI %		ZN N	ZN EXC.	ZN %
	0304020507															
PD-696	BIO	CLAPPS SWAMP														
RS-02325	RS02	CLAPP SWAMP	FW		2	0	0			2	0	0		2	0	0
PD-358	INT	KINGSTREE SWAMP CANAL	FW		7	0	0			7	0	0		7	0	0
PD-044	INT	BLACK RVR	FW-SP		11	0	0			11	0	0		11	0	0
PD-206	BIO	DICKIE SWAMP														
PD-045	PD	BLACK RVR	FW-SP		4	0	0			4	0	0		4	0	0
PD-697	BIO	BOGGY SWAMP														
PD-629	BIO	OX SWAMP														
PD-359	INT	BLACK RVR	FW-SP		11	0	0			11	0	0		11	0	0
	0304020509															
PD-698	BIO	BURCH CREEK														
PD-694	BIO	JOHNSON SWAMP														
PD-170	INT	BLACK RVR	FW-SP		19	0	0			19	0	0		19	0	0
RS-03353	RS03	GREENS CK	FW		4	0	0			4	0	0		4	0	0
PD-325	INT	BLACK RVR	SA		18	0	0			18	0	0		18	0	0
	0304020508															
PD-703	BIO	PAISLEY SWAMP														
PD-360	INT	BLACK MINGO CK	FW		9	0	0			9	0	0		9	0	0
PD-172	I*	BLACK MINGO CK	FW													
PD-361	INT	BLACK MINGO CK	FW		6	0	0			6	0	0		6	0	0

Black River Basin

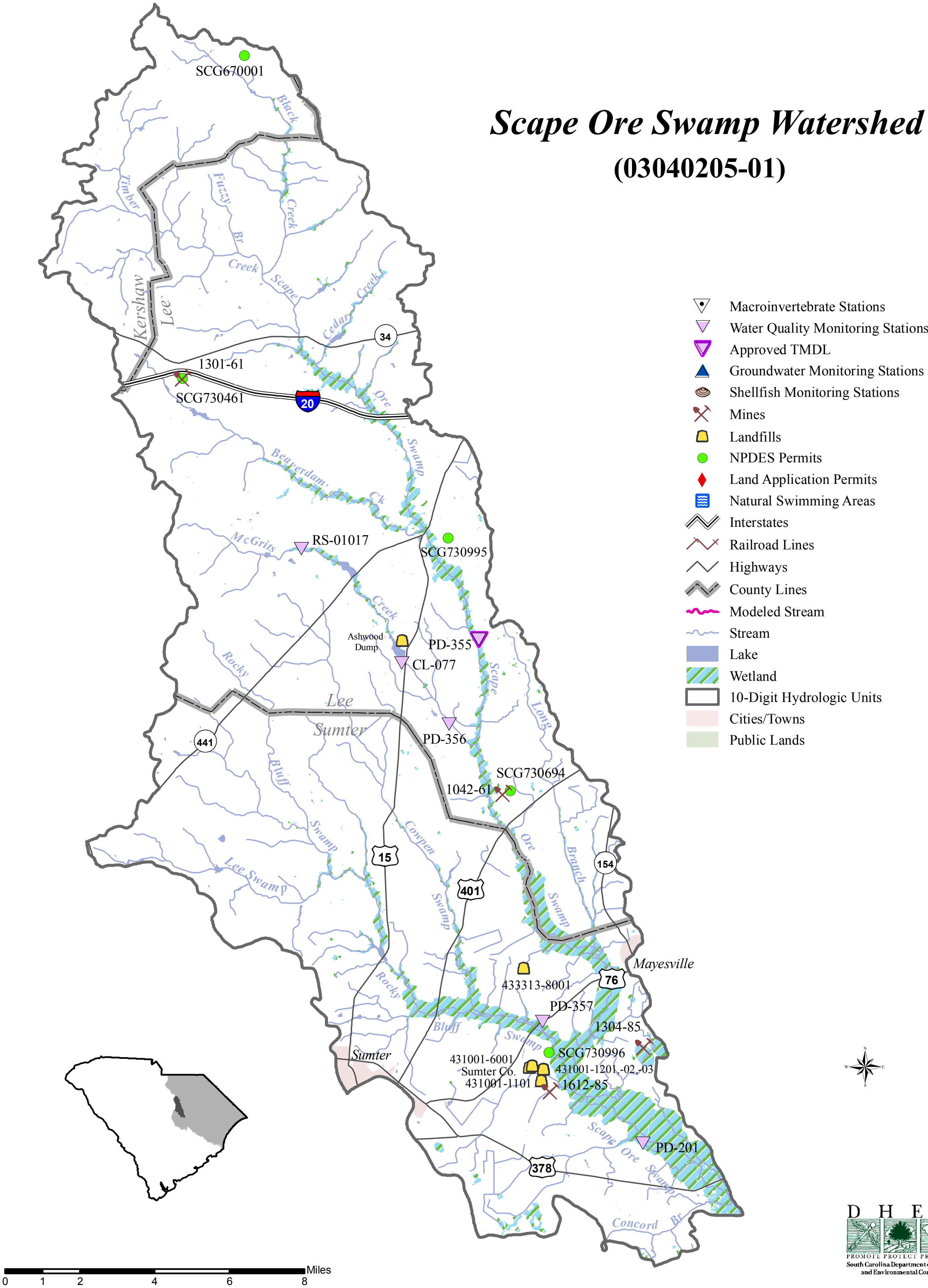
STATION NUMBER	TYPE	WATERBODY NAME	CLASS	MEAN EXC.
	0304020507			
PD-696	BIO	CLAPPS SWAMP		
RS-02325	RS02	CLAPP SWAMP	FW	
PD-358	INT	KINGSTREE SWAMP CANAL	FW	
PD-044	INT	BLACK RVR	FW-SP	
PD-206	BIO	DICKIE SWAMP		
PD-045	PD	BLACK RVR	FW-SP	
PD-697	BIO	BOGGY SWAMP		
PD-629	BIO	OX SWAMP		
PD-359	INT	BLACK RVR	FW-SP	
	0304020509			
PD-698	BIO	BURCH CREEK		
PD-694	BIO	JOHNSON SWAMP		
PD-170	INT	BLACK RVR	FW-SP	
RS-03353	RS03	GREENS CK	FW	
PD-325	INT	BLACK RVR	SA	
	0304020508			
PD-703	BIO	PAISLEY SWAMP		
PD-360	INT	BLACK MINGO CK	FW	
PD-172	I*	BLACK MINGO CK	FW	
PD-361	INT	BLACK MINGO CK	FW	

Black River Basin
Watershed Unit Index Map



D H E C
PROMOTE PROTECT PROSPER
South Carolina Department of Health and Environmental Control

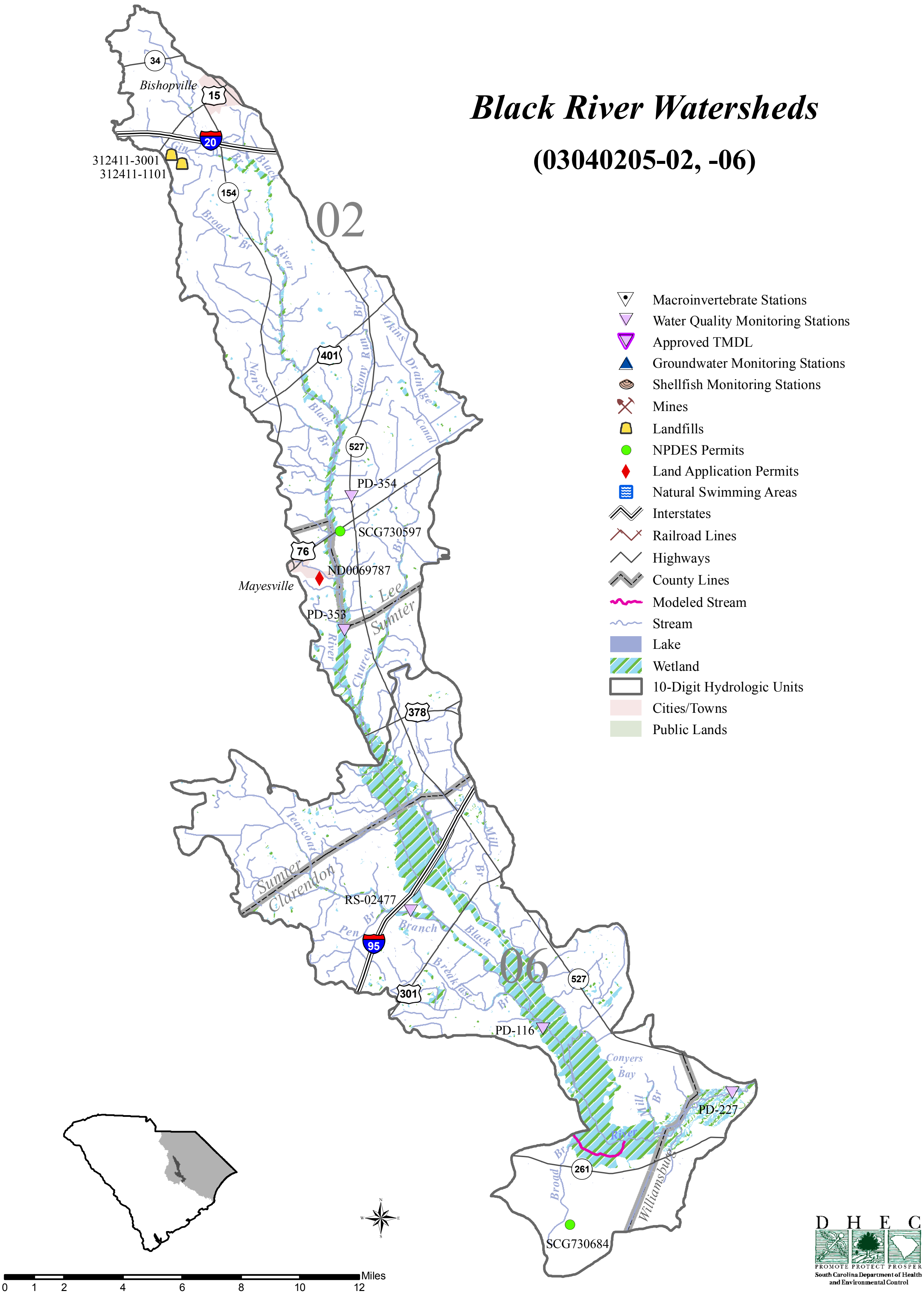
Scape Ore Swamp Watershed
(03040205-01)



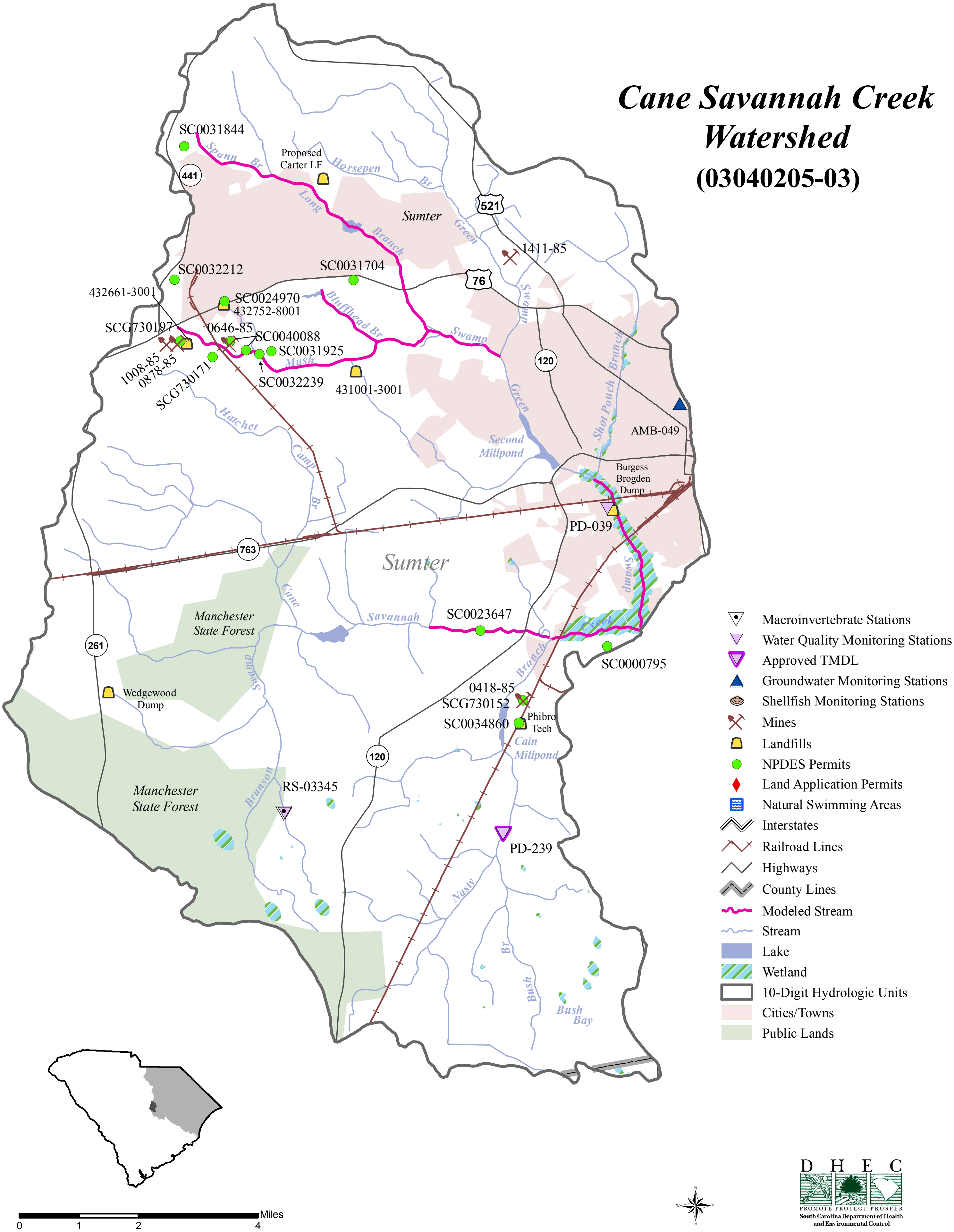
D H E C
PROMOTE PROTECT PROSPER
South Carolina Department of Health and Environmental Control

Black River Watersheds

(03040205-02, -06)

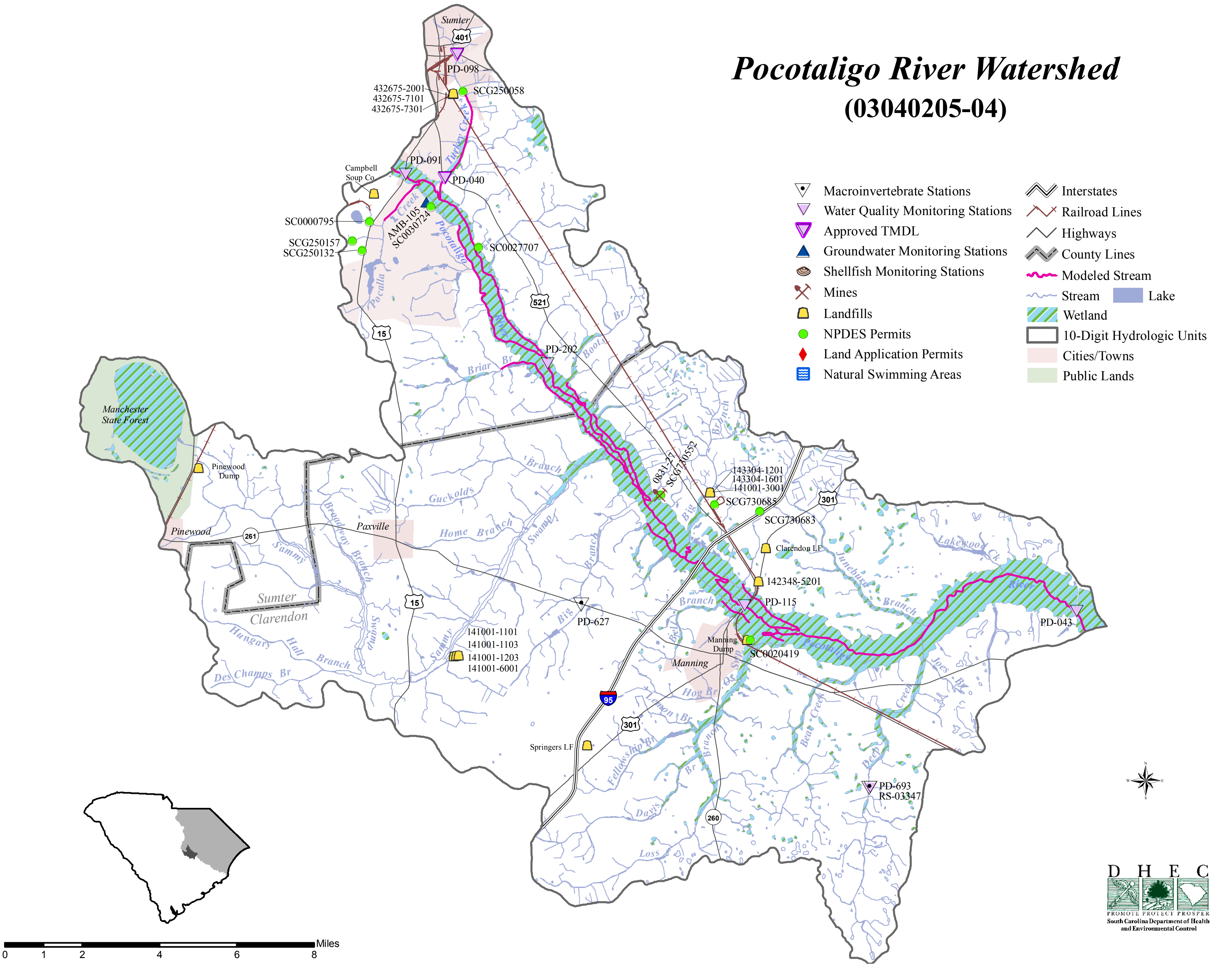


Cane Savannah Creek Watershed
(03040205-03)



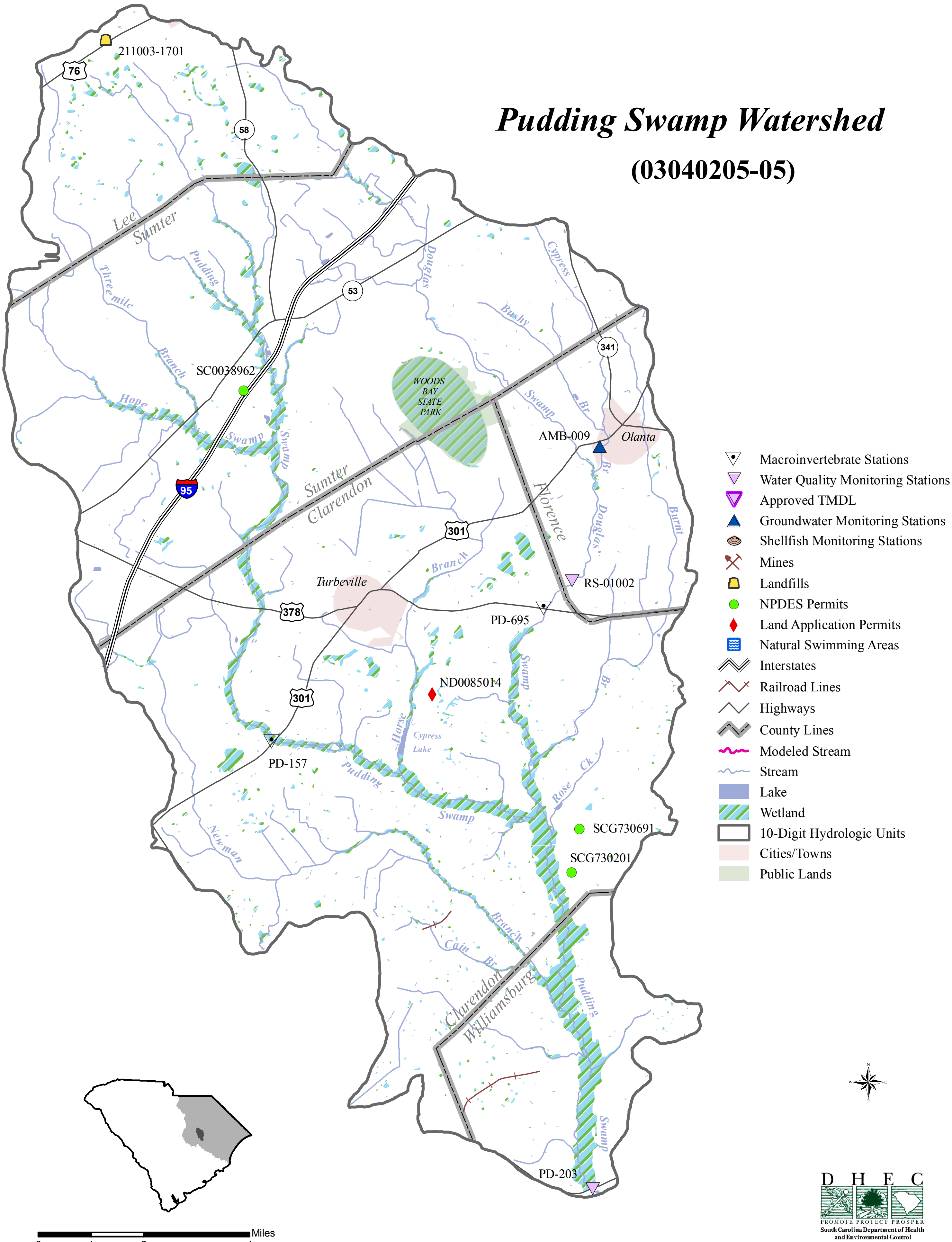
D H E C
PROMOTE PROTECT PROSPER
South Carolina Department of Health and Environmental Control

Pocotaligo River Watershed
(03040205-04)



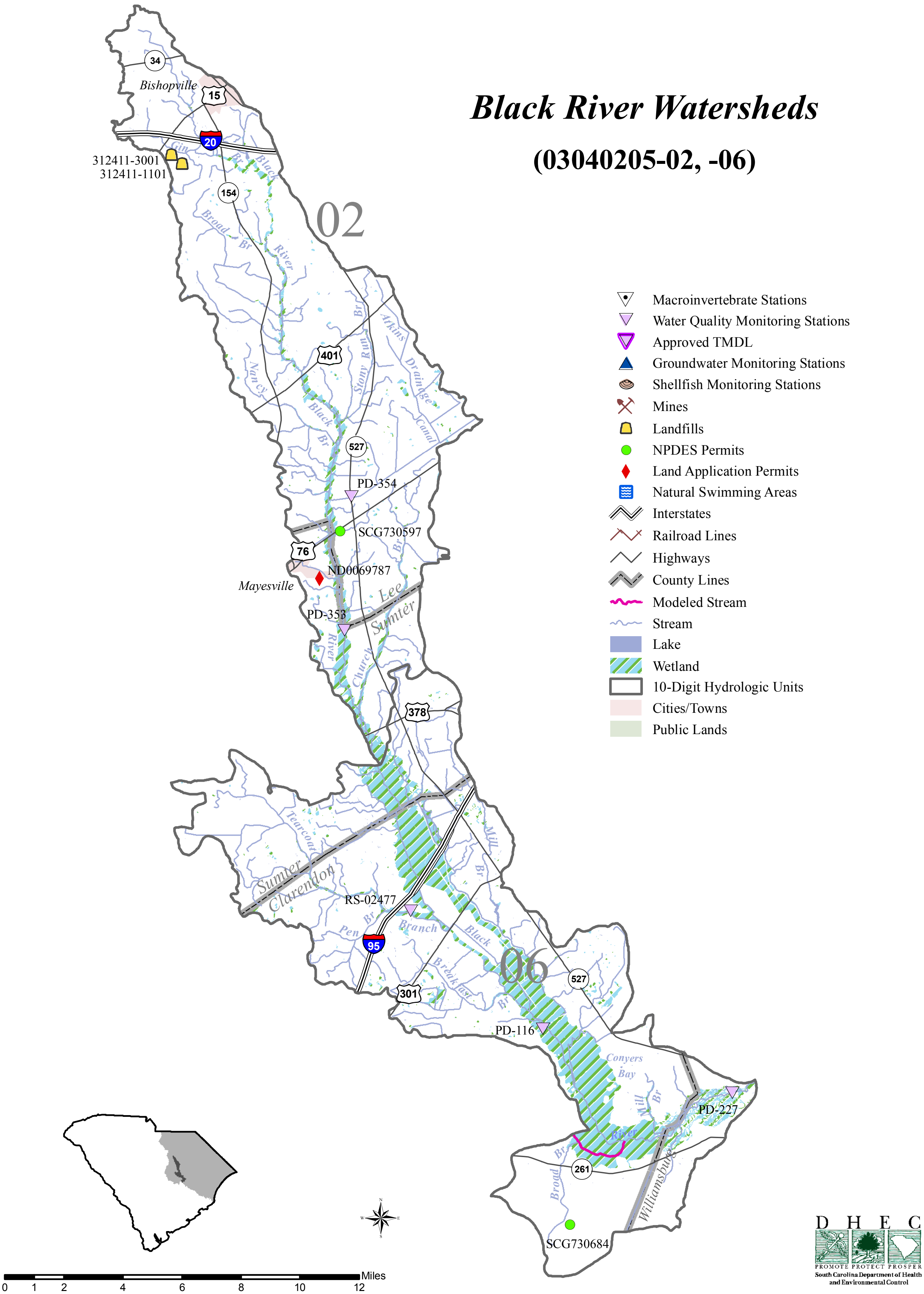
Pudding Swamp Watershed

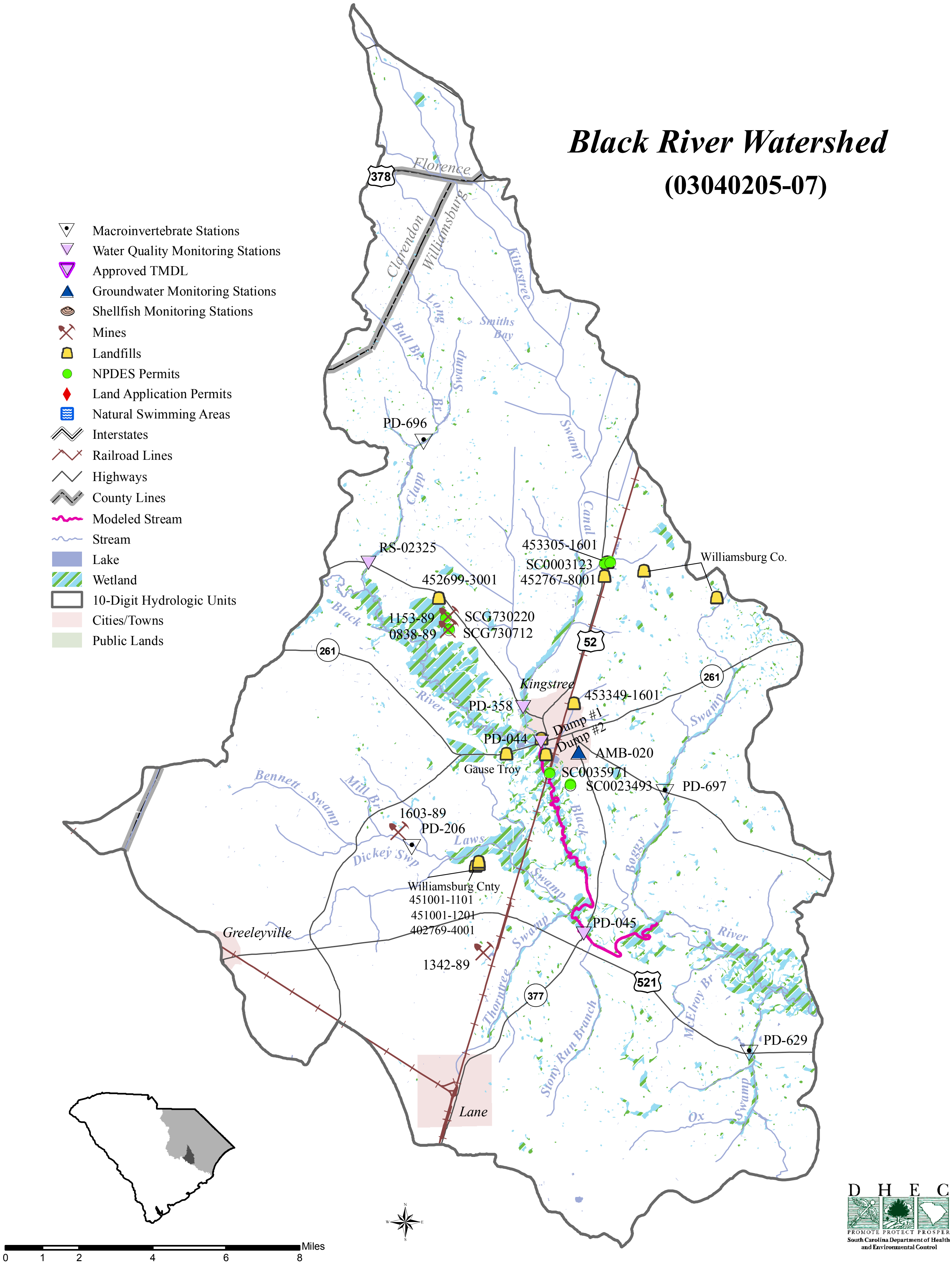
(03040205-05)



Black River Watersheds

(03040205-02, -06)





Black River Watershed
(03040205-07)
Macroinvertebrate Stations
Water Quality Monitoring Stations
Approved TMDL
Groundwater Monitoring Stations
Shellfish Monitoring 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
Florence
Clarendon
Williamsburg
378
Kingstree
Long
Smiths Bay
Bull Br.
Swamp
Br
PD-696
Clapp
Canal
RS-02325
453305-1601
SC0003123
452767-8001
Williamsburg Co.
452699-3001
1153-89
0838-89
SCG730220
SCG730712
Black
52
261
River
Kingstree
453349-1601
PD-358
Dump #1
Dump #2
PD-044
AMB-020
Gauss Troy
SC0035971
SC0023493
PD-697
Bennett Swamp
Mill Br
1603-89
PD-206
Laws
Dickey Swp
Boggy
Williamsburg Cnty
451001-1101
451001-1201
402769-4001
PD-045
River
Greeleyville
1342-89
Thorntree
377
521
Stony Run Branch
McElroy Br
PD-629
Lane
Ox
Swamp
Miles
0
1
2
4
6
8
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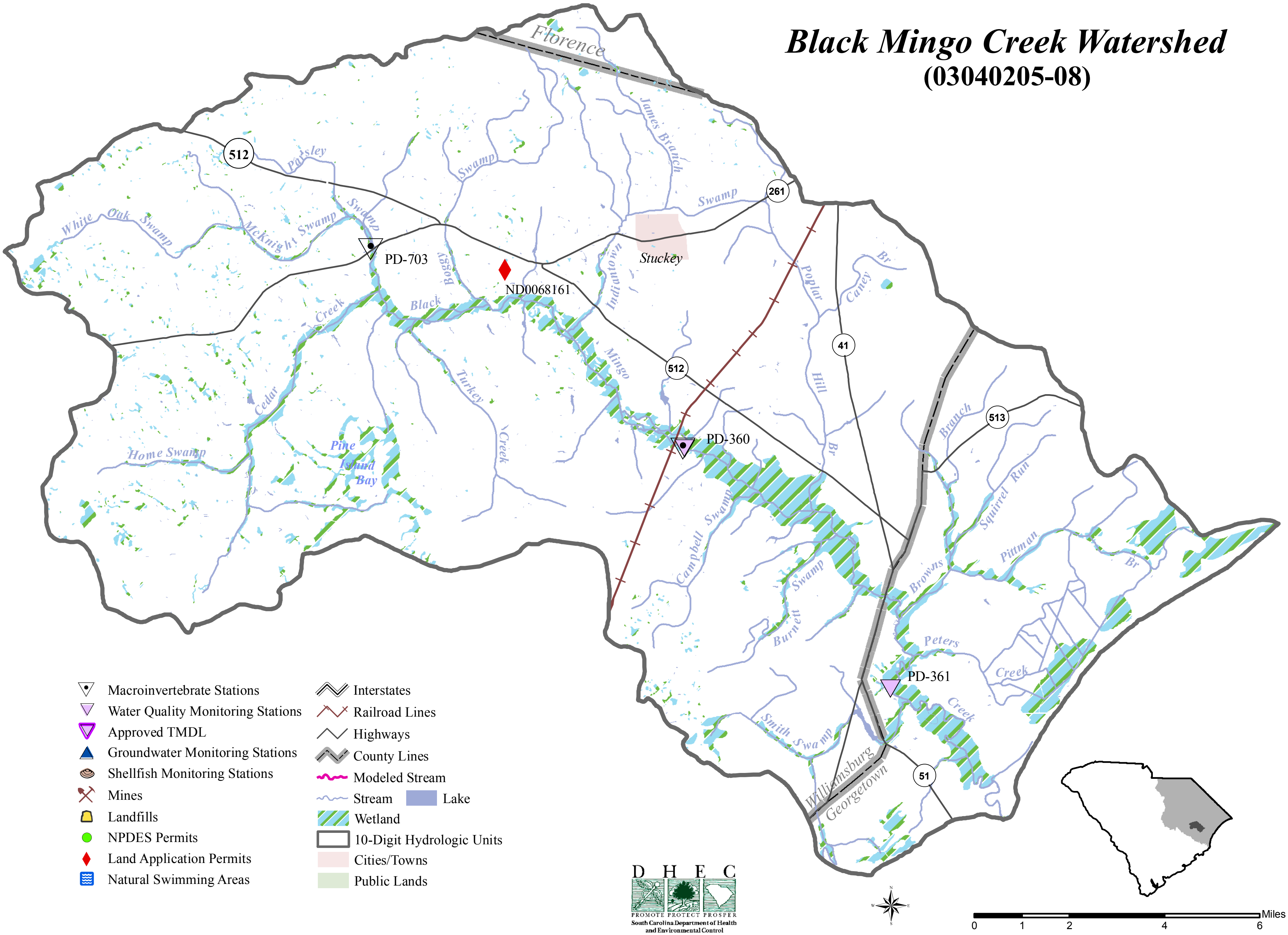
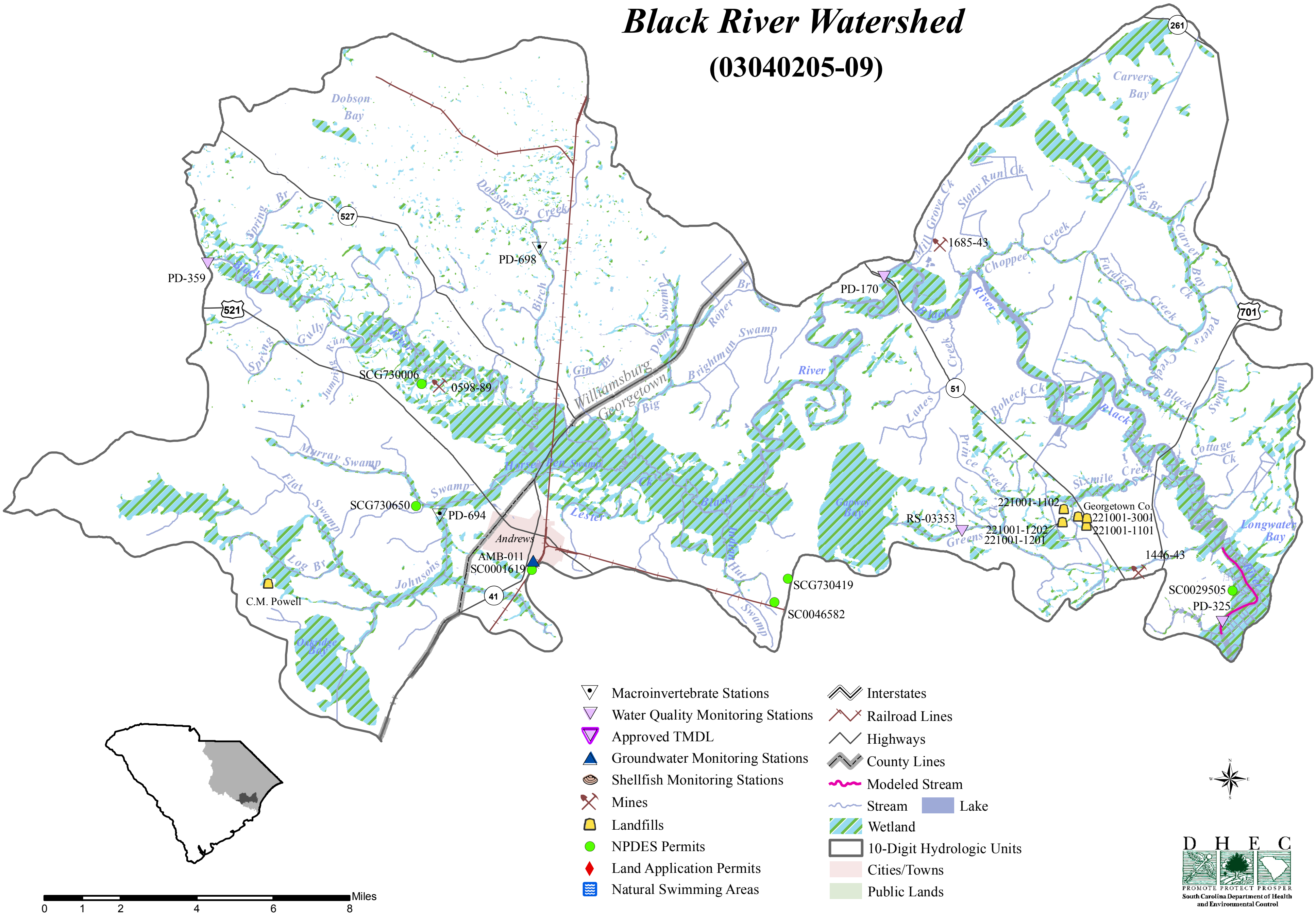
Black Mingo Creek Watershed
(03040205-08)



Black River Watershed

(03040205-09)



APPENDIX C.

Waccamaw River Basin

Ambient Water Quality Monitoring Site Descriptions

Station #	**Type**	**Class**	**Description**
03040206-05			
THERE WAS NO WATER QUALITY MONITORING IN THIS WATERSHED			
03040206-07			
MD-124	P/INT	FW*	WACCAMAW RIVER AT SC 9 7.0 MI W OF CHERRY GROVE
PD-362	W/INT	FW	BUCK CREEK AT SC 905
PD-363	W/INT	FW	SIMPSON CREEK AT SC 905
03040206-08			
PD-699	BIO	FW	KINGSTON LAKE SWAMP AT SR 139
PD-700	BIO	FW	WHITEOAK SWAMP AT SR 97
MD-158	S/W	FW	CRAB TREE SWAMP AT LONG ST. BELOW CONWAY #1 POND OUTFALL
MD-107	S/INT	FW	KINGSTON LAKE NEAR PUMP STATIOIN ON LAKESIDE DRIVE IN CONWAY
03040206-09			
RS-02481	RS02	FW	WACCAMAW RIVER AT S-26-31, RED BLUFF LANDING
PD-369	S/INT	FW*	WACCAMAW RIVER AT S-26-105, REEVES FERRY ROAD
MD-088	S/W	FW	AIWW 1 MI S OF BRIDGE ON US 501
MD-089	S/W	FW	AIWW 2 MI S OF BRIDGE ON US 501
RS-03332	RS02	FW	UNNAMED TRIB TO AIWW AT SC 707, 1.2MI ENE OF SOCASTEE AND SC 544
MD-127	P/SPRP	FW	AIWW AT SC 544, 7.5 MI SW OF MYRTLE BEACH
MD-110	S/W	FW*	WACCAMAW RIVER AT US 501 BYPASS AROUND CONWAY
MD-111	S/W	FW*	WACCAMAW RIVER AT COX'S FERRY ON COUNTY ROAD 110
MD-145	SPRP	FW*	WACCAMAW RIVER, 1 MI DS OF BUCKSVILLE LANDING AT BIG BEND IN RIVER
MD-136	S/W	FW*	WACCAMAW RIVER, 0.25 MI UPSTREAM OF JUNCTION WITH AIWW
03040206-10			
MD-146	P/W	FW*	WACCAMAW RIVER & AIWW 1 MI BELOW JCT, BUCKSPORT LANDING
MD-137	S/W	FW*	WACCAMAW RIVER NEAR MOUTH OF BULL CREEK AT CHANNEL MARKER 50
MD-138	P/SPRP	FW*	WACCAMAW RIVER AT CHANNEL MARKER 57
MD-142	P/INT	SA*	WACCAMAW RIVER DOWNSTREAM OF BUTLER ISLAND AT MARKER 86

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

Statistical Abbreviations:

N For *standards compliance*, number of surface samples collected between January 1999 and December 2003. For *trends*, number of surface samples collected between January 1989 and December 2003. For *total phosphorus*, an additional trend period of January 1992 to December 2003 is also reported.

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 1999 and December 2003. 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 1999 and December 2003

Key to Trends:

D Statistically significant decreasing trend in parameter concentration

I Statistically significant increasing trend in parameter concentration

***** No statistically significant trend

Waccamaw River Basin

STATION				DO	DO	DO	MEAN	TRENDS (89 -2003)				
NUMBER	TYPE	WATERBODY NAME	CLASS	N	EXC.	%	EXC.	DO	N	MAG	BOD	N
	0304020607											
PD-362	INT	BUCK CK	FW	21	2	10	4.85	*	40	-0.013	D	41
MD-124	INT	WACCAMAW RVR	FW-SP	55	6	11	3.032	*	174	-0.04	D	170
PD-363	INT	SIMPSON CK	FW	21	1	5	3.4	*	40	0.087	D	41
RS-02481	RS02	WACCAMAW RVR	FW	13	0	0						
	0304020609											
PD-369	INT	WACCAMAW RVR	FW-SP	34	5	15	3.12	D	34	-1.153	*	33
MD-110	PD	WACCAMAW RVR	FW-SP	17	5	29	3.2	*	84	-0.051	*	83
MD-111	PD	WACCAMAW RVR	FW-SP	18	6	33	3.467	D	63	-0.067	D	62
MD-145	SPRP	WACCAMAW RVR	FW-SP	31	5	16	2.83	D	31	-0.681	*	31
MD-136	PD	WACCAMAW RVR	FW-SP	23	14	61	3.028	D	86	-0.067	D	78
MD-088	PD	ICWW	FW	11	8	73	3.625	*	71	-0.06	*	65
MD-089	PD	ICWW	FW	12	9	75	3.533	*	72	-0.035	*	66
RS-03332	RS03	TRIB TO INTERCOASTAL WTRWY	FW	12	1	8	3.77					
MD-127	SPRP	ICWW	FW	45	15	33	3.36	*	167	-0.028	D	155
	0304020608											
PD-699	BIO	KINGSTON LAKE SWAMP										
PD-700	BIO	WHITEOAK SWAMP										
MD-158	PD	CRAB TREE SWAMP	FW	20	12	60	3.267	I	68	0.078	*	65
MD-107	INT	LAKE, KINGSTON	FW	42	20	48	4.042	*	108	0	*	106
	0304020610											
MD-146	PD	WACCAMAW RVR, ICWW	FW-SP	36	15	42	2.951	D	159	-0.075	D	149
MD-137	PD	WACCAMAW RVR	FW-SP	23	6	26	3.242	D	83	-0.1	*	74
MD-138	SPRP	WACCAMAW RVR	FW-SP	58	9	16	3.281	D	153	-0.068	D	147
MD-142	INT	WACCAMAW RVR	SA-SP	34	4	12	3.418	D	34	-1.241	*	32

Waccamaw River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	MAG
	0304020607			
PD-362	INT	BUCK CK	FW	-0.164
MD-124	INT	WACCAMAW RVR	FW-SP	-0.055
PD-363	INT	SIMPSON CK	FW	-0.149
RS-02481	RS02	WACCAMAW RVR	FW	
	0304020609			
PD-369	INT	WACCAMAW RVR	FW-SP	0
MD-110	PD	WACCAMAW RVR	FW-SP	-0.014
MD-111	PD	WACCAMAW RVR	FW-SP	-0.067
MD-145	SPRP	WACCAMAW RVR	FW-SP	0
MD-136	PD	WACCAMAW RVR	FW-SP	-0.022
MD-088	PD	ICWW	FW	0
MD-089	PD	ICWW	FW	0
RS-03332	RS03	TRIB TO INTERCOASTAL WTRWY	FW	
MD-127	SPRP	ICWW	FW	-0.033
	0304020608			
PD-699	BIO	KINGSTON LAKE SWAMP		
PD-700	BIO	WHITEOAK SWAMP		
MD-158	PD	CRAB TREE SWAMP	FW	-0.05
MD-107	INT	LAKE, KINGSTON	FW	0
	0304020610			
MD-146	PD	WACCAMAW RVR, ICWW	FW-SP	-0.018
MD-137	PD	WACCAMAW RVR	FW-SP	-0.011
MD-138	SPRP	WACCAMAW RVR	FW-SP	-0.065
MD-142	INT	WACCAMAW RVR	SA-SP	0

Waccamaw River Basin

STATION					pH	pH	pH	MEAN	TRENDS (89-2003)				TURB
NUMBER	TYPE	WATERBODY NAME	CLASS		N	EXC.	%	EXC.	PH	N	MAG		N
	0304020607												
PD-362	INT	BUCK CK	FW		21	2	10	5.605	I	41	0.067		21
MD-124	INT	WACCAMAW RVR	FW-SP		55	0	0		I	176	0.05		55
PD-363	INT	SIMPSON CK	FW		21	1	5	5.79	*	41	0.021		20
RS-02481	RS02	WACCAMAW RVR	FW		13	3	23	5.347					13
	0304020609												
PD-369	INT	WACCAMAW RVR	FW-SP		34	1	3	4.62	*	34	-0.211		34
MD-110	PD	WACCAMAW RVR	FW-SP		17	0	0		*	84	-0.015		16
MD-111	PD	WACCAMAW RVR	FW-SP		18	0	0		*	63	-0.003		18
MD-145	SPRP	WACCAMAW RVR	FW-SP		31	0	0		D	31	-0.222		31
MD-136	PD	WACCAMAW RVR	FW-SP		24	0	0		*	88	0		22
MD-088	PD	ICWW	FW		12	6	50	5.792	*	73	0		9
MD-089	PD	ICWW	FW		13	5	38	5.694	*	74	0		10
RS-03332	RS03	TRIB TO INTERCOASTAL WTRWY	FW		12	0	0						12
MD-127	SPRP	ICWW	FW		46	15	33	5.725	I	169	0.017		43
	0304020608												
PD-699	BIO	KINGSTON LAKE SWAMP											
PD-700	BIO	WHITEOAK SWAMP											
MD-158	PD	CRAB TREE SWAMP	FW		20	2	10	5.29	*	68	-0.001		18
MD-107	INT	LAKE, KINGSTON	FW		42	4	10	5.425	*	108	0.003		42
	0304020610												
MD-146	PD	WACCAMAW RVR, ICWW	FW-SP		37	0	0		*	160	0		34
MD-137	PD	WACCAMAW RVR	FW-SP		24	0	0		I	85	0.017		22
MD-138	SPRP	WACCAMAW RVR	FW-SP		59	2	3	6.73	I	156	0.056		55
MD-142	INT	WACCAMAW RVR	SA-SP		34	3	9	6.353	*	34	0.005		33

Waccamaw River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	TURB EXC.	TURB %	MEAN EXC.	TRENDS (89-2003) TURB	N	MAG		TP N	TP EXC.
	0304020607											
PD-362	INT	BUCK CK	FW	1	5	81	*	41	0.056			
MD-124	INT	WACCAMAW RVR	FW-SP	0	0		I	175	0.067			
PD-363	INT	SIMPSON CK	FW	0	0		*	39	0.149			
RS-02481	RS02	WACCAMAW RVR	FW	0	0							
	0304020609											
PD-369	INT	WACCAMAW RVR	FW-SP	0	0		*	34	-1.16			
MD-110	PD	WACCAMAW RVR	FW-SP	0	0		*	83	0.045			
MD-111	PD	WACCAMAW RVR	FW-SP	0	0		*	62	0.154			
MD-145	SPRP	WACCAMAW RVR	FW-SP	0	0		D	31	-1.478			
MD-136	PD	WACCAMAW RVR	FW-SP	0	0		*	82	0.06			
MD-088	PD	ICWW	FW	0	0		I	67	0.176			
MD-089	PD	ICWW	FW	0	0		*	66	0.129			
RS-03332	RS03	TRIB TO INTERCOASTAL WTRWY	FW	0	0							
MD-127	SPRP	ICWW	FW	1	2	54	I	160	0.185			
	0304020608											
PD-699	BIO	KINGSTON LAKE SWAMP										
PD-700	BIO	WHITEOAK SWAMP										
MD-158	PD	CRAB TREE SWAMP	FW	0	0		*	65	-0.111			
MD-107	INT	LAKE, KINGSTON	FW	0	0		D	106	-0.184			
	0304020610											
MD-146	PD	WACCAMAW RVR, ICWW	FW-SP	0	0		*	154	0			
MD-137	PD	WACCAMAW RVR	FW-SP	0	0		*	78	-0.142			
MD-138	SPRP	WACCAMAW RVR	FW-SP	0	0		*	152	0			
MD-142	INT	WACCAMAW RVR	SA-SP	2	6	28.5	*	33	-1.479			

Waccamaw River Basin

STATION				TP	MEAN	TRENDS (92-2003)				TRENDS (89-2003)		
NUMBER	TYPE	WATERBODY NAME	CLASS	%	EXC.	TP	N	MAG		TP	N	MAG
	0304020607											
PD-362	INT	BUCK CK	FW			*	30	-0.001		*	30	-0.001
MD-124	INT	WACCAMAW RVR	FW-SP			*	104	0		D	139	0
PD-363	INT	SIMPSON CK	FW									
RS-02481	RS02	WACCAMAW RVR	FW									
	0304020609											
PD-369	INT	WACCAMAW RVR	FW-SP									
MD-110	PD	WACCAMAW RVR	FW-SP			*	54	-0.002		*	72	0
MD-111	PD	WACCAMAW RVR	FW-SP			D	36	-0.003		D	53	-0.001
MD-145	SPRP	WACCAMAW RVR	FW-SP									
MD-136	PD	WACCAMAW RVR	FW-SP			*	53	-0.001		*	70	0
MD-088	PD	ICWW	FW			*	41	0		*	58	0
MD-089	PD	ICWW	FW			*	39	-0.002		*	55	0
RS-03332	RS03	TRIB TO INTERCOASTAL WTRWY	FW									
MD-127	SPRP	ICWW	FW			*	92	0		*	126	0
	0304020608											
PD-699	BIO	KINGSTON LAKE SWAMP										
PD-700	BIO	WHITEOAK SWAMP										
MD-158	PD	CRAB TREE SWAMP	FW			D	38	-0.005		D	56	-0.003
MD-107	INT	LAKE, KINGSTON	FW			D	69	-0.003		*	87	-0.001
	0304020610											
MD-146	PD	WACCAMAW RVR, ICWW	FW-SP			D	90	0		D	126	-0.001
MD-137	PD	WACCAMAW RVR	FW-SP			D	52	-0.004		D	69	-0.003
MD-138	SPRP	WACCAMAW RVR	FW-SP			*	96	0		*	113	0
MD-142	INT	WACCAMAW RVR	SA-SP									

Waccamaw River Basin

STATION					TN	TN	TN	MEAN	TRENDS (89-2003)				CHL
NUMBER	TYPE	WATERBODY NAME	CLASS		N	EXC.	%	EXC.	TN	N	MAG		N
	0304020607												
PD-362	INT	BUCK CK	FW						*	35	-0.015		
MD-124	INT	WACCAMAW RVR	FW-SP						*	160	-0.002		
PD-363	INT	SIMPSON CK	FW						*	34	-0.028		
RS-02481	RS02	WACCAMAW RVR	FW										
	0304020609												
PD-369	INT	WACCAMAW RVR	FW-SP										
MD-110	PD	WACCAMAW RVR	FW-SP										
MD-111	PD	WACCAMAW RVR	FW-SP										
MD-145	SPRP	WACCAMAW RVR	FW-SP										
MD-136	PD	WACCAMAW RVR	FW-SP										
MD-088	PD	ICWW	FW										
MD-089	PD	ICWW	FW										
RS-03332	RS03	TRIB TO INTERCOASTAL WTRWY	FW										
MD-127	SPRP	ICWW	FW						D	154	-0.015		
	0304020608												
PD-699	BIO	KINGSTON LAKE SWAMP											
PD-700	BIO	WHITEOAK SWAMP											
MD-158	PD	CRAB TREE SWAMP	FW										
MD-107	INT	LAKE, KINGSTON	FW						*	43	-0.038		
	0304020610												
MD-146	PD	WACCAMAW RVR, ICWW	FW-SP						*	144	-0.005		
MD-137	PD	WACCAMAW RVR	FW-SP										
MD-138	SPRP	WACCAMAW RVR	FW-SP						D	120	-0.013		
MD-142	INT	WACCAMAW RVR	SA-SP										

Waccamaw River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	CHL EXC.	CHL %	MEAN EXC.		TRENDS (89-2003) TSS	N	MAG
	0304020607									
PD-362	INT	BUCK CK	FW							
MD-124	INT	WACCAMAW RVR	FW-SP							
PD-363	INT	SIMPSON CK	FW							
RS-02481	RS02	WACCAMAW RVR	FW							
	0304020609									
PD-369	INT	WACCAMAW RVR	FW-SP							
MD-110	PD	WACCAMAW RVR	FW-SP							
MD-111	PD	WACCAMAW RVR	FW-SP							
MD-145	SPRP	WACCAMAW RVR	FW-SP							
MD-136	PD	WACCAMAW RVR	FW-SP							
MD-088	PD	ICWW	FW							
MD-089	PD	ICWW	FW							
RS-03332	RS03	TRIB TO INTERCOASTAL WTRWY	FW							
MD-127	SPRP	ICWW	FW							
	0304020608									
PD-699	BIO	KINGSTON LAKE SWAMP								
PD-700	BIO	WHITEOAK SWAMP								
MD-158	PD	CRAB TREE SWAMP	FW							
MD-107	INT	LAKE, KINGSTON	FW							
	0304020610									
MD-146	PD	WACCAMAW RVR, ICWW	FW-SP							
MD-137	PD	WACCAMAW RVR	FW-SP							
MD-138	SPRP	WACCAMAW RVR	FW-SP							
MD-142	INT	WACCAMAW RVR	SA-SP							

Waccamaw River Basin

STATION					GEO	BACT	BACT	BACT	MEAN	TRENDS (	
NUMBER	TYPE	WATERBODY NAME	CLASS		MEAN	N	EXC.	%	EXC.	BACT	N
	0304020607										
PD-362	INT	BUCK CK	FW		78.5548	19	0	0		I	39
MD-124	INT	WACCAMAW RVR	FW-SP		54.9432	54	4	7	815	*	175
PD-363	INT	SIMPSON CK	FW		68.382	21	1	5	580	*	41
RS-02481	RS02	WACCAMAW RVR	FW		49.4967	13	0	0			
	0304020609										
PD-369	INT	WACCAMAW RVR	FW-SP		47.361	34	1	3	600	*	34
MD-110	PD	WACCAMAW RVR	FW-SP		63.6349	17	1	6	600	*	82
MD-111	PD	WACCAMAW RVR	FW-SP		76.3464	18	1	6	600	*	62
MD-145	SPRP	WACCAMAW RVR	FW-SP		61.346	30	2	7	615	*	30
MD-136	PD	WACCAMAW RVR	FW-SP		35.0781	20	0	0		*	79
MD-088	PD	ICWW	FW		98.8721	9	0	0		D	67
MD-089	PD	ICWW	FW		103.6836	10	1	10	810	*	65
RS-03332	RS03	TRIB TO INTERCOASTAL WTRWY	FW		121.5759	12	3	25	586.6667		
MD-127	SPRP	ICWW	FW		58.1106	41	0	0		I	159
	0304020608										
PD-699	BIO	KINGSTON LAKE SWAMP									
PD-700	BIO	WHITEOAK SWAMP									
MD-158	PD	CRAB TREE SWAMP	FW		96.2035	20	3	15	736.6667	*	67
MD-107	INT	LAKE, KINGSTON	FW		185.7128	41	4	10	657.5	I	105
	0304020610										
MD-146	PD	WACCAMAW RVR, ICWW	FW-SP		32.0516	33	0	0		*	153
MD-137	PD	WACCAMAW RVR	FW-SP		32.2983	21	0	0		*	77
MD-138	SPRP	WACCAMAW RVR	FW-SP		37.1989	56	0	0		*	151
MD-142	INT	WACCAMAW RVR	SA-SP		52.2469	34	0	0		D	34

Waccamaw River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	89-2003) MAG		NH3 N	NH3 EXC.	NH3 %	MEAN EXC.
	0304020607								
PD-362	INT	BUCK CK	FW	5.782		16	0	0	
MD-124	INT	WACCAMAW RVR	FW-SP	0		47	0	0	
PD-363	INT	SIMPSON CK	FW	1.884		17	0	0	
RS-02481	RS02	WACCAMAW RVR	FW			13	0	0	
	0304020609								
PD-369	INT	WACCAMAW RVR	FW-SP	-2.713		23	0	0	
MD-110	PD	WACCAMAW RVR	FW-SP	0.673		6	0	0	
MD-111	PD	WACCAMAW RVR	FW-SP	-0.727		7	0	0	
MD-145	SPRP	WACCAMAW RVR	FW-SP	0		21	0	0	
MD-136	PD	WACCAMAW RVR	FW-SP	0.502		6	0	0	
MD-088	PD	ICWW	FW	-360.629					
MD-089	PD	ICWW	FW	-1.003					
RS-03332	RS03	TRIB TO INTERCOASTAL WTRWY	FW			6	0	0	
MD-127	SPRP	ICWW	FW	1.165		40	0	0	
	0304020608								
PD-699	BIO	KINGSTON LAKE SWAMP							
PD-700	BIO	WHITEOAK SWAMP							
MD-158	PD	CRAB TREE SWAMP	FW	-1.003		5	0	0	
MD-107	INT	LAKE, KINGSTON	FW	8.735		25	0	0	
	0304020610								
MD-146	PD	WACCAMAW RVR, ICWW	FW-SP	-0.307		31	0	0	
MD-137	PD	WACCAMAW RVR	FW-SP	0.415		6	0	0	
MD-138	SPRP	WACCAMAW RVR	FW-SP	0		46	0	0	
MD-142	INT	WACCAMAW RVR	SA-SP	-14.052		19	0	0	

Waccamaw River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS		CD N	CD EXC.	CD %	MEAN EXC.		CR N	CR EXC.	CR %		CU N	CU EXC.
	0304020607														
PD-362	INT	BUCK CK	FW		7	0	0			7	0	0		7	1
MD-124	INT	WACCAMAW RVR	FW-SP		21	1	5	20		21	0	0		21	3
PD-363	INT	SIMPSON CK	FW		8	1	13	77		8	0	0		8	1
RS-02481	RS02	WACCAMAW RVR	FW		4	0	0			4	0	0		4	1
	0304020609														
PD-369	INT	WACCAMAW RVR	FW-SP		12	0	0			12	0	0		12	1
MD-110	PD	WACCAMAW RVR	FW-SP		4	0	0			4	0	0		4	0
MD-111	PD	WACCAMAW RVR	FW-SP		4	0	0			4	0	0		4	0
MD-145	SPRP	WACCAMAW RVR	FW-SP		11	0	0			11	0	0		11	0
MD-136	PD	WACCAMAW RVR	FW-SP		4	0	0			4	0	0		4	0
MD-088	PD	ICWW	FW												
MD-089	PD	ICWW	FW												
RS-03332	RS03	TRIB TO INTERCOASTAL WTRWY	FW		4	0	0			4	0	0		4	0
MD-127	SPRP	ICWW	FW		15	0	0			15	0	0		15	1
	0304020608														
PD-699	BIO	KINGSTON LAKE SWAMP													
PD-700	BIO	WHITEOAK SWAMP													
MD-158	PD	CRAB TREE SWAMP	FW		3	0	0			3	0	0		3	0
MD-107	INT	LAKE, KINGSTON	FW		12	0	0			12	0	0		12	1
	0304020610														
MD-146	PD	WACCAMAW RVR, ICWW	FW-SP		15	0	0			15	0	0		15	0
MD-137	PD	WACCAMAW RVR	FW-SP		4	0	0			4	0	0		4	0
MD-138	SPRP	WACCAMAW RVR	FW-SP		20	0	0			20	0	0		20	1
MD-142	INT	WACCAMAW RVR	SA-SP		10	0	0			10	0	0		10	1

Waccamaw River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	CU %	MEAN EXC.		PB N	PB EXC.	PB %	MEAN EXC.
	0304020607									
PD-362	INT	BUCK CK	FW	14	200		7	0	0	
MD-124	INT	WACCAMAW RVR	FW-SP	14	16		21	0	0	
PD-363	INT	SIMPSON CK	FW	13	180		8	0	0	
RS-02481	RS02	WACCAMAW RVR	FW	25	33		4	0	0	
	0304020609									
PD-369	INT	WACCAMAW RVR	FW-SP	8	160		12	0	0	
MD-110	PD	WACCAMAW RVR	FW-SP	0			4	0	0	
MD-111	PD	WACCAMAW RVR	FW-SP	0			4	1	25	88
MD-145	SPRP	WACCAMAW RVR	FW-SP	0			11	0	0	
MD-136	PD	WACCAMAW RVR	FW-SP	0			4	0	0	
MD-088	PD	ICWW	FW							
MD-089	PD	ICWW	FW							
RS-03332	RS03	TRIB TO INTERCOASTAL WTRWY	FW	0			4	0	0	
MD-127	SPRP	ICWW	FW	7	40		15	0	0	
	0304020608									
PD-699	BIO	KINGSTON LAKE SWAMP								
PD-700	BIO	WHITEOAK SWAMP								
MD-158	PD	CRAB TREE SWAMP	FW	0			3	0	0	
MD-107	INT	LAKE, KINGSTON	FW	8	14		12	0	0	
	0304020610									
MD-146	PD	WACCAMAW RVR, ICWW	FW-SP	0			15	0	0	
MD-137	PD	WACCAMAW RVR	FW-SP	0			4	0	0	
MD-138	SPRP	WACCAMAW RVR	FW-SP	5	20		20	0	0	
MD-142	INT	WACCAMAW RVR	SA-SP	10	14		10	0	0	

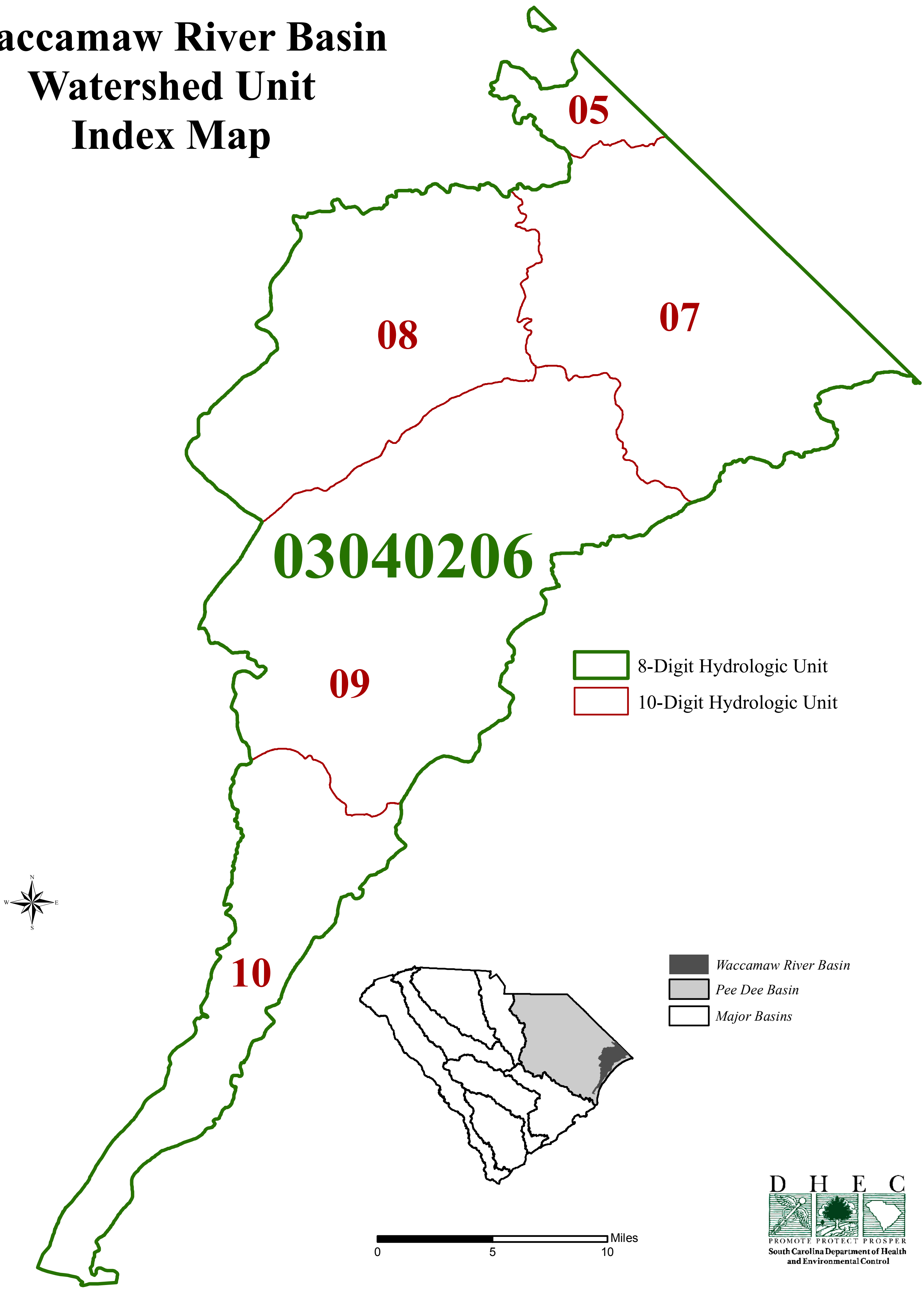
Waccamaw River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	HG N	HG EXC.	HG %	MEAN EXC.	NI N	NI EXC.	NI %	ZN N	ZN EXC.	ZN %
	0304020607												
PD-362	INT	BUCK CK	FW	7	0	0		7	0	0	7	1	14
MD-124	INT	WACCAMAW RVR	FW-SP	20	0	0		21	0	0	21	0	0
PD-363	INT	SIMPSON CK	FW	8	0	0		8	0	0	8	2	25
RS-02481	RS02	WACCAMAW RVR	FW	4	0	0		4	0	0	4	0	0
	0304020609												
PD-369	INT	WACCAMAW RVR	FW-SP	11	0	0		12	0	0	12	1	8
MD-110	PD	WACCAMAW RVR	FW-SP	3	0	0		4	0	0	4	0	0
MD-111	PD	WACCAMAW RVR	FW-SP	3	0	0		4	0	0	4	0	0
MD-145	SPRP	WACCAMAW RVR	FW-SP	10	0	0		11	0	0	11	0	0
MD-136	PD	WACCAMAW RVR	FW-SP	4	0	0		4	0	0	4	0	0
MD-088	PD	ICWW	FW										
MD-089	PD	ICWW	FW										
RS-03332	RS03	TRIB TO INTERCOASTAL WTRWY	FW	4	0	0		4	0	0	4	0	0
MD-127	SPRP	ICWW	FW	15	0	0		15	0	0	15	0	0
	0304020608												
PD-699	BIO	KINGSTON LAKE SWAMP											
PD-700	BIO	WHITEOAK SWAMP											
MD-158	PD	CRAB TREE SWAMP	FW	3	0	0		3	0	0	3	0	0
MD-107	INT	LAKE, KINGSTON	FW	11	0	0		12	0	0	12	0	0
	0304020610												
MD-146	PD	WACCAMAW RVR, ICWW	FW-SP	13	0	0		15	0	0	15	1	7
MD-137	PD	WACCAMAW RVR	FW-SP	4	0	0		4	0	0	4	0	0
MD-138	SPRP	WACCAMAW RVR	FW-SP	20	0	0		20	0	0	20	1	5
MD-142	INT	WACCAMAW RVR	SA-SP	10	0	0		10	0	0	10	1	10

Waccamaw River Basin

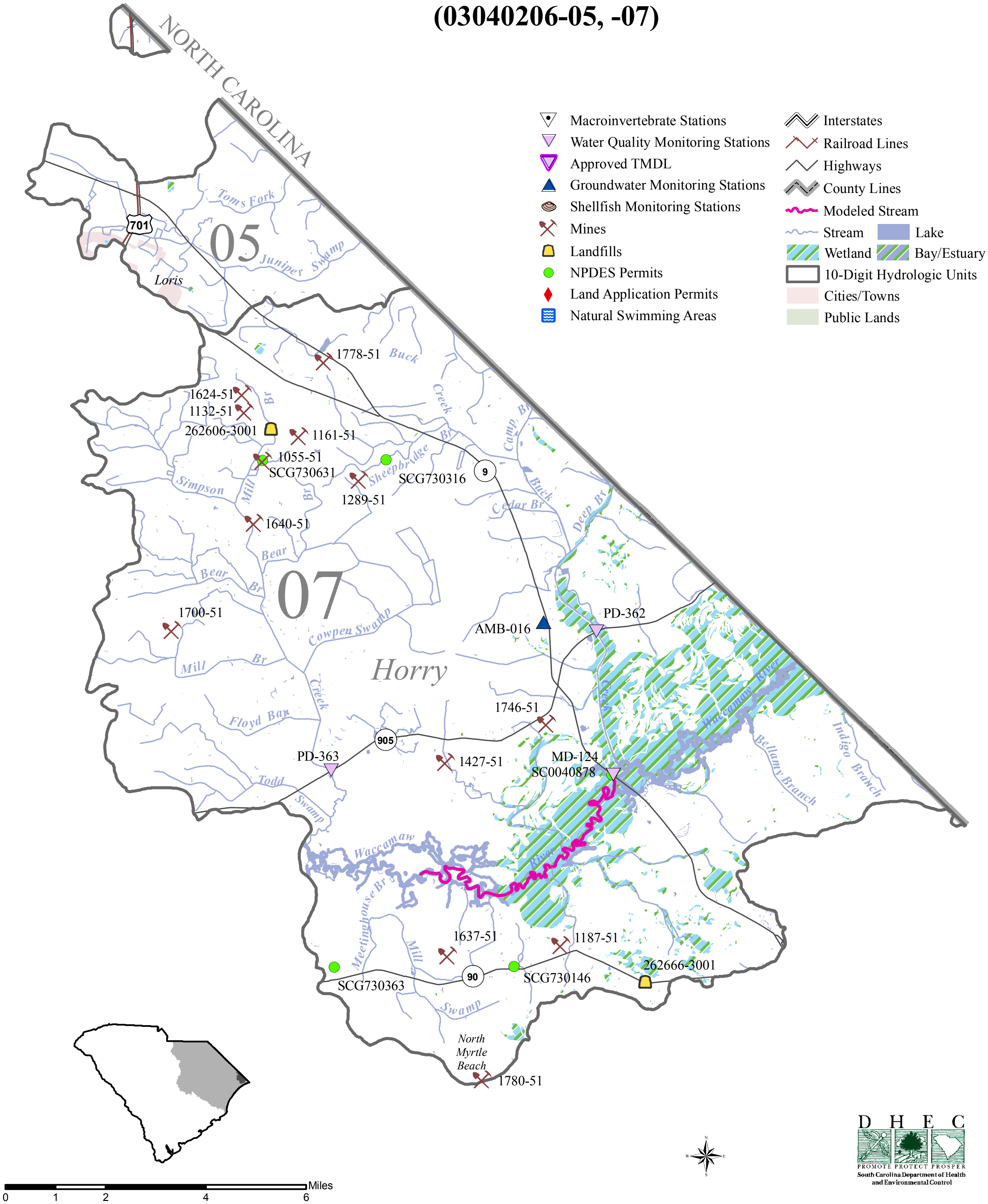
STATION NUMBER	TYPE	WATERBODY NAME	CLASS	MEAN EXC.
	0304020607			
PD-362	INT	BUCK CK	FW	130
MD-124	INT	WACCAMAW RVR	FW-SP	
PD-363	INT	SIMPSON CK	FW	97.5
RS-02481	RS02	WACCAMAW RVR	FW	
	0304020609			
PD-369	INT	WACCAMAW RVR	FW-SP	130
MD-110	PD	WACCAMAW RVR	FW-SP	
MD-111	PD	WACCAMAW RVR	FW-SP	
MD-145	SPRP	WACCAMAW RVR	FW-SP	
MD-136	PD	WACCAMAW RVR	FW-SP	
MD-088	PD	ICWW	FW	
MD-089	PD	ICWW	FW	
RS-03332	RS03	TRIB TO INTERCOASTAL WTRWY	FW	
MD-127	SPRP	ICWW	FW	
	0304020608			
PD-699	BIO	KINGSTON LAKE SWAMP		
PD-700	BIO	WHITEOAK SWAMP		
MD-158	PD	CRAB TREE SWAMP	FW	
MD-107	INT	LAKE, KINGSTON	FW	
	0304020610			
MD-146	PD	WACCAMAW RVR, ICWW	FW-SP	86
MD-137	PD	WACCAMAW RVR	FW-SP	
MD-138	SPRP	WACCAMAW RVR	FW-SP	240
MD-142	INT	WACCAMAW RVR	SA-SP	160

Waccamaw River Basin
Watershed Unit
Index Map

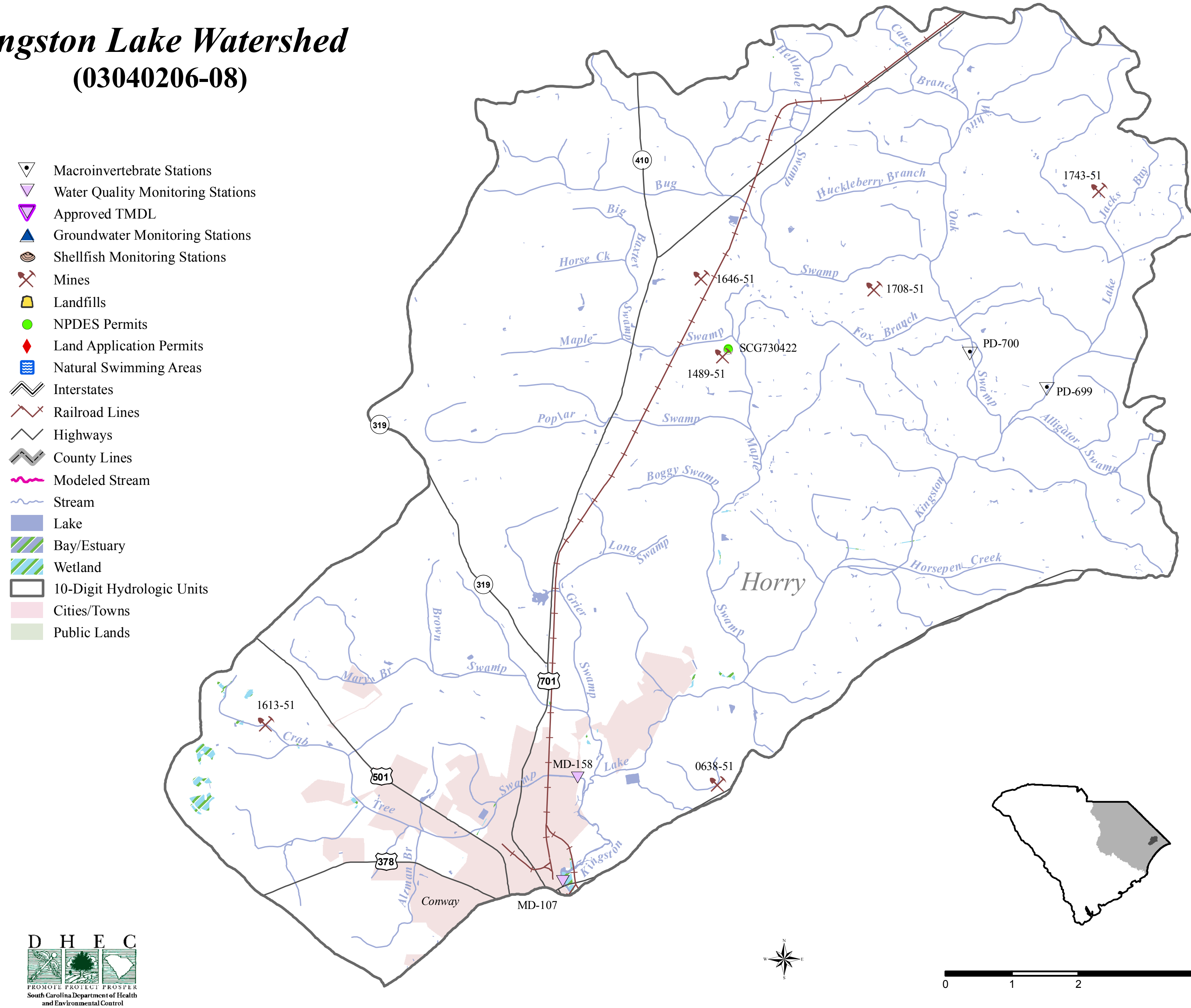


Waccamaw River Watersheds

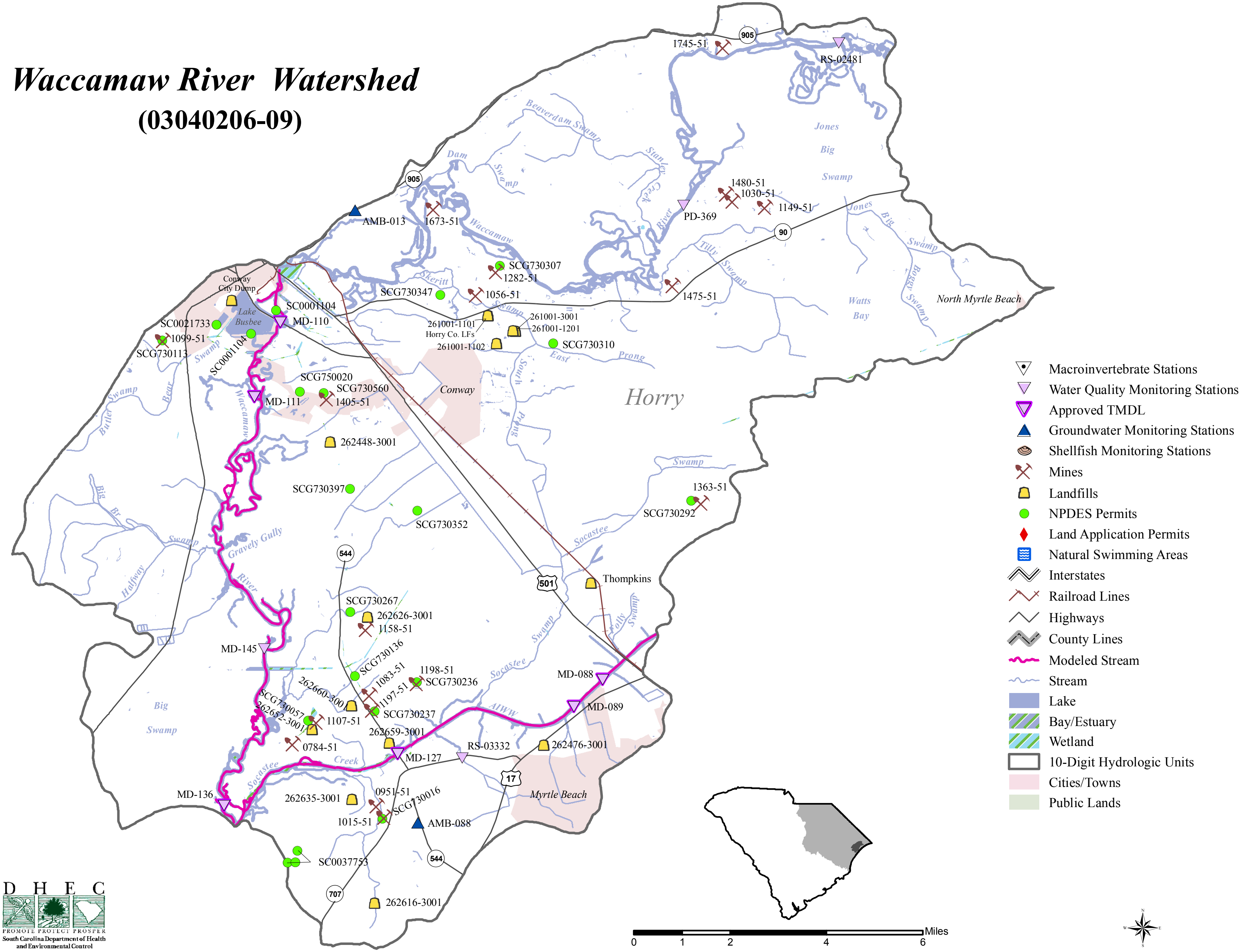
(03040206-05, -07)



Kingston Lake Watershed
(03040206-08)



Waccamaw River Watershed
(03040206-09)



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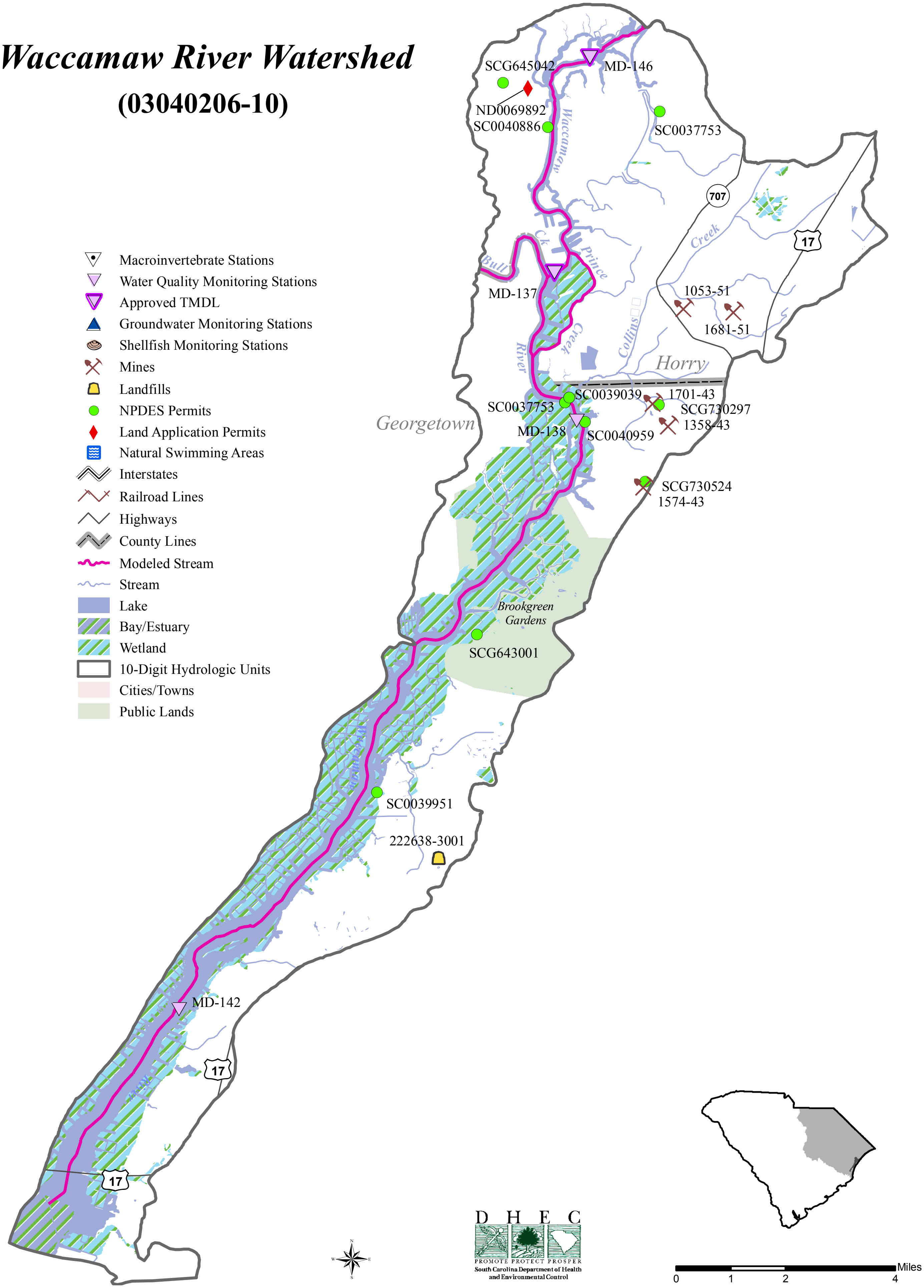
South Carolina Department of Health and Environmental Control

Waccamaw River Watershed

(03040206-10)



APPENDIX D.

Great Pee Dee River Basin

Ambient Water Quality Monitoring Site Descriptions

Station #	Type	Class	Description
03040201-03			
THERE WAS NO WATER QUALITY MONITORING IN THIS WATERSHED			
03040201-04			
RS-02305	RS02	FW	CLAY CREEK AT S-13-55
PD-673	BIO	FW	THOMPSON CREEK AT SC 109
RS-01013	RS01	FW	DEEP CREEK 75 FT UPSTREAM OF SC 9, 5.5 MI W OF CHESTERFIELD
PD-671	BIO	FW	DEEP CREEK AT SR 47
PD-246	S/W	FW	THOMPSON CREEK AT S-13-243 0.8 MI NE OF CHESTERFIELD
PD-247	S/W	FW	THOMPSON CREEK AT SC 9 1.5 MI ESE OF CHESTERFIELD
PD-677	BIO	FW	NORTH PRONG CREEK AT SC 102
PD-338	S/INT	FW	THOMPSON CREEK AT S-13-148 S OF CHERAW
RL-03346	RL03	FW	APPROX. MIDLAKE IN EUREKA LAKE IN CHERAW STATE PARK
CL-088	W	FW	JUNIPER LAKE, FOREBAY EQUIDISTANT FROM DAM AND SHORELINES
PD-340	W	FW	JUNIPER CREEK AT S-13-494
03040201-05			
PD-339	W/INT/BIO	FW	WESTFIELD CREEK AT US 52
PD-191	W/INT	FW	WHITES CREEK AT US 1
PD-012	P/INT	FW	GREAT PEE DEE RIVER AT US 1 NE CHERAW
RL-02324	RL02	FW	LAKE WALLACE, S OF S-35-47
CL-086	W	FW	LAKE WALLACE, EQUIDISTANT FROM DAM AND SHORELINES
PD-107	S/W	FW	CROOKED CREEK AT SC 9 IN BENNETTSVILLE
PD-014	S/W	FW	CROOKED CREEK AT S-35-43
PD-063	WINT	FW	CROOKED CREEK AT SC 912
PD-151	W/INT	FW	CEDAR CREEK AT US 52
PD-015	P/W	FW	GREAT PEE DEE RIVER AT US 15 & 401
03040201-06			
PD-674	BIO	FW	BLACK CREEK AT SR 683
RS-03355	RS03	FW	BLACK CREEK AT UNNAMED RD OFF S-13-683, 4.3MI SE OF PAGELAND
PD-004	P/W	FW	BLACK CREEK AT S-13-43, 1 MI NE OF NICEY GROVE
PD-676	BIO	FW	LITTLE BLACK CREEK AT ZILLYSTEEN ROAD
PD-613	BIO	FW	SKIPPER CREEK AT SC 145
PD-251	W/INT	FW*	BLACK CREEK AT US 1
RL-03342	RL03	FW	LAKE ROBINSON AT S-13-346, (PD-327)
PD-327	P/INT	FW*	LAKE ROBINSON AT S-13-346, 5 MI E OF MCBEE
CL-094	INT	FW*	LAKE ROBINSON IN FOREBAY EQUIDISTANT FROM DAM AND SHORELINES
03040201-07			
PD-159	S/W	FW*	BLACK CREEK AT S-16-23 4.7 MI NW OF HARTSVILLE
PD-268	S/W	FW*	SONOVISTA CLUB HARTSVILLE OFF DOCK OFF PRESTWOOD LAKE
PD-081	S/W	FW*	PRESTWOOD LAKE AT US 15
PD-258	S/W	FW	SNAKE BRANCH AT RAILROAD AVENUE IN HARTSVILLE
PD-137	S/W	FW	SNAKE BRANCH AT WOODMILL STREET IN HARTSVILLE
PD-021	P/W	FW*	BLACK CREEK AT S-16-18 1 MI NNE OF HARTSVILLE
PD-330	S/W	FW*	BLACK CREEK AT HIGHWAY 15 BYPASS
PD-023	P/W	FW*	BLACK CREEK AT S-16-13 5.5 MI NE OF HARTSVILLE

Station #	Type	Class	Description
03040201-07 (continued)			
RS-02311	RS02	FW	Unnamed Tributary to Little Boggy Swamp at S-16-50
RS-03507	RS03/BIO	FW	Boggy Swamp at S-16-50, 4.9 mi NE of Hartsville
RS-01043	RS01	FW*	Black Ck near dirt road off CR 41, 6 mi NE of Hartsville
PD-024A	SPRP	FW*	Black Creek at US 401 & 52, 6 mi NW of Darlington
PD-025	P/W	FW	Black Creek at S-16-133 2.25 mi NE of darlington
RS-03491	RS03	FW	Black Creek at SC 34, 1.6 mi NE of Darlington
RS-01023	RS01	FW	Swift Creek Tributary at CR 213, just N of Darlington
PD-141	S/W	FW	Tile Discharging to ditch across rd at Darlington WWTP
PD-027	P/W	FW	Black Creek at S-16-35, 5.5 mi SE of Darlington
PD-103	S/W	FW	High Hill Creek at US 52 on county line
PD-078	W/INT	FW	Black Creek at SC 327
03040201-08			
RS-02471	P/RS02	FW	Pee Dee River at SC 34 11 mi NE of Darlington
PD-028	P/INT	FW	Pee Dee River at SC 34 11 mi NE of Darlington
PD-336	S/W	FW	Hagins Prong at SCR 381
PD-341	W	FW	Three Creeks at SC 381 at Blenheim
PD-367	INT	FW	Three Creeks at SC 38, S of Blenheim
03040201-09			
PD-255	S/W	FW*	Jeffries Creek at SC 340 6.8 mi SSW of Darlington
PD-256	S/W	FW*	Jeffries Creek at S-21-112 4.8 mi W of /Florence
PD-065	P/W	FW	Gulley Branch at S-21-13, Timrod Park
PD-230	S/W	FW*	Middle Swamp at SC 51 3.5 mi SSE of Florence
RS-01003	RS01	FW	Polk Creek at Rd 13, 7.3 mi E of Florence
PD-035	S/W	FW*	Jeffries Creek at SC 327 at Claussen
PD-231	S/INT	FW*	Jeffries Creek at unnumbered rd 3.3 mi ESE of Claussen
PD-167	W	FW	Willow Creek at S-21-57
03040201-10			
PD-337	P/INT	FW	Great Pee Dee River at US 301/76
03040201-11			
PD-320	S/W	FW*	Smith Swamp at S-34-19 1 mi E of Marion
PD-187	P/W	W*	Smith Swamp at US 501 1.9 mi SSE of Marion
PD-097	S/INT	FW*	Catfish Creek at S-34-34 6 mi SW of Marion
03040201-12			
PD-076	P/INT	FW	Pee Dee River at US 378
03040203-13			
PD-368	INT	FW*	Bear Swamp at S-17-56
PD-347	W	FW*	Ashpole Swamp at private road
03040203-14			
PD-038	P/INT	FW	Lumber River at US 76 at Nichols

Station #	Type	Class	Description
03040204-01			
PD-306	S/W	FW	PANTHER CREEK AT US 15 OUTSIDE OF MCCOLL
PD-016	S/W	FW	PANTHER CREEK AT S-35-27
PD-017A	S/W	FW	MCLAURINS MILL POND SC 381
PD-062	S/W	FW	GUM SWAMP
PD-365	W/INT	FW	LITTLE PEE DEE RIVER AT S-17-36
03040204-02			
THERE ARE NO WATER QUALITY MONITORING STATIONS IN THIS WATERSHED.			
03040204-03			
THERE ARE NO WATER QUALITY MONITORING STATIONS IN THIS WATERSHED.			
03040204-04			
PD-031	S/W	FW*	BUCK SWAMP AT S-17-33
PD-349	W/INT	FW*	BUCK SWAMP AT S-17-42
03040204-05			
PD-069	P/W	FW	LITTLE PEE DEE RIVER AT SC 57 11.5 MI NW OF DILLON
PD-029E	S/W	FW	LITTLE PEE DEE RIVER AT S-17-23
PD-055	S/SPRP	FW	LITTLE PEE DEE RIVER AT SC 9
PD-030	S/W	FW*	MAPLE SWAMP AT SC 57
PD-030A	S/W	FW	LITTLE PEE DEE RIVER BELOW JUCNTION WITH MAPLE SWAMP
PD-348	W/INT	FW	LITTLE PEE DEE RIVER AT S-17-72
PD-052	P/INT	FW	LITTLE PEE DEE RIVER AT S-34-60
03040204-06			
RS-03513	RS03	FW	LOOSING SWAMP AT S-26-23, 3.7 MI NE OF AYNOR
PD-176	W/INT	FW*	LAKE SWAMP AT S-26-99
RS-04545	W/INT	FW*	LAKE SWAMP AT S-26-99
03040204-07			
PD-177	S/W	FW*	CHINNERS SWAMP AT S-26-24 1.9 MI SSE OF AYNOR
PD-352	W/INT	FW*	CHINNERS SWAMP AT GUNTERS ISLAND ROAD OFF S-26-99
03040204-08			
PD-351	W/BIO	ORW	CEDAR CREEK AT S-26-23
PD-037	S/W	FW*	WHITE OAK CREEK AT S-34-31
PD-701	BIO	ORW	DAWSEY SWAMP AT SR-99
PD-042	P/W	ORW	LITTLE PEE DEE RIVER AT US 501, GALIVANT'S FERRY
RS-01042	RS01	ORW	REEDY CREEK AT CR 39, 1 MI NE OF RAINS
PD-189	P/W	ORW	LITTLE PEE DEE RIVER AT US 378 12 MI W. OF CONWAY
PD-350	W/INT	ORW	LITTLE PEE DEE RIVER AT PUNCHBOWL LANDING
PD-702	BIO	FW	PALMETTO SWAMP AT SR 99

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

Statistical Abbreviations:

N For *standards compliance*, number of surface samples collected between January 1999 and December 2003.
For *trends*, number of surface samples collected between January 1989 and December 2003.
For *total phosphorus*, an additional trend period of January 1992 to December 2003 is also reported.

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 1999 and December 2003. 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 1999 and December 2003

Key to Trends:

D Statistically significant decreasing trend in parameter concentration

I Statistically significant increasing trend in parameter concentration

***** No statistically significant trend

Great Pee Dee River Basin

STATION				DO	DO	DO	MEAN	TRENDS (89 -2003)				
NUMBER	TYPE	WATERBODY NAME	CLASS	N	EXC.	%	EXC.	DO	N	MAG	BOD	N
	0304020105											
PD-339	INT / BIO	WESTFIELD CK	FW	33	8	24	3.42	D	52	-0.284	*	52
PD-191	INT	WHITES CK	FW	33	2	6	3.875	*	52	0.072	*	52
PD-012	INT	PEE DEE RVR	FW	57	2	4	4.625	*	176	0	I	175
RL-02324	RL02	LAKE WALLACE	FW	11	0	0						
CL-086	PD	LAKE WALLACE	FW	12	1	8	4.04					
PD-107	PD	CROOKED CK	FW	23	0	0		I	70	0.123	D	66
PD-014	PD	CROOKED CK	FW	10	0	0		*	58	0.041	D	57
PD-063	INT	CROOKED CK	FW	32	3	9	2.547	*	51	0.074	*	51
PD-151	INT	CEDAR CK	FW	33	0	0		*	51	-0.02	D	50
PD-015	PD	PEE DEE RVR	FW	34	1	3	4	D	141	-0.05	*	137
	0304020104											
RS-02305	RS02	CLAY CK	FW	9	3	33	2.317					
PD-673	BIO	THOMPSON CK										
RS-01013	RS01	DEEP CK	FW	11	0	0						
PD-671	BIO	DEEP CK										
PD-246	PD	THOMPSON CK	FW	24	0	0		*	82	0	I	82
PD-247	PD	THOMPSON CK	FW	24	0	0		*	82	0	I	82
PD-677	BIO	N PRONG CK										
PD-338	INT	THOMPSON CK	FW	41	4	10	4.27	*	92	-0.043	I	92
RL-03346	RL03	LAKE, EUREKA	FW	11	1	9	4.81					
CL-088	PD	LAKE, JUNIPER	FW	11	0	0						
PD-340	INT	JUNIPER CK	FW	32	2	6	4.915	*	51	-0.011	D	50
	0304020108											
RS-02471	RS02	PEE DEE RVR	FW	10	0	0						
PD-336	PD	HAGINS PRONG	FW	10	8	80	3.613	I	50	0.177	D	49
PD-341	PD	THREE CKS	FW	12	6	50	3.583	*	32	0.081	D	30
PD-367	INT	THREE CKS	FW	31	17	55	3.418	*	31	-0.002		
PD-028	INT	PEE DEE RVR	FW	56	1	2	4.5	D	152	-0.033	D	148
	0304020106											
PD-674	BIO	BIG BLACK CK										
RS-03355	RS03	BLACK CK	FW	11	1	9	4.47					
PD-004	PD	BLACK CK	FW	35	0	0		I	150	0.086	I	150
PD-676	BIO	LITTLE BLACK CK										
PD-613	BIO	SKIPPER CK										
PD-251	INT	BLACK CK	FW-SP	36	0	0		*	54	0.004	*	53
PD-327/ RL-03342	INT	LAKE ROBINSON	FW-SP	58	0	0		*	174	0	D	173
CL-094	INT	LAKE ROBINSON	FW-SP	32	0	0		*	40	0.041	*	32

Great Pee Dee River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	MAG
	0304020105			
PD-339	INT / BIO	WESTFIELD CK	FW	0.011
PD-191	INT	WHITES CK	FW	0
PD-012	INT	PEE DEE RVR	FW	0.033
RL-02324	RL02	LAKE WALLACE	FW	
CL-086	PD	LAKE WALLACE	FW	
PD-107	PD	CROOKED CK	FW	-0.059
PD-014	PD	CROOKED CK	FW	-0.033
PD-063	INT	CROOKED CK	FW	0
PD-151	INT	CEDAR CK	FW	-0.054
PD-015	PD	PEE DEE RVR	FW	-0.014
	0304020104			
RS-02305	RS02	CLAY CK	FW	
PD-673	BIO	THOMPSON CK		
RS-01013	RS01	DEEP CK	FW	
PD-671	BIO	DEEP CK		
PD-246	PD	THOMPSON CK	FW	0.093
PD-247	PD	THOMPSON CK	FW	0.067
PD-677	BIO	N PRONG CK		
PD-338	INT	THOMPSON CK	FW	0.136
RL-03346	RL03	LAKE, EUREKA	FW	
CL-088	PD	LAKE, JUNIPER	FW	
PD-340	INT	JUNIPER CK	FW	-0.014
	0304020108			
RS-02471	RS02	PEE DEE RVR	FW	
PD-336	PD	HAGINS PRONG	FW	-0.182
PD-341	PD	THREE CKS	FW	-0.144
PD-367	INT	THREE CKS	FW	
PD-028	INT	PEE DEE RVR	FW	-0.085
	0304020106			
PD-674	BIO	BIG BLACK CK		
RS-03355	RS03	BLACK CK	FW	
PD-004	PD	BLACK CK	FW	0.064
PD-676	BIO	LITTLE BLACK CK		
PD-613	BIO	SKIPPER CK		
PD-251	INT	BLACK CK	FW-SP	0
PD-327/ RL-03342	INT	LAKE ROBINSON	FW-SP	-0.034
CL-094	INT	LAKE ROBINSON	FW-SP	0

Great Pee Dee River Basin

STATION				pH	pH	pH	MEAN	TRENDS (89-2003)			TURB
NUMBER	TYPE	WATERBODY NAME	CLASS	N	EXC.	%	EXC.	PH	N	MAG	N
	0304020105										
PD-339	INT / BIO	WESTFIELD CK	FW	33	9	27	5.557	D	52	-0.114	33
PD-191	INT	WHITES CK	FW	33	13	39	4.953	*	52	-0.05	33
PD-012	INT	PEE DEE RVR	FW	57	2	4	5.835	I	176	0.008	57
RL-02324	RL02	LAKE WALLACE	FW	11	0	0					10
CL-086	PD	LAKE WALLACE	FW	12	5	42	5.364				12
PD-107	PD	CROOKED CK	FW	23	15	65	5.612	*	70	0	23
PD-014	PD	CROOKED CK	FW	10	3	30	5.757	*	58	0.016	10
PD-063	INT	CROOKED CK	FW	32	6	19	5.558	*	51	-0.013	32
PD-151	INT	CEDAR CK	FW	33	17	52	5.089	D	51	-0.1	33
PD-015	PD	PEE DEE RVR	FW	34	1	3	5.8	I	141	0.017	34
	0304020104										
RS-02305	RS02	CLAY CK	FW	9	0	0					9
PD-673	BIO	THOMPSON CK									
RS-01013	RS01	DEEP CK	FW	11	0	0					11
PD-671	BIO	DEEP CK									
PD-246	PD	THOMPSON CK	FW	24	1	4	5.6	*	82	0	24
PD-247	PD	THOMPSON CK	FW	24	3	13	5.887	*	82	0	24
PD-677	BIO	N PRONG CK									
PD-338	INT	THOMPSON CK	FW	41	5	12	5.654	*	92	-0.017	41
RL-03346	RL03	LAKE, EUREKA	FW	11	9	82	4.663				11
CL-088	PD	LAKE, JUNIPER	FW	11	9	82	4.253				11
PD-340	INT	JUNIPER CK	FW	32	14	44	4.644	D	51	-0.081	32
	0304020108										
RS-02471	RS02	PEE DEE RVR	FW	10	0	0					10
PD-336	PD	HAGINS PRONG	FW	10	6	60	5.82	*	49	0.005	10
PD-341	PD	THREE CKS	FW	12	9	75	5.48	D	32	-0.061	12
PD-367	INT	THREE CKS	FW	31	19	61	5.475	*	31	-0.256	31
PD-028	INT	PEE DEE RVR	FW	56	0	0		*	152	0.004	54
	0304020106										
PD-674	BIO	BIG BLACK CK									
RS-03355	RS03	BLACK CK	FW	11	5	45	5.682				11
PD-004	PD	BLACK CK	FW	34	4	12	5.72	I	149	0.033	35
PD-676	BIO	LITTLE BLACK CK									
PD-613	BIO	SKIPPER CK									
PD-251	INT	BLACK CK	FW-SP	36	9	25	4.486	*	54	-0.053	36
PD-327/ RL-03342	INT	LAKE ROBINSON	FW-SP	58	4	7	4.768	I	174	0.06	58
CL-094	INT	LAKE ROBINSON	FW-SP	33	3	9	4.643	*	41	-0.106	32

STATION				TURB	TURB	MEAN	TRENDS (89-2003)				TP	TP
NUMBER	TYPE	WATERBODY NAME	CLASS	EXC.	%	EXC.	TURB	N	MAG		N	EXC.
	0304020105											
PD-339	INT / BIO	WESTFIELD CK	FW	1	3	90	D	52	-0.397			
PD-191	INT	WHITES CK	FW	2	6	195	*	52	-0.044			
PD-012	INT	PEE DEE RVR	FW	3	5	71.333	D	176	-0.793			
RL-02324	RL02	LAKE WALLACE	FW	1	10	40					8	1
CL-086	PD	LAKE WALLACE	FW	0	0						12	0
PD-107	PD	CROOKED CK	FW	0	0		*	70	-0.041			
PD-014	PD	CROOKED CK	FW	0	0		D	58	-0.127			
PD-063	INT	CROOKED CK	FW	0	0		*	51	0.016			
PD-151	INT	CEDAR CK	FW	0	0		*	51	-0.044			
PD-015	PD	PEE DEE RVR	FW	5	15	153.8	*	141	-0.331			
	0304020104											
RS-02305	RS02	CLAY CK	FW	0	0							
PD-673	BIO	THOMPSON CK										
RS-01013	RS01	DEEP CK	FW	3	27	159.67						
PD-671	BIO	DEEP CK										
PD-246	PD	THOMPSON CK	FW	2	8	195	*	82	0.093			
PD-247	PD	THOMPSON CK	FW	1	4	170	*	82	0.142			
PD-677	BIO	N PRONG CK										
PD-338	INT	THOMPSON CK	FW	0	0		*	92	0.022			
RL-03346	RL03	LAKE, EUREKA	FW	0	0						11	0
CL-088	PD	LAKE, JUNIPER	FW	0	0						11	0
PD-340	INT	JUNIPER CK	FW	0	0		*	51	-0.016			
	0304020108											
RS-02471	RS02	PEE DEE RVR	FW	0	0							
PD-336	PD	HAGINS PRONG	FW	0	0		D	50	-1.086			
PD-341	PD	THREE CKS	FW	0	0		*	32	-0.033			
PD-367	INT	THREE CKS	FW	1	3	100	*	31	0			
PD-028	INT	PEE DEE RVR	FW	1	2	79	D	149	-1.006			
	0304020106											
PD-674	BIO	BIG BLACK CK										
RS-03355	RS03	BLACK CK	FW	0	0							
PD-004	PD	BLACK CK	FW	0	0		*	149	0.013			
PD-676	BIO	LITTLE BLACK CK										
PD-613	BIO	SKIPPER CK										
PD-251	INT	BLACK CK	FW-SP	0	0		*	53	-0.062			
PD-327/ RL-03342	INT	LAKE ROBINSON	FW-SP	0	0		*	173	0		21	0
CL-094	INT	LAKE ROBINSON	FW-SP	0	0		*	32	0.024		20	0

Great Pee Dee River Basin

STATION				TP	MEAN	TRENDS (92-2003)			TRENDS (89-2003)		
NUMBER	TYPE	WATERBODY NAME	CLASS	%	EXC.	TP	N	MAG	TP	N	MAG
	0304020105										
PD-339	INT / BIO	WESTFIELD CK	FW			*	39	0	*	39	0
PD-191	INT	WHITES CK	FW			*	40	0	*	40	0
PD-012	INT	PEE DEE RVR	FW			D	103	-0.002	D	138	-0.001
RL-02324	RL02	LAKE WALLACE	FW	13	0.23						
CL-086	PD	LAKE WALLACE	FW	0							
PD-107	PD	CROOKED CK	FW			D	38	-0.002	D	55	-0.003
PD-014	PD	CROOKED CK	FW						D	47	-0.022
PD-063	INT	CROOKED CK	FW			*	38	-0.002	*	38	-0.002
PD-151	INT	CEDAR CK	FW			D	39	0	D	39	0
PD-015	PD	PEE DEE RVR	FW			*	89	0	*	113	0.001
	0304020104										
RS-02305	RS02	CLAY CK	FW								
PD-673	BIO	THOMPSON CK									
RS-01013	RS01	DEEP CK	FW								
PD-671	BIO	DEEP CK									
PD-246	PD	THOMPSON CK	FW			*	51	0	*	68	0
PD-247	PD	THOMPSON CK	FW			*	51	0	*	69	0
PD-677	BIO	N PRONG CK									
PD-338	INT	THOMPSON CK	FW			*	63	0	*	67	0
RL-03346	RL03	LAKE, EUREKA	FW	0							
CL-088	PD	LAKE, JUNIPER	FW	0							
PD-340	INT	JUNIPER CK	FW			D	39	0	D	39	0
	0304020108										
RS-02471	RS02	PEE DEE RVR	FW								
PD-336	PD	HAGINS PRONG	FW						D	38	-0.008
PD-341	PD	THREE CKS	FW			D	30	-0.002	D	30	-0.002
PD-367	INT	THREE CKS	FW								
PD-028	INT	PEE DEE RVR	FW			*	81	0	*	115	0
	0304020106										
PD-674	BIO	BIG BLACK CK									
RS-03355	RS03	BLACK CK	FW								
PD-004	PD	BLACK CK	FW			D	85	-0.007	D	118	-0.005
PD-676	BIO	LITTLE BLACK CK									
PD-613	BIO	SKIPPER CK									
PD-251	INT	BLACK CK	FW-SP			*	41	0	*	41	0
PD-327/ RL-03342	INT	LAKE ROBINSON	FW-SP	0		D	98	0	D	132	0
CL-094	INT	LAKE ROBINSON	FW-SP	0							

Great Pee Dee River Basin

STATION					TN	TN	TN	MEAN	TRENDS (89-2003)				CHL
NUMBER	TYPE	WATERBODY NAME	CLASS		N	EXC.	%	EXC.	TN	N	MAG		N
	0304020105												
PD-339	INT / BIO	WESTFIELD CK	FW						I	35	0.04		
PD-191	INT	WHITES CK	FW						*	36	0.01		
PD-012	INT	PEE DEE RVR	FW						*	157	0.003		
RL-02324	RL02	LAKE WALLACE	FW		3	0	0						6
CL-086	PD	LAKE WALLACE	FW		6	1	17	1.82					6
PD-107	PD	CROOKED CK	FW										
PD-014	PD	CROOKED CK	FW										
PD-063	INT	CROOKED CK	FW						*	35	0.032		
PD-151	INT	CEDAR CK	FW						I	35	0.024		
PD-015	PD	PEE DEE RVR	FW						*	119	0.004		
	0304020104												
RS-02305	RS02	CLAY CK	FW										
PD-673	BIO	THOMPSON CK											
RS-01013	RS01	DEEP CK	FW										
PD-671	BIO	DEEP CK											
PD-246	PD	THOMPSON CK	FW										
PD-247	PD	THOMPSON CK	FW										
PD-677	BIO	N PRONG CK											
PD-338	INT	THOMPSON CK	FW						I	34	0.033		
RL-03346	RL03	LAKE, EUREKA	FW		6	0	0						5
CL-088	PD	LAKE, JUNIPER	FW		6	0	0						5
PD-340	INT	JUNIPER CK	FW						I	34	0.031		
	0304020108												
RS-02471	RS02	PEE DEE RVR	FW										
PD-336	PD	HAGINS PRONG	FW										
PD-341	PD	THREE CKS	FW										
PD-367	INT	THREE CKS	FW										
PD-028	INT	PEE DEE RVR	FW						D	139	-0.02		
	0304020106												
PD-674	BIO	BIG BLACK CK											
RS-03355	RS03	BLACK CK	FW										
PD-004	PD	BLACK CK	FW						*	139	-0.012		
PD-676	BIO	LITTLE BLACK CK											
PD-613	BIO	SKIPPER CK											
PD-251	INT	BLACK CK	FW-SP						*	36	0.012		
PD-327/ RL-03342	INT	LAKE ROBINSON	FW-SP		40	0	0		*	147	-0.003		17
CL-094	INT	LAKE ROBINSON	FW-SP		16	0	0						16

Great Pee Dee River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	CHL EXC.	CHL %	MEAN EXC.		TRENDS (89-2003) TSS	N	MAG
	0304020105									
PD-339	INT / BIO	WESTFIELD CK	FW							
PD-191	INT	WHITES CK	FW							
PD-012	INT	PEE DEE RVR	FW							
RL-02324	RL02	LAKE WALLACE	FW	0	0					
CL-086	PD	LAKE WALLACE	FW	0	0					
PD-107	PD	CROOKED CK	FW							
PD-014	PD	CROOKED CK	FW							
PD-063	INT	CROOKED CK	FW							
PD-151	INT	CEDAR CK	FW							
PD-015	PD	PEE DEE RVR	FW							
	0304020104									
RS-02305	RS02	CLAY CK	FW							
PD-673	BIO	THOMPSON CK								
RS-01013	RS01	DEEP CK	FW							
PD-671	BIO	DEEP CK								
PD-246	PD	THOMPSON CK	FW							
PD-247	PD	THOMPSON CK	FW							
PD-677	BIO	N PRONG CK								
PD-338	INT	THOMPSON CK	FW							
RL-03346	RL03	LAKE, EUREKA	FW	0	0					
CL-088	PD	LAKE, JUNIPER	FW	0	0					
PD-340	INT	JUNIPER CK	FW							
	0304020108									
RS-02471	RS02	PEE DEE RVR	FW							
PD-336	PD	HAGINS PRONG	FW							
PD-341	PD	THREE CKS	FW							
PD-367	INT	THREE CKS	FW							
PD-028	INT	PEE DEE RVR	FW					*	97	-0.225
	0304020106									
PD-674	BIO	BIG BLACK CK								
RS-03355	RS03	BLACK CK	FW							
PD-004	PD	BLACK CK	FW							
PD-676	BIO	LITTLE BLACK CK								
PD-613	BIO	SKIPPER CK								
PD-251	INT	BLACK CK	FW-SP							
PD-327/ RL-03342	INT	LAKE ROBINSON	FW-SP	1	6	47.5				
CL-094	INT	LAKE ROBINSON	FW-SP	1	6	52.7				

Great Pee Dee River Basin

STATION				GEO	BACT	BACT	BACT	MEAN	TRENDS (	
NUMBER	TYPE	WATERBODY NAME	CLASS	MEAN	N	EXC.	%	EXC.	BACT	N
	0304020105									
PD-339	INT / BIO	WESTFIELD CK	FW	59.746	33	1	3	580	D	51
PD-191	INT	WHITES CK	FW	5.3756	33	1	3	1100	D	52
PD-012	INT	PEE DEE RVR	FW	48.3999	57	3	5	596.6667	D	175
RL-02324	RL02	LAKE WALLACE	FW	12.8686	10	0	0			
CL-086	PD	LAKE WALLACE	FW	5.7422	12	0	0			
PD-107	PD	CROOKED CK	FW	42.0041	21	1	5	510	*	68
PD-014	PD	CROOKED CK	FW	86.6605	10	0	0		*	58
PD-063	INT	CROOKED CK	FW	54.7206	32	0	0		D	50
PD-151	INT	CEDAR CK	FW	42.7766	32	0	0		D	50
PD-015	PD	PEE DEE RVR	FW	90.7046	34	6	18	536.6667	*	141
	0304020104									
RS-02305	RS02	CLAY CK	FW	69.3278	9	1	11	1100		
PD-673	BIO	THOMPSON CK								
RS-01013	RS01	DEEP CK	FW	231.2395	11	2	18	765		
PD-671	BIO	DEEP CK								
PD-246	PD	THOMPSON CK	FW	370.4663	24	10	42	2692	*	81
PD-247	PD	THOMPSON CK	FW	330.7336	23	10	43	1918	*	80
PD-677	BIO	N PRONG CK								
PD-338	INT	THOMPSON CK	FW	63.2626	41	0	0		*	92
RL-03346	RL03	LAKE, EUREKA	FW	1.8782	11	0	0			
CL-088	PD	LAKE, JUNIPER	FW	2.7983	11	0	0			
PD-340	INT	JUNIPER CK	FW	7.1604	31	0	0		D	49
	0304020108									
RS-02471	RS02	PEE DEE RVR	FW	72.0952	10	0	0			
PD-336	PD	HAGINS PRONG	FW	60.4458	9	0	0		D	49
PD-341	PD	THREE CKS	FW	54.9299	12	1	8	600	*	32
PD-367	INT	THREE CKS	FW	76.2116	30	1	3	480	*	30
PD-028	INT	PEE DEE RVR	FW	39.8209	55	2	4	905	*	150
	0304020106									
PD-674	BIO	BIG BLACK CK								
RS-03355	RS03	BLACK CK	FW	73.0435	11	1	9	500		
PD-004	PD	BLACK CK	FW	30.7811	35	0	0		*	150
PD-676	BIO	LITTLE BLACK CK								
PD-613	BIO	SKIPPER CK								
PD-251	INT	BLACK CK	FW-SP	53.9652	36	0	0		D	54
PD-327/ RL-03342	INT	LAKE ROBINSON	FW-SP	11.383	57	0	0		*	172
CL-094	INT	LAKE ROBINSON	FW-SP	1.9235	33	0	0		*	33

Great Pee Dee River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	89-2003) MAG		NH3 N	NH3 EXC.	NH3 %	MEAN EXC.
	0304020105								
PD-339	INT / BIO	WESTFIELD CK	FW	-13.673		18	0	0	
PD-191	INT	WHITES CK	FW	-0.43		18	0	0	
PD-012	INT	PEE DEE RVR	FW	-3.128		41	0	0	
RL-02324	RL02	LAKE WALLACE	FW			4	0	0	
CL-086	PD	LAKE WALLACE	FW			6	0	0	
PD-107	PD	CROOKED CK	FW	-4.071		7	0	0	
PD-014	PD	CROOKED CK	FW	-2.421					
PD-063	INT	CROOKED CK	FW	-2.128		18	0	0	
PD-151	INT	CEDAR CK	FW	-3.477		18	0	0	
PD-015	PD	PEE DEE RVR	FW	-0.497		28	0	0	
	0304020104								
RS-02305	RS02	CLAY CK	FW			5	0	0	
PD-673	BIO	THOMPSON CK							
RS-01013	RS01	DEEP CK	FW			6	0	0	
PD-671	BIO	DEEP CK							
PD-246	PD	THOMPSON CK	FW	4.012		6	0	0	
PD-247	PD	THOMPSON CK	FW	-2.49		6	0	0	
PD-677	BIO	N PRONG CK							
PD-338	INT	THOMPSON CK	FW	-1.431		17	0	0	
RL-03346	RL03	LAKE, EUREKA	FW			6	0	0	
CL-088	PD	LAKE, JUNIPER	FW			6	0	0	
PD-340	INT	JUNIPER CK	FW	-0.679		16	0	0	
	0304020108								
RS-02471	RS02	PEE DEE RVR	FW			9	0	0	
PD-336	PD	HAGINS PRONG	FW	-10.966					
PD-341	PD	THREE CKS	FW	-2.826		7	0	0	
PD-367	INT	THREE CKS	FW	-14.175		22	0	0	
PD-028	INT	PEE DEE RVR	FW	-0.73		45	0	0	
	0304020106								
PD-674	BIO	BIG BLACK CK							
RS-03355	RS03	BLACK CK	FW			6	0	0	
PD-004	PD	BLACK CK	FW	-0.446		29	0	0	
PD-676	BIO	LITTLE BLACK CK							
PD-613	BIO	SKIPPER CK							
PD-251	INT	BLACK CK	FW-SP	-5.108		18	0	0	
PD-327/ RL-03342	INT	LAKE ROBINSON	FW-SP	0.111		41	0	0	
CL-094	INT	LAKE ROBINSON	FW-SP	0		18	0	0	

Great Pee Dee River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	CD N	CD EXC.	CD %	MEAN EXC.	CR N	CR EXC.	CR %	CU N	CU EXC.
	0304020105											
PD-339	INT / BIO	WESTFIELD CK	FW	11	0	0		11	0	0	11	0
PD-191	INT	WHITES CK	FW	11	0	0		11	0	0	11	0
PD-012	INT	PEE DEE RVR	FW	18	0	0		18	0	0	18	1
RL-02324	RL02	LAKE WALLACE	FW	3	0	0		3	0	0	3	0
CL-086	PD	LAKE WALLACE	FW	4	0	0		4	0	0	4	0
PD-107	PD	CROOKED CK	FW	4	0	0		4	0	0	4	0
PD-014	PD	CROOKED CK	FW									
PD-063	INT	CROOKED CK	FW	10	0	0		10	0	0	10	0
PD-151	INT	CEDAR CK	FW	11	0	0		11	0	0	11	0
PD-015	PD	PEE DEE RVR	FW	11	0	0		11	0	0	11	1
	0304020104											
RS-02305	RS02	CLAY CK	FW	2	0	0		2	0	0	2	0
PD-673	BIO	THOMPSON CK										
RS-01013	RS01	DEEP CK	FW	4	0	0		4	0	0	4	0
PD-671	BIO	DEEP CK										
PD-246	PD	THOMPSON CK	FW	4	0	0		4	0	0	4	0
PD-247	PD	THOMPSON CK	FW	4	0	0		4	0	0	4	0
PD-677	BIO	N PRONG CK										
PD-338	INT	THOMPSON CK	FW	14	0	0		14	0	0	14	0
RL-03346	RL03	LAKE, EUREKA	FW	3	0	0		3	0	0	3	0
CL-088	PD	LAKE, JUNIPER	FW	3	0	0		3	0	0	3	0
PD-340	INT	JUNIPER CK	FW	10	0	0		10	0	0	10	1
	0304020108											
RS-02471	RS02	PEE DEE RVR	FW	2	0	0		2	0	0	2	0
PD-336	PD	HAGINS PRONG	FW									
PD-341	PD	THREE CKS	FW	4	0	0		4	0	0	4	0
PD-367	INT	THREE CKS	FW	10	0	0		10	0	0	10	1
PD-028	INT	PEE DEE RVR	FW	18	0	0		18	0	0	18	0
	0304020106											
PD-674	BIO	BIG BLACK CK										
RS-03355	RS03	BLACK CK	FW	4	0	0		4	0	0	4	0
PD-004	PD	BLACK CK	FW	12	1	8	20	12	0	0	12	0
PD-676	BIO	LITTLE BLACK CK										
PD-613	BIO	SKIPPER CK										
PD-251	INT	BLACK CK	FW-SP	12	0	0		12	0	0	12	0
PD-327/ RL-03342	INT	LAKE ROBINSON	FW-SP	19	0	0		19	0	0	19	1
CL-094	INT	LAKE ROBINSON	FW-SP	10	0	0		10	0	0	10	0

Great Pee Dee River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	CU %	MEAN EXC.		PB N	PB EXC.	PB %	MEAN EXC.
	0304020105									
PD-339	INT / BIO	WESTFIELD CK	FW	0			11	0	0	
PD-191	INT	WHITES CK	FW	0			11	0	0	
PD-012	INT	PEE DEE RVR	FW	6	100		18	0	0	
RL-02324	RL02	LAKE WALLACE	FW	0			3	0	0	
CL-086	PD	LAKE WALLACE	FW	0			4	0	0	
PD-107	PD	CROOKED CK	FW	0			4	0	0	
PD-014	PD	CROOKED CK	FW							
PD-063	INT	CROOKED CK	FW	0			10	0	0	
PD-151	INT	CEDAR CK	FW	0			11	0	0	
PD-015	PD	PEE DEE RVR	FW	9	20		11	0	0	
	0304020104									
RS-02305	RS02	CLAY CK	FW	0			2	0	0	
PD-673	BIO	THOMPSON CK								
RS-01013	RS01	DEEP CK	FW	0			4	0	0	
PD-671	BIO	DEEP CK								
PD-246	PD	THOMPSON CK	FW	0			4	0	0	
PD-247	PD	THOMPSON CK	FW	0			4	0	0	
PD-677	BIO	N PRONG CK								
PD-338	INT	THOMPSON CK	FW	0			14	0	0	
RL-03346	RL03	LAKE, EUREKA	FW	0			3	0	0	
CL-088	PD	LAKE, JUNIPER	FW	0			3	0	0	
PD-340	INT	JUNIPER CK	FW	10	25		10	0	0	
	0304020108									
RS-02471	RS02	PEE DEE RVR	FW	0			2	0	0	
PD-336	PD	HAGINS PRONG	FW							
PD-341	PD	THREE CKS	FW	0			4	0	0	
PD-367	INT	THREE CKS	FW	10	17		10	0	0	
PD-028	INT	PEE DEE RVR	FW	0			18	0	0	
	0304020106									
PD-674	BIO	BIG BLACK CK								
RS-03355	RS03	BLACK CK	FW	0			4	0	0	
PD-004	PD	BLACK CK	FW	0			12	0	0	
PD-676	BIO	LITTLE BLACK CK								
PD-613	BIO	SKIPPER CK								
PD-251	INT	BLACK CK	FW-SP	0			12	0	0	
PD-327/ RL-03342	INT	LAKE ROBINSON	FW-SP	5	10		19	0	0	
CL-094	INT	LAKE ROBINSON	FW-SP	0			10	0	0	

Great Pee Dee River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	HG N	HG EXC.	HG %	MEAN EXC.	NI N	NI EXC.	NI %	ZN N	ZN EXC.	ZN %
	0304020105												
PD-339	INT / BIO	WESTFIELD CK	FW	11	0	0		11	0	0	11	0	0
PD-191	INT	WHITES CK	FW	11	0	0		11	0	0	11	0	0
PD-012	INT	PEE DEE RVR	FW	18	0	0		18	0	0	18	1	6
RL-02324	RL02	LAKE WALLACE	FW	3	0	0		3	0	0	3	0	0
CL-086	PD	LAKE WALLACE	FW	4	0	0		4	0	0	4	0	0
PD-107	PD	CROOKED CK	FW	4	0	0		4	0	0	4	0	0
PD-014	PD	CROOKED CK	FW										
PD-063	INT	CROOKED CK	FW	10	0	0		10	0	0	10	0	0
PD-151	INT	CEDAR CK	FW	11	0	0		11	0	0	11	0	0
PD-015	PD	PEE DEE RVR	FW	11	0	0		11	0	0	11	0	0
	0304020104												
RS-02305	RS02	CLAY CK	FW	2	0	0		2	0	0	2	0	0
PD-673	BIO	THOMPSON CK											
RS-01013	RS01	DEEP CK	FW	4	0	0		4	0	0	4	0	0
PD-671	BIO	DEEP CK											
PD-246	PD	THOMPSON CK	FW	4	0	0		4	0	0	4	0	0
PD-247	PD	THOMPSON CK	FW	4	0	0		4	0	0	4	0	0
PD-677	BIO	N PRONG CK											
PD-338	INT	THOMPSON CK	FW	14	0	0		14	0	0	14	0	0
RL-03346	RL03	LAKE, EUREKA	FW	3	0	0		3	0	0	3	0	0
CL-088	PD	LAKE, JUNIPER	FW	3	0	0		3	0	0	3	0	0
PD-340	INT	JUNIPER CK	FW	10	0	0		10	0	0	10	0	0
	0304020108												
RS-02471	RS02	PEE DEE RVR	FW	2	1	50	22	2	0	0	2	0	0
PD-336	PD	HAGINS PRONG	FW										
PD-341	PD	THREE CKS	FW	4	0	0		4	0	0	4	0	0
PD-367	INT	THREE CKS	FW	10	0	0		10	0	0	10	0	0
PD-028	INT	PEE DEE RVR	FW	19	0	0		18	0	0	18	0	0
	0304020106												
PD-674	BIO	BIG BLACK CK											
RS-03355	RS03	BLACK CK	FW	4	0	0		4	0	0	4	0	0
PD-004	PD	BLACK CK	FW	12	0	0		12	0	0	12	0	0
PD-676	BIO	LITTLE BLACK CK											
PD-613	BIO	SKIPPER CK											
PD-251	INT	BLACK CK	FW-SP	12	0	0		12	0	0	12	0	0
PD-327/ RL-03342	INT	LAKE ROBINSON	FW-SP	18	0	0		19	0	0	19	1	5
CL-094	INT	LAKE ROBINSON	FW-SP	10	0	0		10	0	0	10	0	0

Great Pee Dee River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	MEAN EXC.
	0304020105			
PD-339	INT / BIO	WESTFIELD CK	FW	
PD-191	INT	WHITES CK	FW	
PD-012	INT	PEE DEE RVR	FW	180
RL-02324	RL02	LAKE WALLACE	FW	
CL-086	PD	LAKE WALLACE	FW	
PD-107	PD	CROOKED CK	FW	
PD-014	PD	CROOKED CK	FW	
PD-063	INT	CROOKED CK	FW	
PD-151	INT	CEDAR CK	FW	
PD-015	PD	PEE DEE RVR	FW	
	0304020104			
RS-02305	RS02	CLAY CK	FW	
PD-673	BIO	THOMPSON CK		
RS-01013	RS01	DEEP CK	FW	
PD-671	BIO	DEEP CK		
PD-246	PD	THOMPSON CK	FW	
PD-247	PD	THOMPSON CK	FW	
PD-677	BIO	N PRONG CK		
PD-338	INT	THOMPSON CK	FW	
RL-03346	RL03	LAKE, EUREKA	FW	
CL-088	PD	LAKE, JUNIPER	FW	
PD-340	INT	JUNIPER CK	FW	
	0304020108			
RS-02471	RS02	PEE DEE RVR	FW	
PD-336	PD	HAGINS PRONG	FW	
PD-341	PD	THREE CKS	FW	
PD-367	INT	THREE CKS	FW	
PD-028	INT	PEE DEE RVR	FW	
	0304020106			
PD-674	BIO	BIG BLACK CK		
RS-03355	RS03	BLACK CK	FW	
PD-004	PD	BLACK CK	FW	
PD-676	BIO	LITTLE BLACK CK		
PD-613	BIO	SKIPPER CK		
PD-251	INT	BLACK CK	FW-SP	
PD-327/ RL-03342	INT	LAKE ROBINSON	FW-SP	270
CL-094	INT	LAKE ROBINSON	FW-SP	

Great Pee Dee River Basin

STATION				DO	DO	DO	MEAN	TRENDS (89 -2003)				
NUMBER	TYPE	WATERBODY NAME	CLASS	N	EXC.	%	EXC.	DO	N	MAG	BOD	N
	0304020107											
PD-159	PD	BLACK CK	FW-SP	5	0	0		D	54	-0.067	D	50
PD-268	PD	LAKE, PRESTWOOD	FW-SP	10	0	0		I	58	0.084	*	54
PD-081	PD	LAKE, PRESTWOOD	FW-SP	10	0	0		*	59	0.046	D	56
PD-258	PD	SNAKE BRANCH	FW	15	4	27	2.525	*	70	0.099	D	68
PD-137	PD	SNAKE BRANCH	FW	10	0	0		I	58	0.064	D	57
PD-021	PD	BLACK CK	FW-SP	33	0	0		*	153	-0.024	D	150
PD-330	PD	BLACK CK	FW-SP	9	0	0		*	58	0	D	54
PD-023	PD	BLACK CK	FW-SP	21	0	0		*	137	0	D	134
RS-02311	RS02	BOGGY SWAMP	FW	9	2	22	1.6					
RS-03507	RS03 / BIO	BOGGY SWAMP	FW	10	0	0						
RS-01043	RS01	BLACK CK	FW-SP	11	0	0						
PD-024A	SPRP	BLACK CK	**FW-SP**/FW	32	0	0		D	32	-0.248	*	33
PD-024A	SPRP	BLACK CK	FW-SP/**FW**	32	0	0		D	32	-0.248	*	33
PD-025	PD	BLACK CK	FW	20	0	0		D	140	-0.033	D	136
RS-03491	RS03	BLACK CK	FW	12	0	0						
RS-01023	RS01	SWIFT CK TRIB	FW	10	0	0						
PD-141	PD	PIPE	FW	19	7	37	4.157	*	66	0.01	*	63
PD-027	PD	BLACK CK	FW	33	0	0		*	154	0	D	152
PD-103	PD	HIGH HILL CK	FW	10	6	60	3.558	*	71	0	*	67
PD-078	INT	BLACK CK	FW	24	1	4	4.8	*	43	0.05	D	42
	0304020110											
PD-337	INT	PEE DEE RVR	FW	52	1	2	3.1	D	154	-0.057	D	152
	0304020109											
PD-255	PD	JEFFERIES CK	FW-SP	21	14	67	1.839	*	82	0.038	D	79
PD-256	PD	JEFFERIES CK	FW-SP	22	17	77	1.582	*	70	-0.025	D	68
PD-065	PD	GULLEY BR	FW	34	0	0		*	113	0.05	D	111
PD-230	PD	MIDDLE SWAMP	FW-SP	23	15	65	1.817	D	72	-0.152	*	70
RS-01003	RS01	POLK CK	FW	12	6	50	3.683					
PD-035	PD	JEFFERIES CK	FW-SP	10	0	0		*	59	-0.006	D	57
PD-231	INT	JEFFERIES CK	FW-SP	34	0	0		I	106	0.066	D	102
PD-167	PD	WILLOW CK	FW	12	3	25	3	*	33	0.14	*	33
	0304020112											
PD-076	INT	PEE DEE RVR	FW	56	0	0		D	177	-0.033	D	174
	0304020111											
PD-320	PD	SMITH SWAMP	FW-SP	22	15	68	1.623	*	69	0.047	D	67
PD-187	PD	SMITH SWAMP	FW-SP	33	15	45	2.61	*	131	0.033	D	129
PD-097	INT	CATFISH CANAL	FW-SP	30	20	67	2.274	D	97	-0.09	*	97

Great Pee Dee River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	MAG
	0304020107			
PD-159	PD	BLACK CK	FW-SP	-0.033
PD-268	PD	LAKE, PRESTWOOD	FW-SP	-0.04
PD-081	PD	LAKE, PRESTWOOD	FW-SP	-0.08
PD-258	PD	SNAKE BRANCH	FW	-0.123
PD-137	PD	SNAKE BRANCH	FW	-0.101
PD-021	PD	BLACK CK	FW-SP	-0.066
PD-330	PD	BLACK CK	FW-SP	-0.081
PD-023	PD	BLACK CK	FW-SP	-0.05
RS-02311	RS02	BOGGY SWAMP	FW	
RS-03507	RS03 / BIO	BOGGY SWAMP	FW	
RS-01043	RS01	BLACK CK	FW-SP	
PD-024A	SPRP	BLACK CK	**FW-SP**/FW	0
PD-024A	SPRP	BLACK CK	FW-SP/**FW**	0
PD-025	PD	BLACK CK	FW	-0.033
RS-03491	RS03	BLACK CK	FW	
RS-01023	RS01	SWIFT CK TRIB	FW	
PD-141	PD	PIPE	FW	-0.026
PD-027	PD	BLACK CK	FW	-0.086
PD-103	PD	HIGH HILL CK	FW	0.013
PD-078	INT	BLACK CK	FW	-0.152
	0304020110			
PD-337	INT	PEE DEE RVR	FW	-0.067
	0304020109			
PD-255	PD	JEFFERIES CK	FW-SP	-0.172
PD-256	PD	JEFFERIES CK	FW-SP	-0.1
PD-065	PD	GULLEY BR	FW	-0.2
PD-230	PD	MIDDLE SWAMP	FW-SP	0
RS-01003	RS01	POLK CK	FW	
PD-035	PD	JEFFERIES CK	FW-SP	-0.062
PD-231	INT	JEFFERIES CK	FW-SP	-0.081
PD-167	PD	WILLOW CK	FW	-0.089
	0304020112			
PD-076	INT	PEE DEE RVR	FW	-0.033
	0304020111			
PD-320	PD	SMITH SWAMP	FW-SP	-0.22
PD-187	PD	SMITH SWAMP	FW-SP	-0.201
PD-097	INT	CATFISH CANAL	FW-SP	0

Great Pee Dee River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	pH N	pH EXC.	pH %	MEAN EXC.	TRENDS (89-2003) PH	N	MAG	TURB N
	0304020107										
PD-159	PD	BLACK CK	FW-SP	5	1	20	4.5	*	53	0.029	5
PD-268	PD	LAKE, PRESTWOOD	FW-SP	10	0	0		*	57	0.046	10
PD-081	PD	LAKE, PRESTWOOD	FW-SP	10	0	0		*	58	0.027	10
PD-258	PD	SNAKE BRANCH	FW	15	12	80	5.771	D	69	-0.034	17
PD-137	PD	SNAKE BRANCH	FW	11	8	73	5.704	*	58	-0.025	11
PD-021	PD	BLACK CK	FW-SP	33	2	6	3.685	*	153	0	35
PD-330	PD	BLACK CK	FW-SP	9	0	0		I	57	0.034	9
PD-023	PD	BLACK CK	FW-SP	21	0	0		I	137	0.033	21
RS-02311	RS02	BOGGY SWAMP	FW	9	7	78	5.281				9
RS-03507	RS03 / BIO	BOGGY SWAMP	FW	10	6	60	5.382				12
RS-01043	RS01	BLACK CK	FW-SP	11	0	0					11
PD-024A	SPRP	BLACK CK	**FW-SP**/FW	32	0	0		D	32	-0.233	34
PD-024A	SPRP	BLACK CK	FW-SP/**FW**	32	1	3	5.82	D	32	-0.233	34
PD-025	PD	BLACK CK	FW	20	3	15	5.85	I	139	0.049	20
RS-03491	RS03	BLACK CK	FW	12	3	25	5.617				12
RS-01023	RS01	SWIFT CK TRIB	FW	10	1	10	5.33				10
PD-141	PD	PIPE	FW	19	1	5	5.6	D	66	-0.024	19
PD-027	PD	BLACK CK	FW	33	4	12	5.738	I	153	0.037	34
PD-103	PD	HIGH HILL CK	FW	10	2	20	5.86	*	70	0	10
PD-078	INT	BLACK CK	FW	24	2	8	5.555	*	43	0	24
	0304020110										
PD-337	INT	PEE DEE RVR	FW	52	2	4	5.625	*	154	0.008	51
	0304020109										
PD-255	PD	JEFFERIES CK	FW-SP	21	0	0		*	80	-0.001	21
PD-256	PD	JEFFERIES CK	FW-SP	22	0	0		*	69	0.009	22
PD-065	PD	GULLEY BR	FW	34	4	12	5.773	D	113	-0.039	34
PD-230	PD	MIDDLE SWAMP	FW-SP	23	0	0		*	71	-0.007	23
RS-01003	RS01	POLK CK	FW	12	11	92	5.516				12
PD-035	PD	JEFFERIES CK	FW-SP	10	0	0		*	59	-0.025	10
PD-231	INT	JEFFERIES CK	FW-SP	34	0	0		*	105	-0.011	33
PD-167	PD	WILLOW CK	FW	12	5	42	5.832	*	33	-0.015	12
	0304020112										
PD-076	INT	PEE DEE RVR	FW	56	1	2	5.46	I	176	0.025	56
	0304020111										
PD-320	PD	SMITH SWAMP	FW-SP	22	1	5	4.6	*	69	-0.012	22
PD-187	PD	SMITH SWAMP	FW-SP	33	1	3	4.66	D	131	-0.059	33
PD-097	INT	CATFISH CANAL	FW-SP	30	0	0		*	96	0.01	30

Great Pee Dee River Basin

STATION				TURB	TURB	MEAN	TRENDS (89-2003)				TP	TP
NUMBER	TYPE	WATERBODY NAME	CLASS	EXC.	%	EXC.	TURB	N	MAG		N	EXC.
	0304020107											
PD-159	PD	BLACK CK	FW-SP	0	0		I	53	0.1			
PD-268	PD	LAKE, PRESTWOOD	FW-SP	0	0		*	56	0.025			
PD-081	PD	LAKE, PRESTWOOD	FW-SP	0	0		*	58	-0.051			
PD-258	PD	SNAKE BRANCH	FW	2	12	92.5	*	71	0			
PD-137	PD	SNAKE BRANCH	FW	0	0		*	57	-0.099			
PD-021	PD	BLACK CK	FW-SP	0	0		*	155	-0.02			
PD-330	PD	BLACK CK	FW-SP	0	0		D	57	-0.102			
PD-023	PD	BLACK CK	FW-SP	0	0		D	137	-0.1			
RS-02311	RS02	BOGGY SWAMP	FW	0	0							
RS-03507	RS03 / BIO	BOGGY SWAMP	FW	0	0							
RS-01043	RS01	BLACK CK	FW-SP	0	0							
PD-024A	SPRP	BLACK CK	**FW-SP**/FW	1	3	52	*	34	0.352			
PD-024A	SPRP	BLACK CK	FW-SP/**FW**	1	3	52	*	34	0.352			
PD-025	PD	BLACK CK	FW	0	0		I	139	0.061			
RS-03491	RS03	BLACK CK	FW	0	0							
RS-01023	RS01	SWIFT CK TRIB	FW	0	0							
PD-141	PD	PIPE	FW	1	5	160	*	66	-0.033			
PD-027	PD	BLACK CK	FW	0	0		*	154	0			
PD-103	PD	HIGH HILL CK	FW	0	0		*	70	-0.246			
PD-078	INT	BLACK CK	FW	0	0		D	43	-0.185			
	0304020110											
PD-337	INT	PEE DEE RVR	FW	1	2	80	D	153	-0.775			
	0304020109											
PD-255	PD	JEFFERIES CK	FW-SP	0	0		D	80	-0.196			
PD-256	PD	JEFFERIES CK	FW-SP	0	0		*	68	-0.176			
PD-065	PD	GULLEY BR	FW	0	0		D	113	-0.221			
PD-230	PD	MIDDLE SWAMP	FW-SP	1	4	52	*	71	0			
RS-01003	RS01	POLK CK	FW	0	0							
PD-035	PD	JEFFERIES CK	FW-SP	0	0		*	58	0			
PD-231	INT	JEFFERIES CK	FW-SP	0	0		D	102	-0.182			
PD-167	PD	WILLOW CK	FW	0	0		*	33	-0.096			
	0304020112											
PD-076	INT	PEE DEE RVR	FW	1	2	68	D	176	-0.599			
	0304020111											
PD-320	PD	SMITH SWAMP	FW-SP	0	0		D	68	-0.412			
PD-187	PD	SMITH SWAMP	FW-SP	0	0		D	131	-0.28			
PD-097	INT	CATFISH CANAL	FW-SP	0	0		D	97	-0.184			

Great Pee Dee River Basin

STATION				TP	MEAN	TRENDS (92-2003)				TRENDS (89-2003)		
NUMBER	TYPE	WATERBODY NAME	CLASS	%	EXC.	TP	N	MAG		TP	N	MAG
	0304020107											
PD-159	PD	BLACK CK	FW-SP							D	45	0
PD-268	PD	LAKE, PRESTWOOD	FW-SP							D	45	-0.005
PD-081	PD	LAKE, PRESTWOOD	FW-SP							D	47	-0.002
PD-258	PD	SNAKE BRANCH	FW			D	45	-0.009		D	63	-0.008
PD-137	PD	SNAKE BRANCH	FW							D	47	-0.006
PD-021	PD	BLACK CK	FW-SP			*	92	0		D	127	0
PD-330	PD	BLACK CK	FW-SP							D	47	-0.013
PD-023	PD	BLACK CK	FW-SP			D	77	-0.006		D	112	-0.007
RS-02311	RS02	BOGGY SWAMP	FW									
RS-03507	RS03 / BIO	BOGGY SWAMP	FW									
RS-01043	RS01	BLACK CK	FW-SP									
PD-024A	SPRP	BLACK CK	**FW-SP**/FW									
PD-024A	SPRP	BLACK CK	FW-SP/**FW**									
PD-025	PD	BLACK CK	FW			D	76	-0.005		D	111	-0.007
RS-03491	RS03	BLACK CK	FW									
RS-01023	RS01	SWIFT CK TRIB	FW									
PD-141	PD	PIPE	FW			D	40	-0.015		D	58	-0.018
PD-027	PD	BLACK CK	FW			D	91	-0.005		D	127	-0.006
PD-103	PD	HIGH HILL CK	FW			*	40	-0.008		*	57	-0.007
PD-078	INT	BLACK CK	FW									
	0304020110											
PD-337	INT	PEE DEE RVR	FW			*	98	0.002		*	115	0.002
	0304020109											
PD-255	PD	JEFFERIES CK	FW-SP			D	52	-0.005		D	68	-0.007
PD-256	PD	JEFFERIES CK	FW-SP			*	41	-0.001		D	59	-0.006
PD-065	PD	GULLEY BR	FW			*	87	-0.001		*	87	-0.001
PD-230	PD	MIDDLE SWAMP	FW-SP			*	39	-0.01		*	56	-0.005
RS-01003	RS01	POLK CK	FW									
PD-035	PD	JEFFERIES CK	FW-SP							D	43	-0.063
PD-231	INT	JEFFERIES CK	FW-SP			D	57	-0.039		D	73	-0.032
PD-167	PD	WILLOW CK	FW			*	33	-0.006		*	33	-0.006
	0304020112											
PD-076	INT	PEE DEE RVR	FW			*	101	0.002		*	136	0
	0304020111											
PD-320	PD	SMITH SWAMP	FW-SP			D	40	-0.028		D	57	-0.029
PD-187	PD	SMITH SWAMP	FW-SP			*	84	-0.01		D	102	-0.03
PD-097	INT	CATFISH CANAL	FW-SP			*	53	0		D	71	-0.005

Great Pee Dee River Basin

STATION					TN	TN	TN	MEAN	TRENDS (89-2003)				CHL
NUMBER	TYPE	WATERBODY NAME	CLASS		N	EXC.	%	EXC.	TN	N	MAG		N
	0304020107												
PD-159	PD	BLACK CK	FW-SP										
PD-268	PD	LAKE, PRESTWOOD	FW-SP										
PD-081	PD	LAKE, PRESTWOOD	FW-SP										
PD-258	PD	SNAKE BRANCH	FW										
PD-137	PD	SNAKE BRANCH	FW										
PD-021	PD	BLACK CK	FW-SP						D	143	-0.014		
PD-330	PD	BLACK CK	FW-SP										
PD-023	PD	BLACK CK	FW-SP						D	135	-0.037		
RS-02311	RS02	BOGGY SWAMP	FW										
RS-03507	RS03 / BIO	BOGGY SWAMP	FW										
RS-01043	RS01	BLACK CK	FW-SP										
PD-024A	SPRP	BLACK CK	**FW-SP**/FW										
PD-024A	SPRP	BLACK CK	FW-SP/**FW**										
PD-025	PD	BLACK CK	FW						D	134	-0.03		
RS-03491	RS03	BLACK CK	FW										
RS-01023	RS01	SWIFT CK TRIB	FW										
PD-141	PD	PIPE	FW										
PD-027	PD	BLACK CK	FW						D	145	-0.03		
PD-103	PD	HIGH HILL CK	FW										
PD-078	INT	BLACK CK	FW						*	36	-0.016		
	0304020110												
PD-337	INT	PEE DEE RVR	FW						D	140	-0.017		
	0304020109												
PD-255	PD	JEFFERIES CK	FW-SP										
PD-256	PD	JEFFERIES CK	FW-SP										
PD-065	PD	GULLEY BR	FW						D	105	-0.069		
PD-230	PD	MIDDLE SWAMP	FW-SP										
RS-01003	RS01	POLK CK	FW										
PD-035	PD	JEFFERIES CK	FW-SP										
PD-231	INT	JEFFERIES CK	FW-SP						D	34	-0.071		
PD-167	PD	WILLOW CK	FW										
	0304020112												
PD-076	INT	PEE DEE RVR	FW						D	158	-0.01		
	0304020111												
PD-320	PD	SMITH SWAMP	FW-SP										
PD-187	PD	SMITH SWAMP	FW-SP						D	101	-0.151		
PD-097	INT	CATFISH CANAL	FW-SP						D	37	-0.033		

Great Pee Dee River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	CHL EXC.	CHL %	MEAN EXC.		TRENDS (89-2003) TSS	N	MAG
	0304020107									
PD-159	PD	BLACK CK	FW-SP							
PD-268	PD	LAKE, PRESTWOOD	FW-SP							
PD-081	PD	LAKE, PRESTWOOD	FW-SP							
PD-258	PD	SNAKE BRANCH	FW							
PD-137	PD	SNAKE BRANCH	FW							
PD-021	PD	BLACK CK	FW-SP							
PD-330	PD	BLACK CK	FW-SP							
PD-023	PD	BLACK CK	FW-SP							
RS-02311	RS02	BOGGY SWAMP	FW							
RS-03507	RS03 / BIO	BOGGY SWAMP	FW							
RS-01043	RS01	BLACK CK	FW-SP							
PD-024A	SPRP	BLACK CK	**FW-SP**/FW							
PD-024A	SPRP	BLACK CK	FW-SP/**FW**							
PD-025	PD	BLACK CK	FW							
RS-03491	RS03	BLACK CK	FW							
RS-01023	RS01	SWIFT CK TRIB	FW							
PD-141	PD	PIPE	FW							
PD-027	PD	BLACK CK	FW					*	114	0
PD-103	PD	HIGH HILL CK	FW							
PD-078	INT	BLACK CK	FW							
	0304020110									
PD-337	INT	PEE DEE RVR	FW							
	0304020109									
PD-255	PD	JEFFERIES CK	FW-SP							
PD-256	PD	JEFFERIES CK	FW-SP							
PD-065	PD	GULLEY BR	FW							
PD-230	PD	MIDDLE SWAMP	FW-SP							
RS-01003	RS01	POLK CK	FW							
PD-035	PD	JEFFERIES CK	FW-SP							
PD-231	INT	JEFFERIES CK	FW-SP							
PD-167	PD	WILLOW CK	FW							
	0304020112									
PD-076	INT	PEE DEE RVR	FW							
	0304020111									
PD-320	PD	SMITH SWAMP	FW-SP							
PD-187	PD	SMITH SWAMP	FW-SP							
PD-097	INT	CATFISH CANAL	FW-SP							

Great Pee Dee River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS		GEO MEAN	BACT N	BACT EXC.	BACT %	MEAN EXC.	TRENDS (BACT	N
	0304020107										
PD-159	PD	BLACK CK	FW-SP		7.6146	5	0	0		*	53
PD-268	PD	LAKE, PRESTWOOD	FW-SP		87.4129	10	0	0		*	57
PD-081	PD	LAKE, PRESTWOOD	FW-SP		47.7214	9	0	0		D	58
PD-258	PD	SNAKE BRANCH	FW		438.1314	16	10	63	843	D	71
PD-137	PD	SNAKE BRANCH	FW		158.1575	9	0	0		*	57
PD-021	PD	BLACK CK	FW-SP		40.029	33	5	15	728	D	152
PD-330	PD	BLACK CK	FW-SP		57.7148	8	1	13	600	D	56
PD-023	PD	BLACK CK	FW-SP		70.62	20	1	5	7200	D	135
RS-02311	RS02	BOGGY SWAMP	FW		119.3752	7	0	0			
RS-03507	RS03 / BIO	BOGGY SWAMP	FW		124.4261	12	2	17	1370		
RS-01043	RS01	BLACK CK	FW-SP		86.7412	11	0	0			
PD-024A	SPRP	BLACK CK	**FW-SP**/FW		98.1831	33	3	9	453.3333	*	33
PD-024A	SPRP	BLACK CK	FW-SP/**FW**		98.1831	33	3	9	453.3333	*	33
PD-025	PD	BLACK CK	FW		88.4944	18	3	17	613.3333	*	137
RS-03491	RS03	BLACK CK	FW		60.0823	12	0	0			
RS-01023	RS01	SWIFT CK TRIB	FW		210.1538	8	2	25	655		
PD-141	PD	PIPE	FW		636.9336	19	16	84	1490.625	*	66
PD-027	PD	BLACK CK	FW		96.6528	33	3	9	2916.667	*	153
PD-103	PD	HIGH HILL CK	FW		151.8997	10	0	0		*	71
PD-078	INT	BLACK CK	FW		113.5733	23	0	0		*	42
	0304020110										
PD-337	INT	PEE DEE RVR	FW		45.8336	51	5	10	790	D	153
	0304020109										
PD-255	PD	JEFFERIES CK	FW-SP		85.7265	21	0	0		D	82
PD-256	PD	JEFFERIES CK	FW-SP		333.3798	21	10	48	818	I	69
PD-065	PD	GULLEY BR	FW		930.685	34	27	79	2994.444	D	113
PD-230	PD	MIDDLE SWAMP	FW-SP		94.8942	22	3	14	800	*	71
RS-01003	RS01	POLK CK	FW		31.5349	12	0	0			
PD-035	PD	JEFFERIES CK	FW-SP		83.9905	10	0	0		D	59
PD-231	INT	JEFFERIES CK	FW-SP		60.7578	34	2	6	420	D	106
PD-167	PD	WILLOW CK	FW		140.4185	12	2	17	1020	*	33
	0304020112										
PD-076	INT	PEE DEE RVR	FW		41.3715	53	1	2	1200	*	174
	0304020111										
PD-320	PD	SMITH SWAMP	FW-SP		147.7983	22	7	32	635.7143	D	69
PD-187	PD	SMITH SWAMP	FW-SP		112.1574	32	5	16	1908	D	130
PD-097	INT	CATFISH CANAL	FW-SP		74.5642	29	1	3	410	*	95

Great Pee Dee River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	89-2003) MAG		NH3 N	NH3 EXC.	NH3 %	MEAN EXC.
	0304020107								
PD-159	PD	BLACK CK	FW-SP	0					
PD-268	PD	LAKE, PRESTWOOD	FW-SP	-1.116					
PD-081	PD	LAKE, PRESTWOOD	FW-SP	-14.775					
PD-258	PD	SNAKE BRANCH	FW	-243.462		5	0	0	
PD-137	PD	SNAKE BRANCH	FW	-20.137		1	0	0	
PD-021	PD	BLACK CK	FW-SP	-3.992		29	0	0	
PD-330	PD	BLACK CK	FW-SP	-21.268					
PD-023	PD	BLACK CK	FW-SP	-16.186		23	0	0	
RS-02311	RS02	BOGGY SWAMP	FW			8	0	0	
RS-03507	RS03 / BIO	BOGGY SWAMP	FW			6	0	0	
RS-01043	RS01	BLACK CK	FW-SP			6	0	0	
PD-024A	SPRP	BLACK CK	**FW-SP**/FW	6.961		22	0	0	
PD-024A	SPRP	BLACK CK	FW-SP/**FW**	6.961		22	0	0	
PD-025	PD	BLACK CK	FW	0.989		24	0	0	
RS-03491	RS03	BLACK CK	FW			6	0	0	
RS-01023	RS01	SWIFT CK TRIB	FW			4	0	0	
PD-141	PD	PIPE	FW	-383.445		6	1	17	30
PD-027	PD	BLACK CK	FW	-1.277		31	0	0	
PD-103	PD	HIGH HILL CK	FW	0.872					
PD-078	INT	BLACK CK	FW	-7.126		17	0	0	
	0304020110								
PD-337	INT	PEE DEE RVR	FW	-3.747		44	0	0	
	0304020109								
PD-255	PD	JEFFERIES CK	FW-SP	-4.897		6	0	0	
PD-256	PD	JEFFERIES CK	FW-SP	5.067		6	0	0	
PD-065	PD	GULLEY BR	FW	-123.011		25	0	0	
PD-230	PD	MIDDLE SWAMP	FW-SP	-5.023		6	0	0	
RS-01003	RS01	POLK CK	FW			5	0	0	
PD-035	PD	JEFFERIES CK	FW-SP	-10.725					
PD-231	INT	JEFFERIES CK	FW-SP	-9.309		15	0	0	
PD-167	PD	WILLOW CK	FW	0.442		7	0	0	
	0304020112								
PD-076	INT	PEE DEE RVR	FW	-0.605		42	0	0	
	0304020111								
PD-320	PD	SMITH SWAMP	FW-SP	-16.698		6	0	0	
PD-187	PD	SMITH SWAMP	FW-SP	-8.762		30	0	0	
PD-097	INT	CATFISH CANAL	FW-SP	-3.558		17	0	0	

Great Pee Dee River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS		CD N	CD EXC.	CD %	MEAN EXC.		CR N	CR EXC.	CR %		CU N	CU EXC.
	0304020107														
PD-159	PD	BLACK CK	FW-SP												
PD-268	PD	LAKE, PRESTWOOD	FW-SP												
PD-081	PD	LAKE, PRESTWOOD	FW-SP												
PD-258	PD	SNAKE BRANCH	FW		3	0	0			3	0	0		3	1
PD-137	PD	SNAKE BRANCH	FW		1	0	0			1	0	0		1	0
PD-021	PD	BLACK CK	FW-SP		11	0	0			11	0	0		11	0
PD-330	PD	BLACK CK	FW-SP												
PD-023	PD	BLACK CK	FW-SP		8	0	0			8	0	0		8	0
RS-02311	RS02	BOGGY SWAMP	FW		2	0	0			2	0	0		2	0
RS-03507	RS03 / BIO	BOGGY SWAMP	FW		4	0	0			4	0	0		4	0
RS-01043	RS01	BLACK CK	FW-SP		4	0	0			4	0	0		4	2
PD-024A	SPRP	BLACK CK	**FW-SP**/FW		11	0	0			11	0	0		11	1
PD-024A	SPRP	BLACK CK	FW-SP/**FW**		11	0	0			11	0	0		11	1
PD-025	PD	BLACK CK	FW		8	0	0			8	0	0		8	0
RS-03491	RS03	BLACK CK	FW		4	0	0			4	0	0		4	0
RS-01023	RS01	SWIFT CK TRIB	FW		4	0	0			4	0	0		4	2
PD-141	PD	PIPE	FW		4	0	0			4	0	0		4	0
PD-027	PD	BLACK CK	FW		12	0	0			12	0	0		12	0
PD-103	PD	HIGH HILL CK	FW												
PD-078	INT	BLACK CK	FW		8	0	0			8	0	0		8	0
	0304020110														
PD-337	INT	PEE DEE RVR	FW		18	0	0			18	0	0		18	1
	0304020109														
PD-255	PD	JEFFERIES CK	FW-SP		4	0	0			4	0	0		4	0
PD-256	PD	JEFFERIES CK	FW-SP		4	0	0			4	0	0		4	0
PD-065	PD	GULLEY BR	FW		11	0	0			11	0	0		11	0
PD-230	PD	MIDDLE SWAMP	FW-SP		3	0	0			3	0	0		3	0
RS-01003	RS01	POLK CK	FW		4	0	0			4	0	0		4	0
PD-035	PD	JEFFERIES CK	FW-SP												
PD-231	INT	JEFFERIES CK	FW-SP		7	0	0			7	0	0		7	0
PD-167	PD	WILLOW CK	FW		4	0	0			4	0	0		4	1
	0304020112														
PD-076	INT	PEE DEE RVR	FW		19	0	0			19	0	0		19	1
	0304020111														
PD-320	PD	SMITH SWAMP	FW-SP		4	0	0			4	0	0		4	1
PD-187	PD	SMITH SWAMP	FW-SP		12	0	0			12	0	0		12	0
PD-097	INT	CATFISH CANAL	FW-SP		7	0	0			7	0	0		7	0

Great Pee Dee River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	CU %	MEAN EXC.		PB N	PB EXC.	PB %	MEAN EXC.
	0304020107									
PD-159	PD	BLACK CK	FW-SP							
PD-268	PD	LAKE, PRESTWOOD	FW-SP							
PD-081	PD	LAKE, PRESTWOOD	FW-SP							
PD-258	PD	SNAKE BRANCH	FW	33	16		3	0	0	
PD-137	PD	SNAKE BRANCH	FW	0			1	0	0	
PD-021	PD	BLACK CK	FW-SP	0			11	0	0	
PD-330	PD	BLACK CK	FW-SP							
PD-023	PD	BLACK CK	FW-SP	0			8	0	0	
RS-02311	RS02	BOGGY SWAMP	FW	0			2	0	0	
RS-03507	RS03 / BIO	BOGGY SWAMP	FW	0			4	0	0	
RS-01043	RS01	BLACK CK	FW-SP	50	22		4	0	0	
PD-024A	SPRP	BLACK CK	**FW-SP**/FW	9	16		11	0	0	
PD-024A	SPRP	BLACK CK	FW-SP/**FW**	9	16		11	0	0	
PD-025	PD	BLACK CK	FW	0			8	0	0	
RS-03491	RS03	BLACK CK	FW	0			4	0	0	
RS-01023	RS01	SWIFT CK TRIB	FW	50	20		3	0	0	
PD-141	PD	PIPE	FW	0			4	0	0	
PD-027	PD	BLACK CK	FW	0			12	0	0	
PD-103	PD	HIGH HILL CK	FW							
PD-078	INT	BLACK CK	FW	0			8	0	0	
	0304020110									
PD-337	INT	PEE DEE RVR	FW	6	12		18	0	0	
	0304020109									
PD-255	PD	JEFFERIES CK	FW-SP	0			4	0	0	
PD-256	PD	JEFFERIES CK	FW-SP	0			4	0	0	
PD-065	PD	GULLEY BR	FW	0			11	0	0	
PD-230	PD	MIDDLE SWAMP	FW-SP	0			3	0	0	
RS-01003	RS01	POLK CK	FW	0			4	0	0	
PD-035	PD	JEFFERIES CK	FW-SP							
PD-231	INT	JEFFERIES CK	FW-SP	0			7	0	0	
PD-167	PD	WILLOW CK	FW	25	17		4	0	0	
	0304020112									
PD-076	INT	PEE DEE RVR	FW	5	20		19	0	0	
	0304020111									
PD-320	PD	SMITH SWAMP	FW-SP	25	12		4	0	0	
PD-187	PD	SMITH SWAMP	FW-SP	0			12	0	0	
PD-097	INT	CATFISH CANAL	FW-SP	0			7	0	0	

Great Pee Dee River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	HG N	HG EXC.	HG %	MEAN EXC.	NI N	NI EXC.	NI %	ZN N	ZN EXC.	ZN %
	0304020107												
PD-159	PD	BLACK CK	FW-SP										
PD-268	PD	LAKE, PRESTWOOD	FW-SP										
PD-081	PD	LAKE, PRESTWOOD	FW-SP										
PD-258	PD	SNAKE BRANCH	FW	3	0	0		3	0	0	3	1	33
PD-137	PD	SNAKE BRANCH	FW	1	0	0		1	0	0	1	0	0
PD-021	PD	BLACK CK	FW-SP	11	0	0		11	0	0	11	0	0
PD-330	PD	BLACK CK	FW-SP										
PD-023	PD	BLACK CK	FW-SP	8	0	0		8	0	0	8	0	0
RS-02311	RS02	BOGGY SWAMP	FW	2	0	0		2	0	0	2	0	0
RS-03507	RS03 / BIO	BOGGY SWAMP	FW	4	0	0		4	0	0	4	0	0
RS-01043	RS01	BLACK CK	FW-SP	4	0	0		4	0	0	4	0	0
PD-024A	SPRP	BLACK CK	**FW-SP**/FW	11	0	0		11	0	0	11	0	0
PD-024A	SPRP	BLACK CK	FW-SP/**FW**	11	0	0		11	0	0	11	0	0
PD-025	PD	BLACK CK	FW	8	0	0		8	0	0	8	0	0
RS-03491	RS03	BLACK CK	FW	4	0	0		4	0	0	4	0	0
RS-01023	RS01	SWIFT CK TRIB	FW	4	0	0		3	0	0	4	0	0
PD-141	PD	PIPE	FW	4	0	0		4	0	0	4	0	0
PD-027	PD	BLACK CK	FW	12	0	0		12	0	0	12	0	0
PD-103	PD	HIGH HILL CK	FW										
PD-078	INT	BLACK CK	FW	8	0	0		8	0	0	8	0	0
	0304020110												
PD-337	INT	PEE DEE RVR	FW	19	0	0		18	0	0	18	1	6
	0304020109												
PD-255	PD	JEFFERIES CK	FW-SP	4	0	0		4	0	0	4	0	0
PD-256	PD	JEFFERIES CK	FW-SP	4	0	0		4	0	0	4	0	0
PD-065	PD	GULLEY BR	FW	11	0	0		11	0	0	11	0	0
PD-230	PD	MIDDLE SWAMP	FW-SP	3	0	0		3	0	0	3	0	0
RS-01003	RS01	POLK CK	FW	4	0	0		4	0	0	4	0	0
PD-035	PD	JEFFERIES CK	FW-SP										
PD-231	INT	JEFFERIES CK	FW-SP	7	1	14	41	7	0	0	7	0	0
PD-167	PD	WILLOW CK	FW	4	0	0		4	0	0	4	0	0
	0304020112												
PD-076	INT	PEE DEE RVR	FW	19	0	0		19	0	0	19	0	0
	0304020111												
PD-320	PD	SMITH SWAMP	FW-SP	4	0	0		4	0	0	4	0	0
PD-187	PD	SMITH SWAMP	FW-SP	12	0	0		12	0	0	12	0	0
PD-097	INT	CATFISH CANAL	FW-SP	7	0	0		7	0	0	7	0	0

Great Pee Dee River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	MEAN EXC.
	0304020107			
PD-159	PD	BLACK CK	FW-SP	
PD-268	PD	LAKE, PRESTWOOD	FW-SP	
PD-081	PD	LAKE, PRESTWOOD	FW-SP	
PD-258	PD	SNAKE BRANCH	FW	95
PD-137	PD	SNAKE BRANCH	FW	
PD-021	PD	BLACK CK	FW-SP	
PD-330	PD	BLACK CK	FW-SP	
PD-023	PD	BLACK CK	FW-SP	
RS-02311	RS02	BOGGY SWAMP	FW	
RS-03507	RS03 / BIO	BOGGY SWAMP	FW	
RS-01043	RS01	BLACK CK	FW-SP	
PD-024A	SPRP	BLACK CK	**FW-SP**/FW	
PD-024A	SPRP	BLACK CK	FW-SP/**FW**	
PD-025	PD	BLACK CK	FW	
RS-03491	RS03	BLACK CK	FW	
RS-01023	RS01	SWIFT CK TRIB	FW	
PD-141	PD	PIPE	FW	
PD-027	PD	BLACK CK	FW	
PD-103	PD	HIGH HILL CK	FW	
PD-078	INT	BLACK CK	FW	
	0304020110			
PD-337	INT	PEE DEE RVR	FW	130
	0304020109			
PD-255	PD	JEFFERIES CK	FW-SP	
PD-256	PD	JEFFERIES CK	FW-SP	
PD-065	PD	GULLEY BR	FW	
PD-230	PD	MIDDLE SWAMP	FW-SP	
RS-01003	RS01	POLK CK	FW	
PD-035	PD	JEFFERIES CK	FW-SP	
PD-231	INT	JEFFERIES CK	FW-SP	
PD-167	PD	WILLOW CK	FW	
	0304020112			
PD-076	INT	PEE DEE RVR	FW	
	0304020111			
PD-320	PD	SMITH SWAMP	FW-SP	
PD-187	PD	SMITH SWAMP	FW-SP	
PD-097	INT	CATFISH CANAL	FW-SP	

Great Pee Dee River Basin

STATION				DO	DO	DO	MEAN	TRENDS (89 -2003)				
NUMBER	TYPE	WATERBODY NAME	CLASS	N	EXC.	%	EXC.	DO	N	MAG	BOD	N
	0304020702											
PD-060	INT	PEE DEE RVR	FW	30	0	0		I	50	0.1	D	50
PD-061	PD	PEE DEE RVR	FW	31	5	16	3.82	*	151	-0.043	D	149
MD-275	INT	PEE DEE RVR	SB-SP	32	10	31	4.121	D	32	-1.158	*	30
MD-080	PD	WINYAH BAY	SB	23	0	0		*	147	-0.038	*	141
RO-02012	RO02	WINYAH BAY	SB	12	0	0						
RO-01121	RO01	WINYAH BAY	SB	12	0	0						
RO-01161	RO01	WINYAH BAY	SB	12	0	0						
RS-03331	RS03	TRIB TO WINYAH BAY	FW	4	0	0						
RO-02010	RO02	WINYAH BAY	SB	12	0	0						
MD-278	INT	WINYAH BAY	SB	33	4	12	3.713	D	33	-0.99	*	31
	0304020401											
PD-306	PD	PANTHER CK	FW	11	9	82	3.4	I	58	0.205	D	57
PD-016	PD	PANTHER CK	FW	11	10	91	3.415	I	59	0.163	D	58
PD-017A	PD	MCLAURINS MILL POND	FW	11	7	64	3.407	I	58	0.233	*	57
PD-062	PD	GUM SWAMP	FW	11	0	0						
PD-365	INT	LITTLE PEE DEE RVR	FW	32	0	0		*	58	0.013	D	56
	0304020405											
PD-069	PD	LITTLE PEE DEE RVR	FW	34	1	3	4.8	*	155	0	D	149
PD-029E	PD	LITTLE PEE DEE RVR	FW	22	6	27	3.433	*	68	-0.076	D	65
PD-055	SPRP	LITTLE PEE DEE RVR	FW	40	8	20	4.194	*	107	-0.043	D	106
PD-030	PD	MAPLE SWAMP	FW-SP	22	9	41	2.489	I	89	0.086	D	87
PD-030A	PD	LITTLE PEE DEE RVR	FW	22	9	41	3.983	D	69	-0.075	D	67
PD-348 / RS-01018	INT	LITTLE PEE DEE RVR	FW	30	2	7	4.3	D	47	-0.126	D	47
PD-052	INT	LITTLE PEE DEE RVR	FW	53	2	4	4.45	*	162	-0.02	D	163
	0304020404											
PD-031	PD	BUCK SWAMP	FW-SP	10	9	90	2.189	*	57	0	*	55
PD-349	INT	BUCK SWAMP	FW-SP	17	5	29	2.76	*	37	-0.071	*	38
	0304020313											
PD-368	INT	BEAR SWAMP	FW-SP	30	18	60	1.961	*	30	-0.823	*	31
PD-347	PD	ASHPOLE SWAMP	FW-SP	4	1	25	1					
	0304020314											
PD-038	INT	LUMBER RVR	FW	41	3	7	4.467	D	161	-0.055	D	163

Great Pee Dee River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	MAG
	0304020702			
PD-060	INT	PEE DEE RVR	FW	-0.083
PD-061	PD	PEE DEE RVR	FW	-0.05
MD-275	INT	PEE DEE RVR	SB-SP	0
MD-080	PD	WINYAH BAY	SB	0
RO-02012	RO02	WINYAH BAY	SB	
RO-01121	RO01	WINYAH BAY	SB	
RO-01161	RO01	WINYAH BAY	SB	
RS-03331	RS03	TRIB TO WINYAH BAY	FW	
RO-02010	RO02	WINYAH BAY	SB	
MD-278	INT	WINYAH BAY	SB	0
	0304020401			
PD-306	PD	PANTHER CK	FW	-0.167
PD-016	PD	PANTHER CK	FW	-0.1
PD-017A	PD	MCLAURINS MILL POND	FW	-0.059
PD-062	PD	GUM SWAMP	FW	
PD-365	INT	LITTLE PEE DEE RVR	FW	-0.126
	0304020405			
PD-069	PD	LITTLE PEE DEE RVR	FW	-0.06
PD-029E	PD	LITTLE PEE DEE RVR	FW	-0.06
PD-055	SPRP	LITTLE PEE DEE RVR	FW	-0.097
PD-030	PD	MAPLE SWAMP	FW-SP	-0.066
PD-030A	PD	LITTLE PEE DEE RVR	FW	-0.086
PD-348 / RS-01018	INT	LITTLE PEE DEE RVR	FW	-0.138
PD-052	INT	LITTLE PEE DEE RVR	FW	-0.089
	0304020404			
PD-031	PD	BUCK SWAMP	FW-SP	-0.033
PD-349	INT	BUCK SWAMP	FW-SP	-0.088
	0304020313			
PD-368	INT	BEAR SWAMP	FW-SP	-0.229
PD-347	PD	ASHPOLE SWAMP	FW-SP	
	0304020314			
PD-038	INT	LUMBER RVR	FW	-0.063

Great Pee Dee River Basin

STATION				pH	pH	pH	MEAN	TRENDS (89-2003)			TURB
NUMBER	TYPE	WATERBODY NAME	CLASS	N	EXC.	%	EXC.	PH	N	MAG	N
	0304020702										
PD-060	INT	PEE DEE RVR	FW	30	0	0		*	50	0.042	30
PD-061	PD	PEE DEE RVR	FW	32	4	13	5.855	*	153	-0.002	32
MD-275	INT	PEE DEE RVR	SB-SP	32	4	13	6.328	*	32	-0.268	31
MD-080	PD	WINYAH BAY	SB	24	7	29	6.317	I	148	0.019	23
RO-02012	RO02	WINYAH BAY	SB	12	0	0					12
RO-01121	RO01	WINYAH BAY	SB	12	0	0					10
RO-01161	RO01	WINYAH BAY	SB	12	0	0					11
RS-03331	RS03	TRIB TO WINYAH BAY	FW	4	0	0					4
RO-02010	RO02	WINYAH BAY	SB	12	0	0					12
MD-278	INT	WINYAH BAY	SB	31	1	3	6.49	*	31	-0.183	33
	0304020401										
PD-306	PD	PANTHER CK	FW	11	10	91	5.642	*	58	0	11
PD-016	PD	PANTHER CK	FW	11	8	73	5.701	*	59	-0.004	11
PD-017A	PD	MCLAURINS MILL POND	FW	11	3	27	5.733	I	58	0.05	11
PD-062	PD	GUM SWAMP	FW	11	9	82	5.151				11
PD-365	INT	LITTLE PEE DEE RVR	FW	32	19	59	5.474	D	58	-0.05	32
	0304020405										
PD-069	PD	LITTLE PEE DEE RVR	FW	34	23	68	5.587	*	155	0.013	34
PD-029E	PD	LITTLE PEE DEE RVR	FW	22	18	82	5.552	*	67	-0.002	21
PD-055	SPRP	LITTLE PEE DEE RVR	FW	41	26	63	5.63	*	108	0	42
PD-030	PD	MAPLE SWAMP	FW-SP	22	1	5	4.99	*	89	0	22
PD-030A	PD	LITTLE PEE DEE RVR	FW	22	16	73	5.673	*	69	0.005	22
PD-348 / RS-01018	INT	LITTLE PEE DEE RVR	FW	31	17	55	5.542	D	48	-0.07	32
PD-052	INT	LITTLE PEE DEE RVR	FW	54	30	56	5.594	*	164	0	55
	0304020404										
PD-031	PD	BUCK SWAMP	FW-SP	10	0	0		*	57	0	10
PD-349	INT	BUCK SWAMP	FW-SP	17	0	0		*	37	-0.008	18
	0304020313										
PD-368	INT	BEAR SWAMP	FW-SP	31	1	3	4.9	D	31	-0.221	32
PD-347	PD	ASHPOLE SWAMP	FW-SP	4	0	0					4
	0304020314										
PD-038	INT	LUMBER RVR	FW	42	11	26	5.602	I	162	0.032	43

Great Pee Dee River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	TURB EXC.	TURB %	MEAN EXC.	TRENDS (89-2003) TURB	N	MAG		TP N	TP EXC.
	0304020702											
PD-060	INT	PEE DEE RVR	FW	1	3	63	*	50	-0.437			
PD-061	PD	PEE DEE RVR	FW	1	3	110	*	152	-0.146			
MD-275	INT	PEE DEE RVR	SB-SP	2	6	27	*	31	1.004			
MD-080	PD	WINYAH BAY	SB	1	4	48	*	140	0			
RO-02012	RO02	WINYAH BAY	SB	0	0							
RO-01121	RO01	WINYAH BAY	SB	1	10	38						
RO-01161	RO01	WINYAH BAY	SB	0	0							
RS-03331	RS03	TRIB TO WINYAH BAY	FW	0	0							
RO-02010	RO02	WINYAH BAY	SB	1	8	140						
MD-278	INT	WINYAH BAY	SB	1	3	26	*	33	-0.574			
	0304020401											
PD-306	PD	PANTHER CK	FW	0	0		D	57	-0.293			
PD-016	PD	PANTHER CK	FW	0	0		*	59	0.017			
PD-017A	PD	MCLAURINS MILL POND	FW	0	0		D	58	-0.236			
PD-062	PD	GUM SWAMP	FW	0	0							
PD-365	INT	LITTLE PEE DEE RVR	FW	0	0		*	58	-0.023			
	0304020405											
PD-069	PD	LITTLE PEE DEE RVR	FW	0	0		*	155	0			
PD-029E	PD	LITTLE PEE DEE RVR	FW	0	0		*	66	0.029			
PD-055	SPRP	LITTLE PEE DEE RVR	FW	0	0		D	109	-0.092			
PD-030	PD	MAPLE SWAMP	FW-SP	0	0		*	89	0.18			
PD-030A	PD	LITTLE PEE DEE RVR	FW	0	0		*	69	0.03			
PD-348 / RS-01018	INT	LITTLE PEE DEE RVR	FW	0	0		*	49	0			
PD-052	INT	LITTLE PEE DEE RVR	FW	0	0		D	164	-0.051			
	0304020404											
PD-031	PD	BUCK SWAMP	FW-SP	0	0		*	57	-0.101			
PD-349	INT	BUCK SWAMP	FW-SP	0	0		*	38	-0.143			
	0304020313											
PD-368	INT	BEAR SWAMP	FW-SP	0	0		*	32	-0.717			
PD-347	PD	ASHPOLE SWAMP	FW-SP	0	0							
	0304020314											
PD-038	INT	LUMBER RVR	FW	0	0		*	163	0.022			

Great Pee Dee River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	TP %	MEAN EXC.	TRENDS (92-2003) TP	N	MAG		TRENDS (89-2003) TP	N	MAG
	0304020702											
PD-060	INT	PEE DEE RVR	FW			*	40	0		*	40	0
PD-061	PD	PEE DEE RVR	FW			*	89	0		D	125	-0.002
MD-275	INT	PEE DEE RVR	SB-SP									
MD-080	PD	WINYAH BAY	SB			*	82	0		D	117	-0.002
RO-02012	RO02	WINYAH BAY	SB									
RO-01121	RO01	WINYAH BAY	SB									
RO-01161	RO01	WINYAH BAY	SB									
RS-03331	RS03	TRIB TO WINYAH BAY	FW									
RO-02010	RO02	WINYAH BAY	SB									
MD-278	INT	WINYAH BAY	SB									
	0304020401											
PD-306	PD	PANTHER CK	FW							D	45	-0.014
PD-016	PD	PANTHER CK	FW							D	46	-0.013
PD-017A	PD	MCLAURINS MILL POND	FW							D	44	-0.003
PD-062	PD	GUM SWAMP	FW									
PD-365	INT	LITTLE PEE DEE RVR	FW			D	44	-0.001		D	44	-0.001
	0304020405											
PD-069	PD	LITTLE PEE DEE RVR	FW			D	91	0		D	125	-0.005
PD-029E	PD	LITTLE PEE DEE RVR	FW			D	37	-0.005		D	53	-0.01
PD-055	SPRP	LITTLE PEE DEE RVR	FW			D	67	-0.013		D	84	-0.028
PD-030	PD	MAPLE SWAMP	FW-SP			D	59	-0.007		D	75	-0.012
PD-030A	PD	LITTLE PEE DEE RVR	FW			D	39	-0.025		D	56	-0.039
PD-348 / RS-01018	INT	LITTLE PEE DEE RVR	FW			*	37	-0.001		*	37	-0.001
PD-052	INT	LITTLE PEE DEE RVR	FW			D	97	-0.005		D	124	-0.012
	0304020404											
PD-031	PD	BUCK SWAMP	FW-SP							*	42	-0.015
PD-349	INT	BUCK SWAMP	FW-SP									
	0304020313											
PD-368	INT	BEAR SWAMP	FW-SP									
PD-347	PD	ASHPOLE SWAMP	FW-SP									
	0304020314											
PD-038	INT	LUMBER RVR	FW			I	88	0.004		*	122	-0.001

Great Pee Dee River Basin

STATION					TN	TN	TN	MEAN	TRENDS (89-2003)				CHL
NUMBER	TYPE	WATERBODY NAME	CLASS		N	EXC.	%	EXC.	TN	N	MAG		N
	0304020702												
PD-060	INT	PEE DEE RVR	FW						*	44	-0.012		
PD-061	PD	PEE DEE RVR	FW						*	143	-0.006		
MD-275	INT	PEE DEE RVR	SB-SP										
MD-080	PD	WINYAH BAY	SB						D	141	-0.012		
RO-02012	RO02	WINYAH BAY	SB										
RO-01121	RO01	WINYAH BAY	SB										
RO-01161	RO01	WINYAH BAY	SB										
RS-03331	RS03	TRIB TO WINYAH BAY	FW										
RO-02010	RO02	WINYAH BAY	SB										
MD-278	INT	WINYAH BAY	SB										
	0304020401												
PD-306	PD	PANTHER CK	FW										
PD-016	PD	PANTHER CK	FW										
PD-017A	PD	MCLAURINS MILL POND	FW										
PD-062	PD	GUM SWAMP	FW										
PD-365	INT	LITTLE PEE DEE RVR	FW						*	44	-0.021		
	0304020405												
PD-069	PD	LITTLE PEE DEE RVR	FW						D	142	-0.015		
PD-029E	PD	LITTLE PEE DEE RVR	FW										
PD-055	SPRP	LITTLE PEE DEE RVR	FW						*	44	0.02		
PD-030	PD	MAPLE SWAMP	FW-SP										
PD-030A	PD	LITTLE PEE DEE RVR	FW										
PD-348 / RS-01018	INT	LITTLE PEE DEE RVR	FW						*	39	-0.023		
PD-052	INT	LITTLE PEE DEE RVR	FW						D	151	-0.027		
	0304020404												
PD-031	PD	BUCK SWAMP	FW-SP										
PD-349	INT	BUCK SWAMP	FW-SP						*	33	-0.025		
	0304020313												
PD-368	INT	BEAR SWAMP	FW-SP										
PD-347	PD	ASHPOLE SWAMP	FW-SP										
	0304020314												
PD-038	INT	LUMBER RVR	FW						D	156	-0.01		

Great Pee Dee River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	CHL EXC.	CHL %	MEAN EXC.		TRENDS (89-2003) TSS	N	MAG
	0304020702									
PD-060	INT	PEE DEE RVR	FW							
PD-061	PD	PEE DEE RVR	FW					*	116	-0.2
MD-275	INT	PEE DEE RVR	SB-SP							
MD-080	PD	WINYAH BAY	SB					*	114	-0.252
RO-02012	RO02	WINYAH BAY	SB							
RO-01121	RO01	WINYAH BAY	SB							
RO-01161	RO01	WINYAH BAY	SB							
RS-03331	RS03	TRIB TO WINYAH BAY	FW							
RO-02010	RO02	WINYAH BAY	SB							
MD-278	INT	WINYAH BAY	SB							
	0304020401									
PD-306	PD	PANTHER CK	FW							
PD-016	PD	PANTHER CK	FW							
PD-017A	PD	MCLAURINS MILL POND	FW							
PD-062	PD	GUM SWAMP	FW							
PD-365	INT	LITTLE PEE DEE RVR	FW							
	0304020405									
PD-069	PD	LITTLE PEE DEE RVR	FW							
PD-029E	PD	LITTLE PEE DEE RVR	FW							
PD-055	SPRP	LITTLE PEE DEE RVR	FW							
PD-030	PD	MAPLE SWAMP	FW-SP							
PD-030A	PD	LITTLE PEE DEE RVR	FW							
PD-348 / RS-01018	INT	LITTLE PEE DEE RVR	FW							
PD-052	INT	LITTLE PEE DEE RVR	FW							
	0304020404									
PD-031	PD	BUCK SWAMP	FW-SP							
PD-349	INT	BUCK SWAMP	FW-SP							
	0304020313									
PD-368	INT	BEAR SWAMP	FW-SP							
PD-347	PD	ASHPOLE SWAMP	FW-SP							
	0304020314									
PD-038	INT	LUMBER RVR	FW					*	117	0

Great Pee Dee River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS		GEO MEAN	BACT N	BACT EXC.	BACT %	MEAN EXC.	TRENDS (	
										BACT	N
	0304020702										
PD-060	INT	PEE DEE RVR	FW		31.8417	29	0	0		*	49
PD-061	PD	PEE DEE RVR	FW		16.1555	31	0	0		D	150
MD-275	INT	PEE DEE RVR	SB-SP		53.825	31	1	3	620	*	31
MD-080	PD	WINYAH BAY	SB		27.9489	23	0	0		D	140
RO-02012	RO02	WINYAH BAY	SB		27.1857	12	0	0			
RO-01121	RO01	WINYAH BAY	SB		26.0295	12	0	0			
RO-01161	RO01	WINYAH BAY	SB		20.0452	12	0	0			
RS-03331	RS03	TRIB TO WINYAH BAY	FW		29.1295	4	1	25	500		
RO-02010	RO02	WINYAH BAY	SB		5.5173	12	0	0			
MD-278	INT	WINYAH BAY	SB		9.0728	33	0	0		I	33
	0304020401										
PD-306	PD	PANTHER CK	FW		77.5256	10	1	10	470	*	57
PD-016	PD	PANTHER CK	FW		95.1506	9	0	0		*	57
PD-017A	PD	MCLAURINS MILL POND	FW		10.979	10	0	0		D	57
PD-062	PD	GUM SWAMP	FW		116.3659	10	0	0			
PD-365	INT	LITTLE PEE DEE RVR	FW		57.0537	32	0	0		*	58
	0304020405										
PD-069	PD	LITTLE PEE DEE RVR	FW		86.5728	34	2	6	3850	*	155
PD-029E	PD	LITTLE PEE DEE RVR	FW		82.4714	22	3	14	2366.667	*	67
PD-055	SPRP	LITTLE PEE DEE RVR	FW		72.2744	42	1	2	520	D	109
PD-030	PD	MAPLE SWAMP	FW-SP		158.1744	21	4	19	975	*	88
PD-030A	PD	LITTLE PEE DEE RVR	FW		120.8207	22	3	14	866.6667	*	69
PD-348 / RS-01018	INT	LITTLE PEE DEE RVR	FW		100.4723	33	0	0		*	50
PD-052	INT	LITTLE PEE DEE RVR	FW		85.9137	55	1	2	410	D	163
	0304020404										
PD-031	PD	BUCK SWAMP	FW-SP		182.6766	10	2	20	900	*	57
PD-349	INT	BUCK SWAMP	FW-SP		112.0795	19	0	0		I	39
	0304020313										
PD-368	INT	BEAR SWAMP	FW-SP		98.699	33	2	6	505	*	33
PD-347	PD	ASHPOLE SWAMP	FW-SP		17.7184	4	0	0			
	0304020314										
PD-038	INT	LUMBER RVR	FW		55.3278	44	1	2	1600	D	161

Great Pee Dee River Basin

STATION				89-2003)		NH3	NH3	NH3	MEAN
NUMBER	TYPE	WATERBODY NAME	CLASS	MAG		N	EXC.	%	EXC.
	0304020702								
PD-060	INT	PEE DEE RVR	FW	1.244		23	0	0	
PD-061	PD	PEE DEE RVR	FW	-1.374		29	0	0	
MD-275	INT	PEE DEE RVR	SB-SP	5.94		21	0	0	
MD-080	PD	WINYAH BAY	SB	-1.673		24	0	0	
RO-02012	RO02	WINYAH BAY	SB			10	0	0	
RO-01121	RO01	WINYAH BAY	SB			5	0	0	
RO-01161	RO01	WINYAH BAY	SB			4	0	0	
RS-03331	RS03	TRIB TO WINYAH BAY	FW			1	0	0	
RO-02010	RO02	WINYAH BAY	SB			7	0	0	
MD-278	INT	WINYAH BAY	SB	4.421		19	0	0	
	0304020401								
PD-306	PD	PANTHER CK	FW	-3.302					
PD-016	PD	PANTHER CK	FW	-5.77					
PD-017A	PD	MCLAURINS MILL POND	FW	-7.684					
PD-062	PD	GUM SWAMP	FW						
PD-365	INT	LITTLE PEE DEE RVR	FW	1.34		22	0	0	
	0304020405								
PD-069	PD	LITTLE PEE DEE RVR	FW	-0.183		31	0	0	
PD-029E	PD	LITTLE PEE DEE RVR	FW	-1.354		7	0	0	
PD-055	SPRP	LITTLE PEE DEE RVR	FW	-4.267		25	0	0	
PD-030	PD	MAPLE SWAMP	FW-SP	2.877		7	0	0	
PD-030A	PD	LITTLE PEE DEE RVR	FW	1.869		7	0	0	
PD-348 / RS-01018	INT	LITTLE PEE DEE RVR	FW	1.736		23	0	0	
PD-052	INT	LITTLE PEE DEE RVR	FW	-1.992		46	0	0	
	0304020404								
PD-031	PD	BUCK SWAMP	FW-SP	0.71					
PD-349	INT	BUCK SWAMP	FW-SP	12.171		15	0	0	
	0304020313								
PD-368	INT	BEAR SWAMP	FW-SP	-25.017		24	0	0	
PD-347	PD	ASHPOLE SWAMP	FW-SP			3	0	0	
	0304020314								
PD-038	INT	LUMBER RVR	FW	-2.01		41	0	0	

Great Pee Dee River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	CD N	CD EXC.	CD %	MEAN EXC.	CR N	CR EXC.	CR %	CU N	CU EXC.
	0304020702											
PD-060	INT	PEE DEE RVR	FW	11	0	0		11	0	0	11	2
PD-061	PD	PEE DEE RVR	FW	12	0	0		12	0	0	12	0
MD-275	INT	PEE DEE RVR	SB-SP	10	0	0		10	0	0	10	1
MD-080	PD	WINYAH BAY	SB	8	0	0		8	0	0	8	0
RO-02012	RO02	WINYAH BAY	SB	3	0	0		3	0	0	3	0
RO-01121	RO01	WINYAH BAY	SB	3	0	0		3	0	0	3	0
RO-01161	RO01	WINYAH BAY	SB	3	0	0		3	0	0	3	0
RS-03331	RS03	TRIB TO WINYAH BAY	FW	2	0	0		2	0	0	2	0
RO-02010	RO02	WINYAH BAY	SB	3	0	0		3	0	0	3	0
MD-278	INT	WINYAH BAY	SB	11	0	0		11	0	0	11	1
	0304020401											
PD-306	PD	PANTHER CK	FW									
PD-016	PD	PANTHER CK	FW									
PD-017A	PD	MCLAURINS MILL POND	FW									
PD-062	PD	GUM SWAMP	FW									
PD-365	INT	LITTLE PEE DEE RVR	FW	11	0	0		11	0	0	11	0
	0304020405											
PD-069	PD	LITTLE PEE DEE RVR	FW	12	0	0		12	0	0	12	0
PD-029E	PD	LITTLE PEE DEE RVR	FW	4	0	0		4	0	0	4	0
PD-055	SPRP	LITTLE PEE DEE RVR	FW	11	0	0		11	0	0	11	0
PD-030	PD	MAPLE SWAMP	FW-SP	4	0	0		4	0	0	4	0
PD-030A	PD	LITTLE PEE DEE RVR	FW	4	0	0		4	0	0	4	0
PD-348 / RS-01018	INT	LITTLE PEE DEE RVR	FW	11	0	0		11	0	0	11	0
PD-052	INT	LITTLE PEE DEE RVR	FW	20	0	0		20	0	0	20	2
	0304020404											
PD-031	PD	BUCK SWAMP	FW-SP									
PD-349	INT	BUCK SWAMP	FW-SP	6	0	0		6	0	0	6	1
	0304020313											
PD-368	INT	BEAR SWAMP	FW-SP	11	0	0		11	0	0	11	1
PD-347	PD	ASHPOLE SWAMP	FW-SP									
	0304020314											
PD-038	INT	LUMBER RVR	FW	16	0	0		16	0	0	16	0

Great Pee Dee River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	CU %	MEAN EXC.		PB N	PB EXC.	PB %	MEAN EXC.
	0304020702									
PD-060	INT	PEE DEE RVR	FW	18	47.5		11	0	0	
PD-061	PD	PEE DEE RVR	FW	0			12	0	0	
MD-275	INT	PEE DEE RVR	SB-SP	10	15		10	0	0	
MD-080	PD	WINYAH BAY	SB	0			8	0	0	
RO-02012	RO02	WINYAH BAY	SB	0			3	0	0	
RO-01121	RO01	WINYAH BAY	SB	0			3	0	0	
RO-01161	RO01	WINYAH BAY	SB	0			3	0	0	
RS-03331	RS03	TRIB TO WINYAH BAY	FW	0			2	0	0	
RO-02010	RO02	WINYAH BAY	SB	0			3	0	0	
MD-278	INT	WINYAH BAY	SB	9	29		11	0	0	
	0304020401									
PD-306	PD	PANTHER CK	FW							
PD-016	PD	PANTHER CK	FW							
PD-017A	PD	MCLAURINS MILL POND	FW							
PD-062	PD	GUM SWAMP	FW							
PD-365	INT	LITTLE PEE DEE RVR	FW	0			11	0	0	
	0304020405									
PD-069	PD	LITTLE PEE DEE RVR	FW	0			12	0	0	
PD-029E	PD	LITTLE PEE DEE RVR	FW	0			4	0	0	
PD-055	SPRP	LITTLE PEE DEE RVR	FW	0			11	0	0	
PD-030	PD	MAPLE SWAMP	FW-SP	0			4	0	0	
PD-030A	PD	LITTLE PEE DEE RVR	FW	0			4	0	0	
PD-348 / RS-01018	INT	LITTLE PEE DEE RVR	FW	0			11	0	0	
PD-052	INT	LITTLE PEE DEE RVR	FW	10	12		20	0	0	
	0304020404									
PD-031	PD	BUCK SWAMP	FW-SP							
PD-349	INT	BUCK SWAMP	FW-SP	17	16		6	0	0	
	0304020313									
PD-368	INT	BEAR SWAMP	FW-SP	9	17		11	0	0	
PD-347	PD	ASHPOLE SWAMP	FW-SP							
	0304020314									
PD-038	INT	LUMBER RVR	FW	0			16	0	0	

Great Pee Dee River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS		HG N	HG EXC.	HG %	MEAN EXC.		NI N	NI EXC.	NI %		ZN N	ZN EXC.	ZN %
	0304020702															
PD-060	INT	PEE DEE RVR	FW		10	0	0			11	0	0		11	0	0
PD-061	PD	PEE DEE RVR	FW		11	0	0			12	0	0		12	0	0
MD-275	INT	PEE DEE RVR	SB-SP		10	0	0			10	0	0		10	0	0
MD-080	PD	WINYAH BAY	SB		8	0	0			8	0	0		8	0	0
RO-02012	RO02	WINYAH BAY	SB		3	0	0			3	0	0		3	0	0
RO-01121	RO01	WINYAH BAY	SB		3	0	0			3	0	0		3	0	0
RO-01161	RO01	WINYAH BAY	SB		3	0	0			3	0	0		3	0	0
RS-03331	RS03	TRIB TO WINYAH BAY	FW		2	0	0			2	0	0		2	0	0
RO-02010	RO02	WINYAH BAY	SB		3	0	0			3	0	0		3	0	0
MD-278	INT	WINYAH BAY	SB		11	0	0			11	0	0		11	0	0
	0304020401															
PD-306	PD	PANTHER CK	FW													
PD-016	PD	PANTHER CK	FW													
PD-017A	PD	MCLAURINS MILL POND	FW													
PD-062	PD	GUM SWAMP	FW													
PD-365	INT	LITTLE PEE DEE RVR	FW		11	0	0			11	0	0		11	0	0
	0304020405															
PD-069	PD	LITTLE PEE DEE RVR	FW		12	0	0			12	0	0		12	0	0
PD-029E	PD	LITTLE PEE DEE RVR	FW		4	0	0			4	0	0		4	0	0
PD-055	SPRP	LITTLE PEE DEE RVR	FW		11	0	0			11	0	0		11	0	0
PD-030	PD	MAPLE SWAMP	FW-SP		4	0	0			4	0	0		4	0	0
PD-030A	PD	LITTLE PEE DEE RVR	FW		4	0	0			4	0	0		4	0	0
PD-348 / RS-01018	INT	LITTLE PEE DEE RVR	FW		11	0	0			11	0	0		11	1	9
PD-052	INT	LITTLE PEE DEE RVR	FW		20	0	0			20	0	0		20	0	0
	0304020404															
PD-031	PD	BUCK SWAMP	FW-SP													
PD-349	INT	BUCK SWAMP	FW-SP		6	0	0			6	0	0		6	0	0
	0304020313															
PD-368	INT	BEAR SWAMP	FW-SP		11	0	0			11	0	0		11	0	0
PD-347	PD	ASHPOLE SWAMP	FW-SP													
	0304020314															
PD-038	INT	LUMBER RVR	FW		16	0	0			16	0	0		16	0	0

Great Pee Dee River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	MEAN EXC.
	0304020702			
PD-060	INT	PEE DEE RVR	FW	
PD-061	PD	PEE DEE RVR	FW	
MD-275	INT	PEE DEE RVR	SB-SP	
MD-080	PD	WINYAH BAY	SB	
RO-02012	RO02	WINYAH BAY	SB	
RO-01121	RO01	WINYAH BAY	SB	
RO-01161	RO01	WINYAH BAY	SB	
RS-03331	RS03	TRIB TO WINYAH BAY	FW	
RO-02010	RO02	WINYAH BAY	SB	
MD-278	INT	WINYAH BAY	SB	
	0304020401			
PD-306	PD	PANTHER CK	FW	
PD-016	PD	PANTHER CK	FW	
PD-017A	PD	MCLAURINS MILL POND	FW	
PD-062	PD	GUM SWAMP	FW	
PD-365	INT	LITTLE PEE DEE RVR	FW	
	0304020405			
PD-069	PD	LITTLE PEE DEE RVR	FW	
PD-029E	PD	LITTLE PEE DEE RVR	FW	
PD-055	SPRP	LITTLE PEE DEE RVR	FW	
PD-030	PD	MAPLE SWAMP	FW-SP	
PD-030A	PD	LITTLE PEE DEE RVR	FW	
PD-348 / RS-01018	INT	LITTLE PEE DEE RVR	FW	82
PD-052	INT	LITTLE PEE DEE RVR	FW	
	0304020404			
PD-031	PD	BUCK SWAMP	FW-SP	
PD-349	INT	BUCK SWAMP	FW-SP	
	0304020313			
PD-368	INT	BEAR SWAMP	FW-SP	
PD-347	PD	ASHPOLE SWAMP	FW-SP	
	0304020314			
PD-038	INT	LUMBER RVR	FW	

Great Pee Dee River Basin

STATION				DO	DO	DO	MEAN	TRENDS (89 -2003)				
NUMBER	TYPE	WATERBODY NAME	CLASS	N	EXC.	%	EXC.	DO	N	MAG	BOD	N
	0304020408											
PD-351	PD	CEDAR CK	ORW	12	6	50	2.2	*	32	-0.156	*	31
PD-037	PD	WHITE OAK CK	FW-SP	22	4	18	3.263	D	78	-0.15	I	75
PD-701	BIO	DAWSEY SWAMP										
PD-042	PD	LITTLE PEE DEE RVR	ORW	35	8	23	3.969	D	145	-0.093	D	144
RS-01042	RS01	REEDY CK	ORW	11	8	73	3					
PD-702	BIO	PALMETTO SWAMP										
PD-189	PD	LITTLE PEE DEE RVR	ORW	30	4	13	3.525	*	150	-0.014	D	148
PD-350	INT	LITTLE PEE DEE RVR	ORW	27	6	22	4.297	*	45	0.102	D	43
	0304020406											
RS-03513	RS03	LOOSING SWAMP	FW	11	8	73	1.675					
PD-176 / RS-04545	INT	LAKE SWAMP	FW-SP	22	6	27	3.095	*	50	0.067	*	49
	0304020407											
PD-177	PD	CHINNERS SWAMP	FW-SP	10	8	80	2.744	*	57	0.095	D	55
PD-352	INT	CHINNERS SWAMP	FW-SP	28	9	32	2.7	*	48	-0.033	*	48
	0304020701											
MD-075	PD	SAMPIT RVR	SB	36	10	28	3.071	D	161	-0.082	D	152
MD-076N	PD	TURKEY CK	FW	11	3	27	4.6	*	59	-0.05	I	57
MD-149	PD	WHITES CK	SB	35	10	29	3.38	D	161	-0.045	D	148
MD-077	INT	SAMPIT RVR	SB	58	8	14	3.195	D	182	-0.046	D	172
MD-073	PD	SAMPIT RVR	SB	36	4	11	3.525	D	158	-0.082	D	150
MD-074	PD	SAMPIT RVR	SB	24	5	21	3.34	*	94	-0.053	D	90

Great Pee Dee River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	MAG
	0304020408			
PD-351	PD	CEDAR CK	ORW	-0.168
PD-037	PD	WHITE OAK CK	FW-SP	0.178
PD-701	BIO	DAWSEY SWAMP		
PD-042	PD	LITTLE PEE DEE RVR	ORW	-0.05
RS-01042	RS01	REEDY CK	ORW	
PD-702	BIO	PALMETTO SWAMP		
PD-189	PD	LITTLE PEE DEE RVR	ORW	-0.033
PD-350	INT	LITTLE PEE DEE RVR	ORW	-0.113
	0304020406			
RS-03513	RS03	LOOSING SWAMP	FW	
PD-176 / RS-04545	INT	LAKE SWAMP	FW-SP	0.022
	0304020407			
PD-177	PD	CHINNERS SWAMP	FW-SP	-0.094
PD-352	INT	CHINNERS SWAMP	FW-SP	-0.079
	0304020701			
MD-075	PD	SAMPIT RVR	SB	-0.033
MD-076N	PD	TURKEY CK	FW	0.05
MD-149	PD	WHITES CK	SB	-0.033
MD-077	INT	SAMPIT RVR	SB	-0.067
MD-073	PD	SAMPIT RVR	SB	-0.04
MD-074	PD	SAMPIT RVR	SB	-0.046

Great Pee Dee River Basin

STATION					pH	pH	pH	MEAN	TRENDS (89-2003)				TURB
NUMBER	TYPE	WATERBODY NAME	CLASS		N	EXC.	%	EXC.	PH	N	MAG		N
	0304020408												
PD-351	PD	CEDAR CK	ORW		12	10	83	5.554	*	32	-0.012		12
PD-037	PD	WHITE OAK CK	FW-SP		22	0	0		D	78	-0.022		22
PD-701	BIO	DAWSEY SWAMP											
PD-042	PD	LITTLE PEE DEE RVR	ORW		35	19	54	5.547	D	145	-0.023		35
RS-01042	RS01	REEDY CK	ORW		11	1	9	5.4					11
PD-702	BIO	PALMETTO SWAMP											
PD-189	PD	LITTLE PEE DEE RVR	ORW		30	17	57	5.65	*	150	0.005		30
PD-350	INT	LITTLE PEE DEE RVR	ORW		27	5	19	5.652	*	45	0.037		27
	0304020406												
RS-03513	RS03	LOOSING SWAMP	FW		11	11	100	5.362					11
PD-176 / RS-04545	INT	LAKE SWAMP	FW-SP		22	0	0		*	50	0		22
	0304020407												
PD-177	PD	CHINNERS SWAMP	FW-SP		10	0	0		*	57	-0.012		10
PD-352	INT	CHINNERS SWAMP	FW-SP		28	0	0		D	48	-0.03		28
	0304020701												
MD-075	PD	SAMPIT RVR	SB		35	10	29	6.275	*	160	0		35
MD-076N	PD	TURKEY CK	FW		11	6	55	5.5	D	59	-0.05		10
MD-149	PD	WHITES CK	SB		35	9	26	6.247	*	161	0		34
MD-077	INT	SAMPIT RVR	SB		58	10	17	6.33	*	182	0		56
MD-073	PD	SAMPIT RVR	SB		36	6	17	6.263	*	159	-0.004		34
MD-074	PD	SAMPIT RVR	SB		24	4	17	6.263	*	95	0		23

Great Pee Dee River Basin

STATION				TURB	TURB	MEAN	TRENDS (89-2003)				TP	TP
NUMBER	TYPE	WATERBODY NAME	CLASS	EXC.	%	EXC.	TURB	N	MAG		N	EXC.
	0304020408											
PD-351	PD	CEDAR CK	ORW	0	0		D	32	-0.23			
PD-037	PD	WHITE OAK CK	FW-SP	0	0		*	78	0.142			
PD-701	BIO	DAWSEY SWAMP										
PD-042	PD	LITTLE PEE DEE RVR	ORW	0	0		I	145	0.038			
RS-01042	RS01	REEDY CK	ORW	0	0							
PD-702	BIO	PALMETTO SWAMP										
PD-189	PD	LITTLE PEE DEE RVR	ORW	0	0		*	149	0.05			
PD-350	INT	LITTLE PEE DEE RVR	ORW	0	0		*	45	-0.05			
	0304020406											
RS-03513	RS03	LOOSING SWAMP	FW	0	0							
PD-176 / RS-04545	INT	LAKE SWAMP	FW-SP	0	0		*	50	-0.034			
	0304020407											
PD-177	PD	CHINNERS SWAMP	FW-SP	0	0		*	57	-0.162			
PD-352	INT	CHINNERS SWAMP	FW-SP	1	4	110	*	48	-0.279			
	0304020701											
MD-075	PD	SAMPIT RVR	SB	5	14	31.8	*	153	0.125			
MD-076N	PD	TURKEY CK	FW	0	0		*	58	0.089			
MD-149	PD	WHITES CK	SB	8	24	41.875	I	150	0.251			
MD-077	INT	SAMPIT RVR	SB	10	18	55.5	*	174	0			
MD-073	PD	SAMPIT RVR	SB	2	6	32.5	*	150	0			
MD-074	PD	SAMPIT RVR	SB	4	17	35.25	*	91	0.2			

Great Pee Dee River Basin

STATION				TP	MEAN	TRENDS (92-2003)				TRENDS (89-2003)		
NUMBER	TYPE	WATERBODY NAME	CLASS	%	EXC.	TP	N	MAG		TP	N	MAG
	0304020408											
PD-351	PD	CEDAR CK	ORW			*	31	-0.003		*	31	-0.003
PD-037	PD	WHITE OAK CK	FW-SP			*	48	0.04		*	66	0.04
PD-701	BIO	DAWSEY SWAMP										
PD-042	PD	LITTLE PEE DEE RVR	ORW			D	94	-0.005		D	120	-0.006
RS-01042	RS01	REEDY CK	ORW									
PD-702	BIO	PALMETTO SWAMP										
PD-189	PD	LITTLE PEE DEE RVR	ORW			D	89	-0.003		D	124	-0.006
PD-350	INT	LITTLE PEE DEE RVR	ORW			*	34	0		*	34	0
	0304020406											
RS-03513	RS03	LOOSING SWAMP	FW									
PD-176 / RS-04545	INT	LAKE SWAMP	FW-SP							*	36	-0.001
	0304020407											
PD-177	PD	CHINNERS SWAMP	FW-SP							D	46	-0.005
PD-352	INT	CHINNERS SWAMP	FW-SP			D	36	-0.002		D	36	-0.002
	0304020701											
MD-075	PD	SAMPIT RVR	SB			*	89	0		D	124	-0.001
MD-076N	PD	TURKEY CK	FW							*	43	0
MD-149	PD	WHITES CK	SB			*	93	0		D	127	-0.002
MD-077	INT	SAMPIT RVR	SB			*	105	0		D	137	-0.001
MD-073	PD	SAMPIT RVR	SB			*	93	0		D	127	-0.001
MD-074	PD	SAMPIT RVR	SB			*	60	0		*	76	0

Great Pee Dee River Basin

STATION					TN	TN	TN	MEAN	TRENDS (89-2003)				CHL
NUMBER	TYPE	WATERBODY NAME	CLASS		N	EXC.	%	EXC.	TN	N	MAG		N
	0304020408												
PD-351	PD	CEDAR CK	ORW										
PD-037	PD	WHITE OAK CK	FW-SP										
PD-701	BIO	DAWSEY SWAMP											
PD-042	PD	LITTLE PEE DEE RVR	ORW						*	132	-0.008		
RS-01042	RS01	REEDY CK	ORW										
PD-702	BIO	PALMETTO SWAMP											
PD-189	PD	LITTLE PEE DEE RVR	ORW						D	141	-0.011		
PD-350	INT	LITTLE PEE DEE RVR	ORW						D	39	-0.023		
	0304020406												
RS-03513	RS03	LOOSING SWAMP	FW										
PD-176 / RS-04545	INT	LAKE SWAMP	FW-SP						*	36	-0.024		
	0304020407												
PD-177	PD	CHINNERS SWAMP	FW-SP										
PD-352	INT	CHINNERS SWAMP	FW-SP						*	36	0.023		
	0304020701												
MD-075	PD	SAMPIT RVR	SB						*	144	-0.003		
MD-076N	PD	TURKEY CK	FW										
MD-149	PD	WHITES CK	SB						*	145	-0.005		
MD-077	INT	SAMPIT RVR	SB						D	159	-0.01		
MD-073	PD	SAMPIT RVR	SB						D	146	-0.009		
MD-074	PD	SAMPIT RVR	SB										

Great Pee Dee River Basin

STATION				CHL	CHL	MEAN		TRENDS (89-2003)		
NUMBER	TYPE	WATERBODY NAME	CLASS	EXC.	%	EXC.		TSS	N	MAG
	0304020408									
PD-351	PD	CEDAR CK	ORW							
PD-037	PD	WHITE OAK CK	FW-SP							
PD-701	BIO	DAWSEY SWAMP								
PD-042	PD	LITTLE PEE DEE RVR	ORW							
RS-01042	RS01	REEDY CK	ORW							
PD-702	BIO	PALMETTO SWAMP								
PD-189	PD	LITTLE PEE DEE RVR	ORW							
PD-350	INT	LITTLE PEE DEE RVR	ORW							
	0304020406									
RS-03513	RS03	LOOSING SWAMP	FW							
PD-176 / RS-04545	INT	LAKE SWAMP	FW-SP							
	0304020407									
PD-177	PD	CHINNERS SWAMP	FW-SP							
PD-352	INT	CHINNERS SWAMP	FW-SP							
	0304020701									
MD-075	PD	SAMPIT RVR	SB							
MD-076N	PD	TURKEY CK	FW							
MD-149	PD	WHITES CK	SB							
MD-077	INT	SAMPIT RVR	SB							
MD-073	PD	SAMPIT RVR	SB							
MD-074	PD	SAMPIT RVR	SB							

Great Pee Dee River Basin

STATION					GEO	BACT	BACT	BACT	MEAN	TRENDS (	
NUMBER	TYPE	WATERBODY NAME	CLASS		MEAN	N	EXC.	%	EXC.	BACT	N
	0304020408										
PD-351	PD	CEDAR CK	ORW		114.6677	12	0	0		*	32
PD-037	PD	WHITE OAK CK	FW-SP		84.1986	21	5	24	766	D	76
PD-701	BIO	DAWSEY SWAMP									
PD-042	PD	LITTLE PEE DEE RVR	ORW		47.8368	34	0	0		*	143
RS-01042	RS01	REEDY CK	ORW		171.1849	10	1	10	410		
PD-702	BIO	PALMETTO SWAMP									
PD-189	PD	LITTLE PEE DEE RVR	ORW		69.4747	28	0	0		*	147
PD-350	INT	LITTLE PEE DEE RVR	ORW		45.0708	26	0	0		*	44
	0304020406										
RS-03513	RS03	LOOSING SWAMP	FW		50.0809	11	1	9	600		
PD-176 / RS-04545	INT	LAKE SWAMP	FW-SP		101.2825	21	0	0		*	47
	0304020407										
PD-177	PD	CHINNERS SWAMP	FW-SP		62.6323	9	0	0		D	56
PD-352	INT	CHINNERS SWAMP	FW-SP		147.625	27	3	11	643.3333	*	47
	0304020701										
MD-075	PD	SAMPIT RVR	SB		47.3496	35	0	0		*	152
MD-076N	PD	TURKEY CK	FW		19.5773	11	0	0		D	59
MD-149	PD	WHITES CK	SB		59.2661	33	2	6	1120	*	146
MD-077	INT	SAMPIT RVR	SB		40.0519	56	0	0		*	171
MD-073	PD	SAMPIT RVR	SB		44.2118	34	0	0		*	150
MD-074	PD	SAMPIT RVR	SB		62.3312	23	0	0		*	90

Great Pee Dee River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	89-2003) MAG		NH3 N	NH3 EXC.	NH3 %	MEAN EXC.
	0304020408								
PD-351	PD	CEDAR CK	ORW	2.626		6	0	0	
PD-037	PD	WHITE OAK CK	FW-SP	-19.184		6	0	0	
PD-701	BIO	DAWSEY SWAMP							
PD-042	PD	LITTLE PEE DEE RVR	ORW	-0.716		31	0	0	
RS-01042	RS01	REEDY CK	ORW			7	0	0	
PD-702	BIO	PALMETTO SWAMP							
PD-189	PD	LITTLE PEE DEE RVR	ORW	1.063		27	0	0	
PD-350	INT	LITTLE PEE DEE RVR	ORW	-0.878		21	0	0	
	0304020406								
RS-03513	RS03	LOOSING SWAMP	FW			6	0	0	
PD-176 / RS-04545	INT	LAKE SWAMP	FW-SP	-1.695		17	0	0	
	0304020407								
PD-177	PD	CHINNERS SWAMP	FW-SP	-12.551					
PD-352	INT	CHINNERS SWAMP	FW-SP	5.668		17	0	0	
	0304020701								
MD-075	PD	SAMPIT RVR	SB	-0.502		30	0	0	
MD-076N	PD	TURKEY CK	FW	-12.201		1	0	0	
MD-149	PD	WHITES CK	SB	-0.278		30	0	0	
MD-077	INT	SAMPIT RVR	SB	0		42	0	0	
MD-073	PD	SAMPIT RVR	SB	0		30	0	0	
MD-074	PD	SAMPIT RVR	SB	0		6	0	0	

Great Pee Dee River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	CD N	CD EXC.	CD %	MEAN EXC.	CR N	CR EXC.	CR %	CU N	CU EXC.
	0304020408											
PD-351	PD	CEDAR CK	ORW	4	0	0		4	0	0	4	0
PD-037	PD	WHITE OAK CK	FW-SP	4	0	0		4	0	0	4	0
PD-701	BIO	DAWSEY SWAMP										
PD-042	PD	LITTLE PEE DEE RVR	ORW	13	0	0		13	0	0	13	1
RS-01042	RS01	REEDY CK	ORW	4	0	0		4	0	0	4	0
PD-702	BIO	PALMETTO SWAMP										
PD-189	PD	LITTLE PEE DEE RVR	ORW	11	0	0		11	0	0	11	0
PD-350	INT	LITTLE PEE DEE RVR	ORW	10	0	0		10	0	0	10	0
	0304020406											
RS-03513	RS03	LOOSING SWAMP	FW	4	0	0		4	0	0	4	1
PD-176 / RS-04545	INT	LAKE SWAMP	FW-SP	7	0	0		7	0	0	7	1
	0304020407											
PD-177	PD	CHINNERS SWAMP	FW-SP									
PD-352	INT	CHINNERS SWAMP	FW-SP	9	0	0		9	0	0	9	1
	0304020701											
MD-075	PD	SAMPIT RVR	SB	12	0	0		12	0	0	12	0
MD-076N	PD	TURKEY CK	FW									
MD-149	PD	WHITES CK	SB	12	0	0		12	0	0	12	2
MD-077	INT	SAMPIT RVR	SB	18	0	0		17	0	0	18	0
MD-073	PD	SAMPIT RVR	SB	12	0	0		12	0	0	12	0
MD-074	PD	SAMPIT RVR	SB	4	0	0		4	0	0	4	0

Great Pee Dee River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	CU %	MEAN EXC.		PB N	PB EXC.	PB %	MEAN EXC.
	0304020408									
PD-351	PD	CEDAR CK	ORW	0			4	0	0	
PD-037	PD	WHITE OAK CK	FW-SP	0			4	0	0	
PD-701	BIO	DAWSEY SWAMP								
PD-042	PD	LITTLE PEE DEE RVR	ORW	8	20		13	0	0	
RS-01042	RS01	REEDY CK	ORW	0			4	0	0	
PD-702	BIO	PALMETTO SWAMP								
PD-189	PD	LITTLE PEE DEE RVR	ORW	0			11	0	0	
PD-350	INT	LITTLE PEE DEE RVR	ORW	0			10	0	0	
	0304020406									
RS-03513	RS03	LOOSING SWAMP	FW	25	18		4	0	0	
PD-176 / RS-04545	INT	LAKE SWAMP	FW-SP	14	14		7	0	0	
	0304020407									
PD-177	PD	CHINNERS SWAMP	FW-SP							
PD-352	INT	CHINNERS SWAMP	FW-SP	11	11		9	0	0	
	0304020701									
MD-075	PD	SAMPIT RVR	SB	0			12	0	0	
MD-076N	PD	TURKEY CK	FW							
MD-149	PD	WHITES CK	SB	17	25		12	0	0	
MD-077	INT	SAMPIT RVR	SB	0			18	0	0	
MD-073	PD	SAMPIT RVR	SB	0			12	0	0	
MD-074	PD	SAMPIT RVR	SB	0			4	0	0	

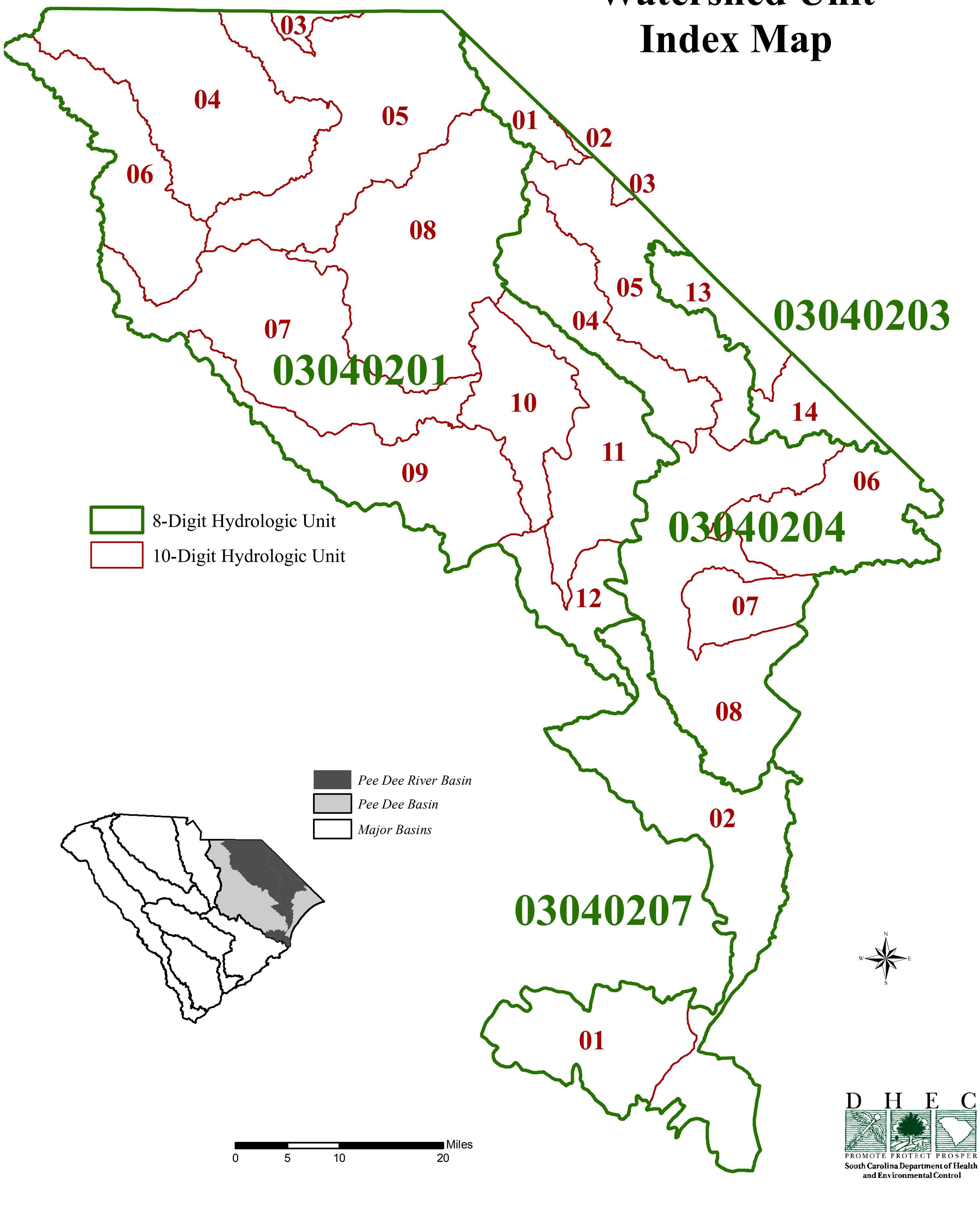
Great Pee Dee River Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	HG N	HG EXC.	HG %	MEAN EXC.	NI N	NI EXC.	NI %	ZN N	ZN EXC.	ZN %
	0304020408												
PD-351	PD	CEDAR CK	ORW	4	0	0		4	0	0	4	0	0
PD-037	PD	WHITE OAK CK	FW-SP	4	0	0		4	0	0	4	0	0
PD-701	BIO	DAWSEY SWAMP											
PD-042	PD	LITTLE PEE DEE RVR	ORW	13	0	0		13	0	0	13	0	0
RS-01042	RS01	REEDY CK	ORW	4	0	0		4	0	0	4	0	0
PD-702	BIO	PALMETTO SWAMP											
PD-189	PD	LITTLE PEE DEE RVR	ORW	11	0	0		11	0	0	11	0	0
PD-350	INT	LITTLE PEE DEE RVR	ORW	10	0	0		10	0	0	10	0	0
	0304020406												
RS-03513	RS03	LOOSING SWAMP	FW	4	0	0		4	0	0	4	0	0
PD-176 / RS-04545	INT	LAKE SWAMP	FW-SP	7	0	0		6	0	0	7	1	14
	0304020407												
PD-177	PD	CHINNERS SWAMP	FW-SP										
PD-352	INT	CHINNERS SWAMP	FW-SP	9	0	0		9	0	0	9	0	0
	0304020701												
MD-075	PD	SAMPIT RVR	SB	12	0	0		12	0	0	12	0	0
MD-076N	PD	TURKEY CK	FW										
MD-149	PD	WHITES CK	SB	12	0	0		12	0	0	12	0	0
MD-077	INT	SAMPIT RVR	SB	18	0	0		18	0	0	18	0	0
MD-073	PD	SAMPIT RVR	SB	12	0	0		12	0	0	12	0	0
MD-074	PD	SAMPIT RVR	SB	4	0	0		4	0	0	4	0	0

Great Pee Dee River Basin

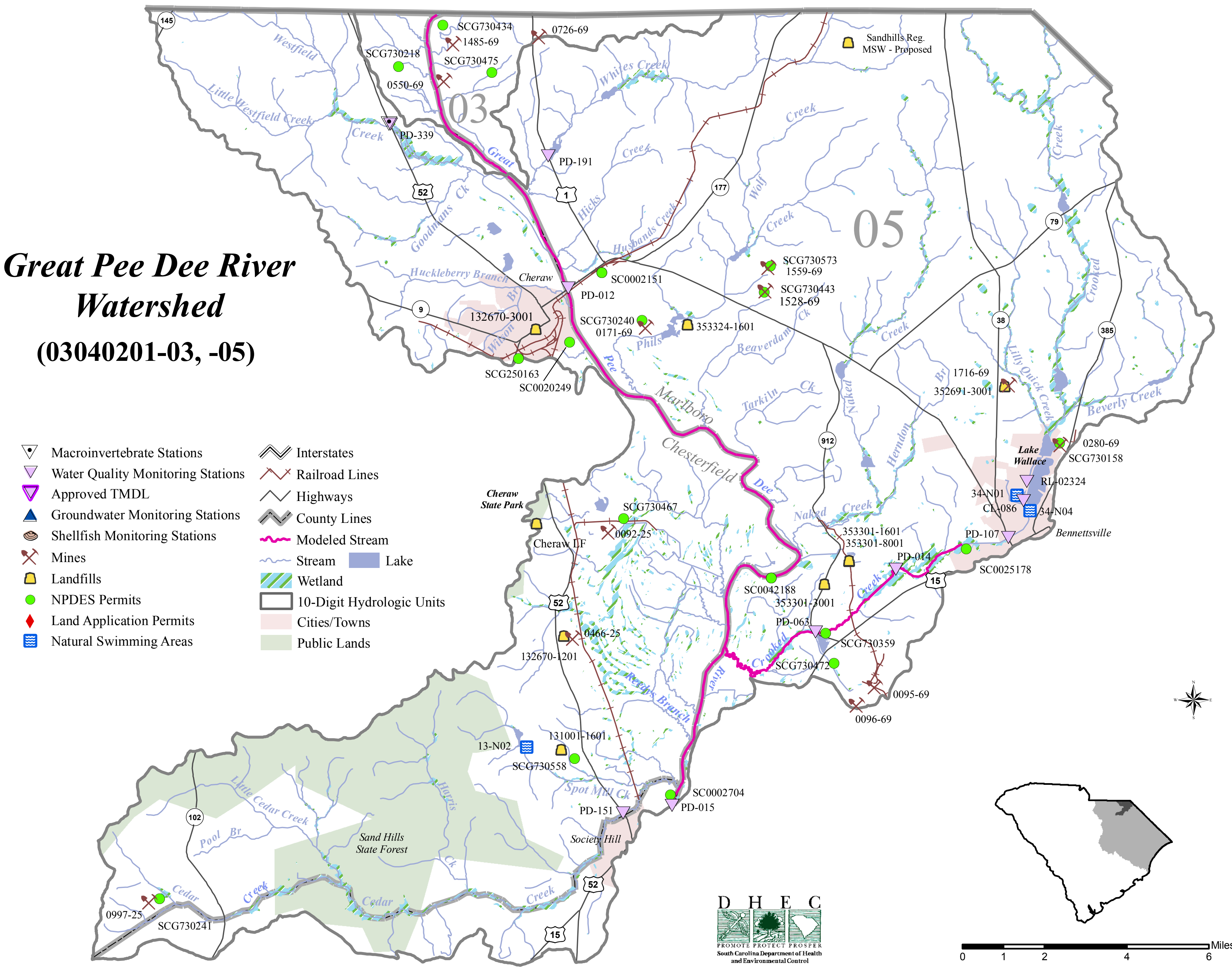
STATION NUMBER	TYPE	WATERBODY NAME	CLASS	MEAN EXC.
	0304020408			
PD-351	PD	CEDAR CK	ORW	
PD-037	PD	WHITE OAK CK	FW-SP	
PD-701	BIO	DAWSEY SWAMP		
PD-042	PD	LITTLE PEE DEE RVR	ORW	
RS-01042	RS01	REEDY CK	ORW	
PD-702	BIO	PALMETTO SWAMP		
PD-189	PD	LITTLE PEE DEE RVR	ORW	
PD-350	INT	LITTLE PEE DEE RVR	ORW	
	0304020406			
RS-03513	RS03	LOOSING SWAMP	FW	
PD-176 / RS-04545	INT	LAKE SWAMP	FW-SP	83
	0304020407			
PD-177	PD	CHINNERS SWAMP	FW-SP	
PD-352	INT	CHINNERS SWAMP	FW-SP	
	0304020701			
MD-075	PD	SAMPIT RVR	SB	
MD-076N	PD	TURKEY CK	FW	
MD-149	PD	WHITES CK	SB	
MD-077	INT	SAMPIT RVR	SB	
MD-073	PD	SAMPIT RVR	SB	
MD-074	PD	SAMPIT RVR	SB	

Great Pee Dee River Basin Watershed Unit Index Map

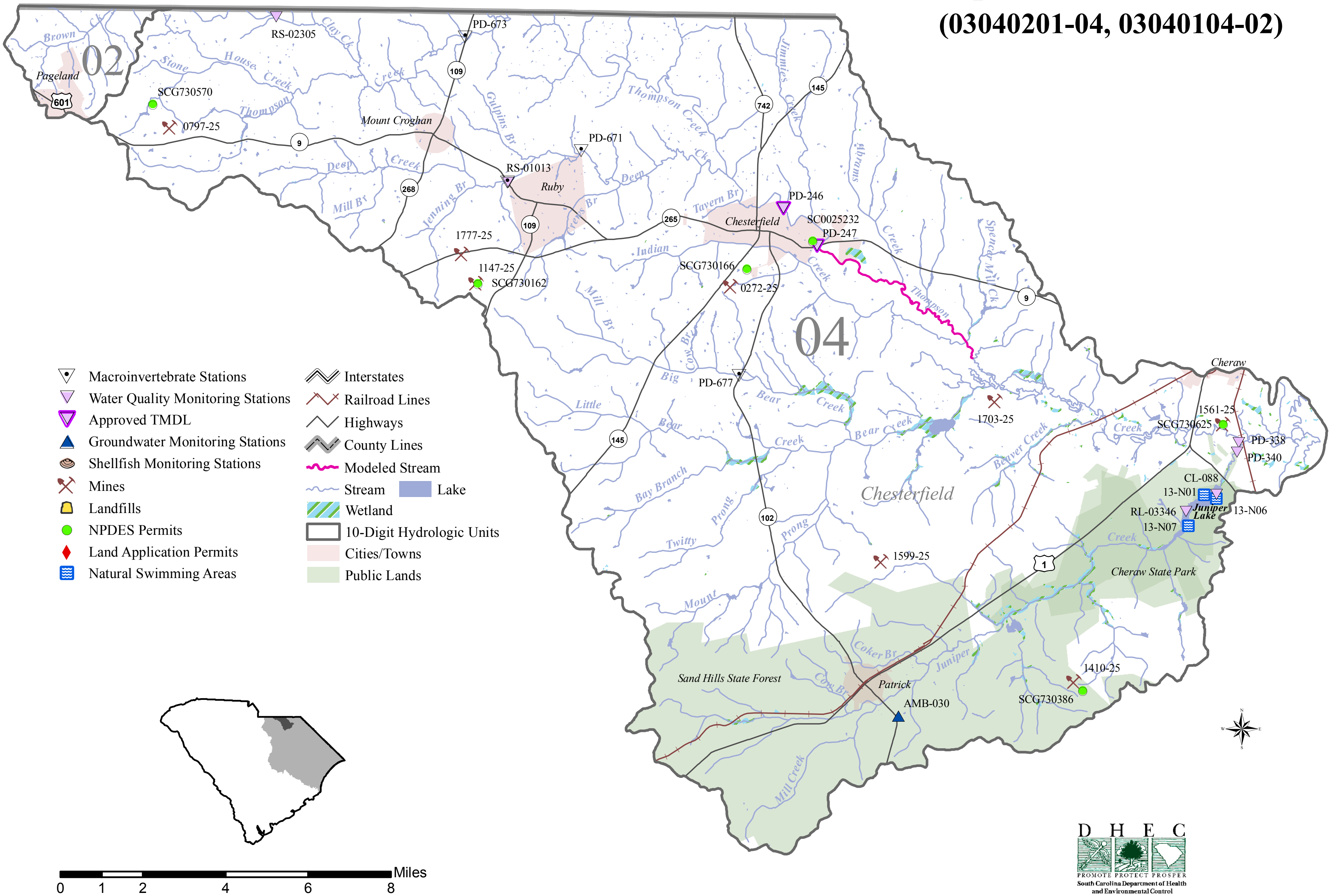


Great Pee Dee River Watershed

(03040201-03, -05)



Thompson Creek Watershed
(03040201-04, 03040104-02)



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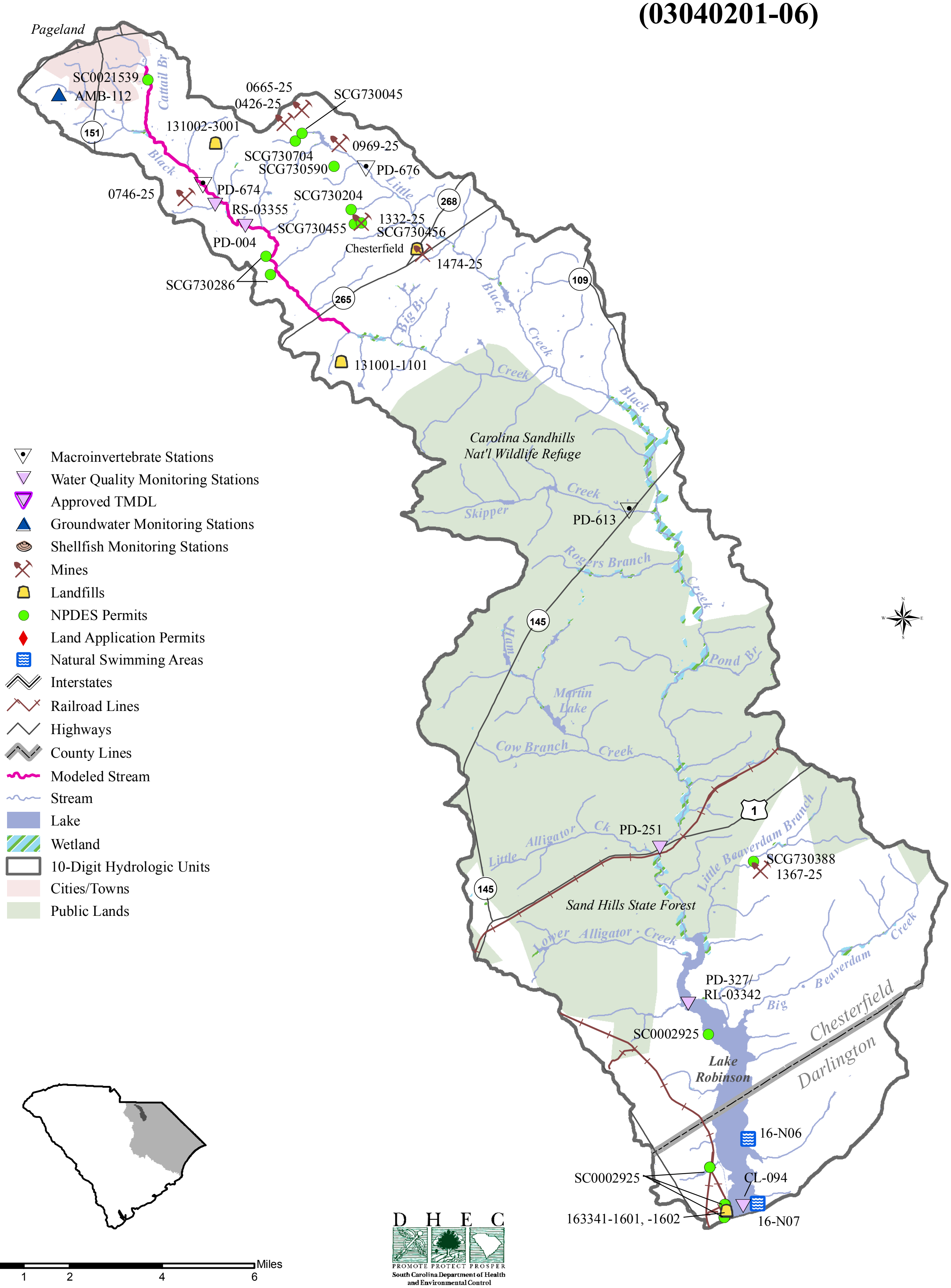
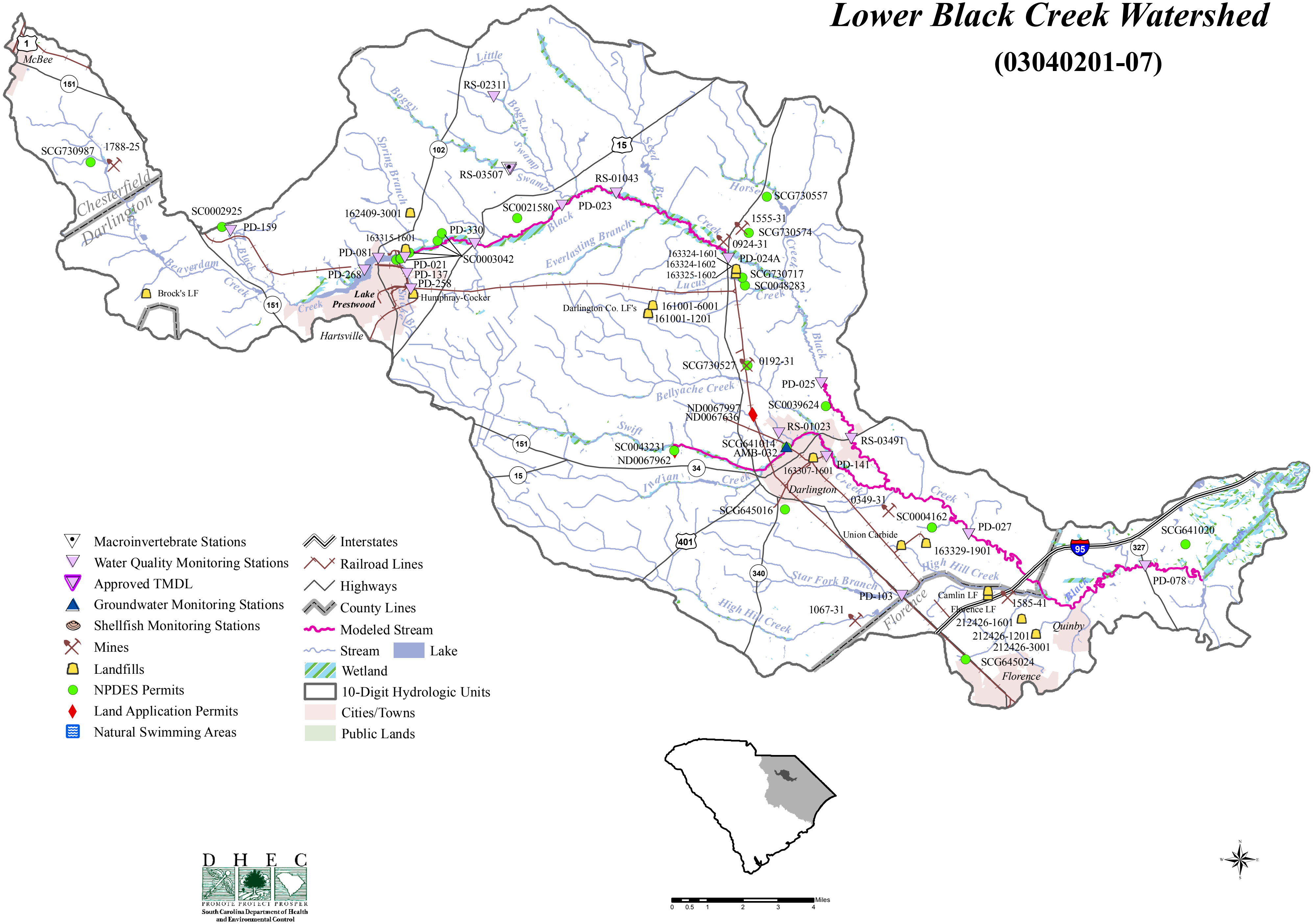
Upper Black Creek Watershed

(03040201-06)



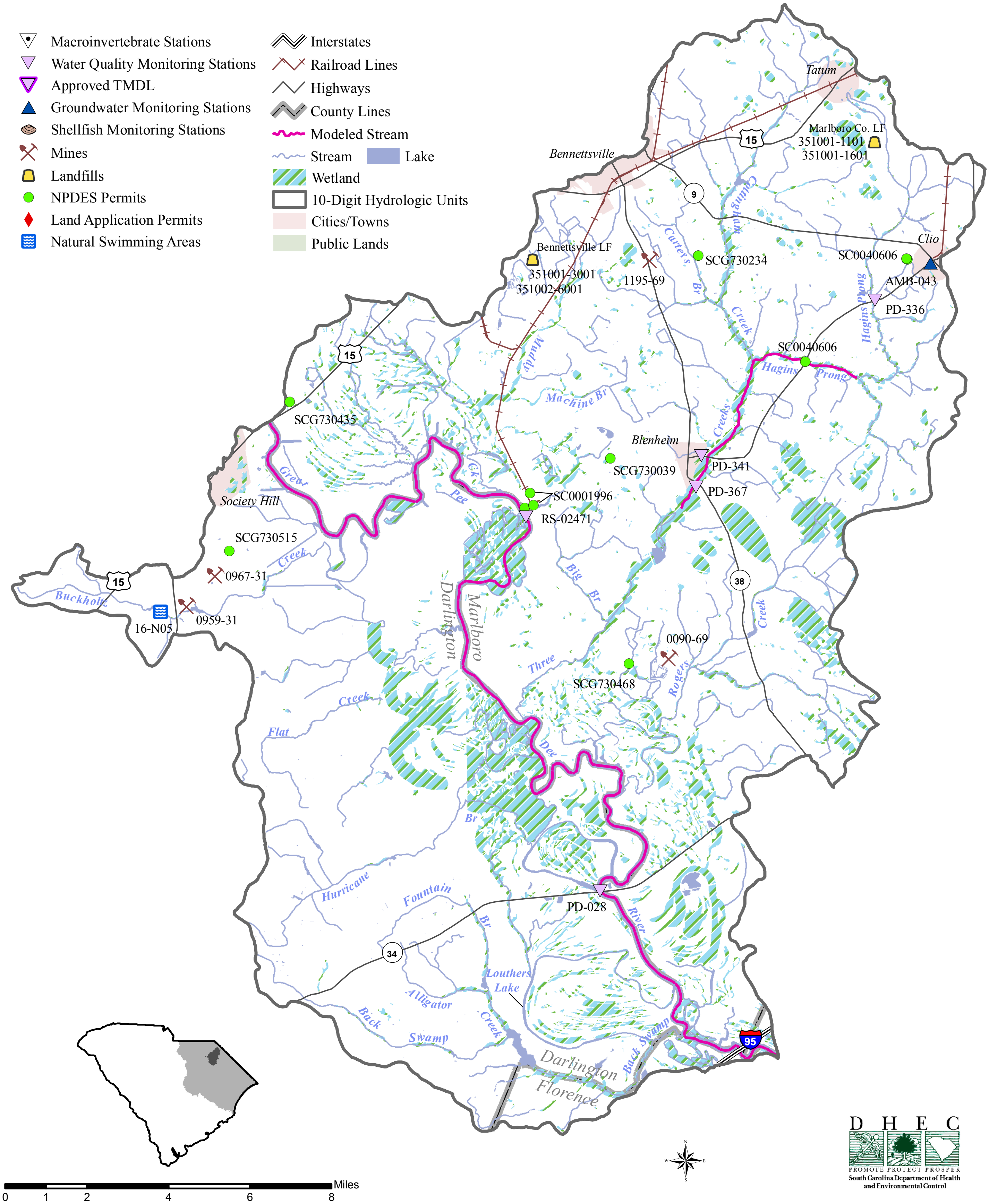
Lower Black Creek Watershed

(03040201-07)



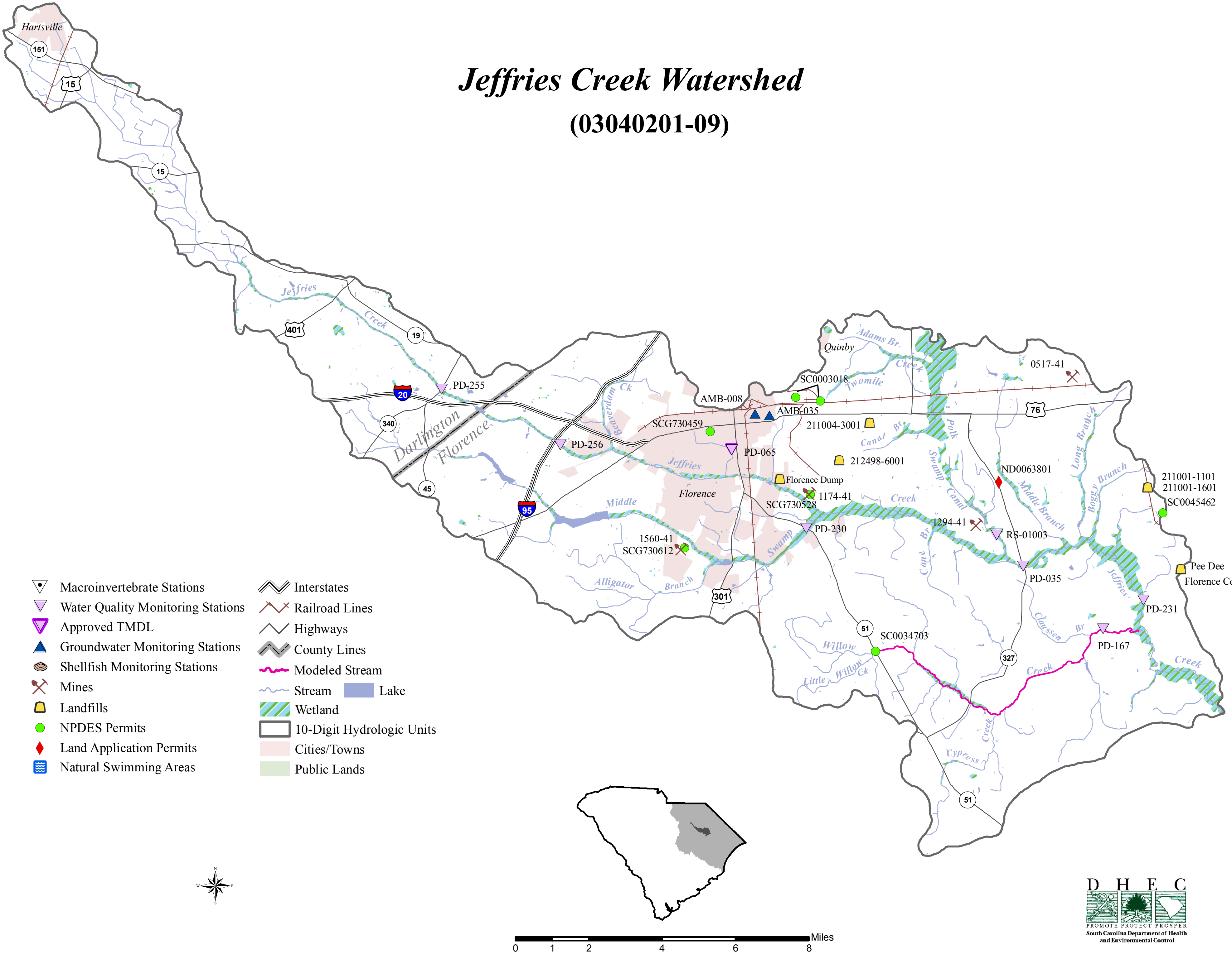
Great Pee Dee River Watershed

(03040201-08)

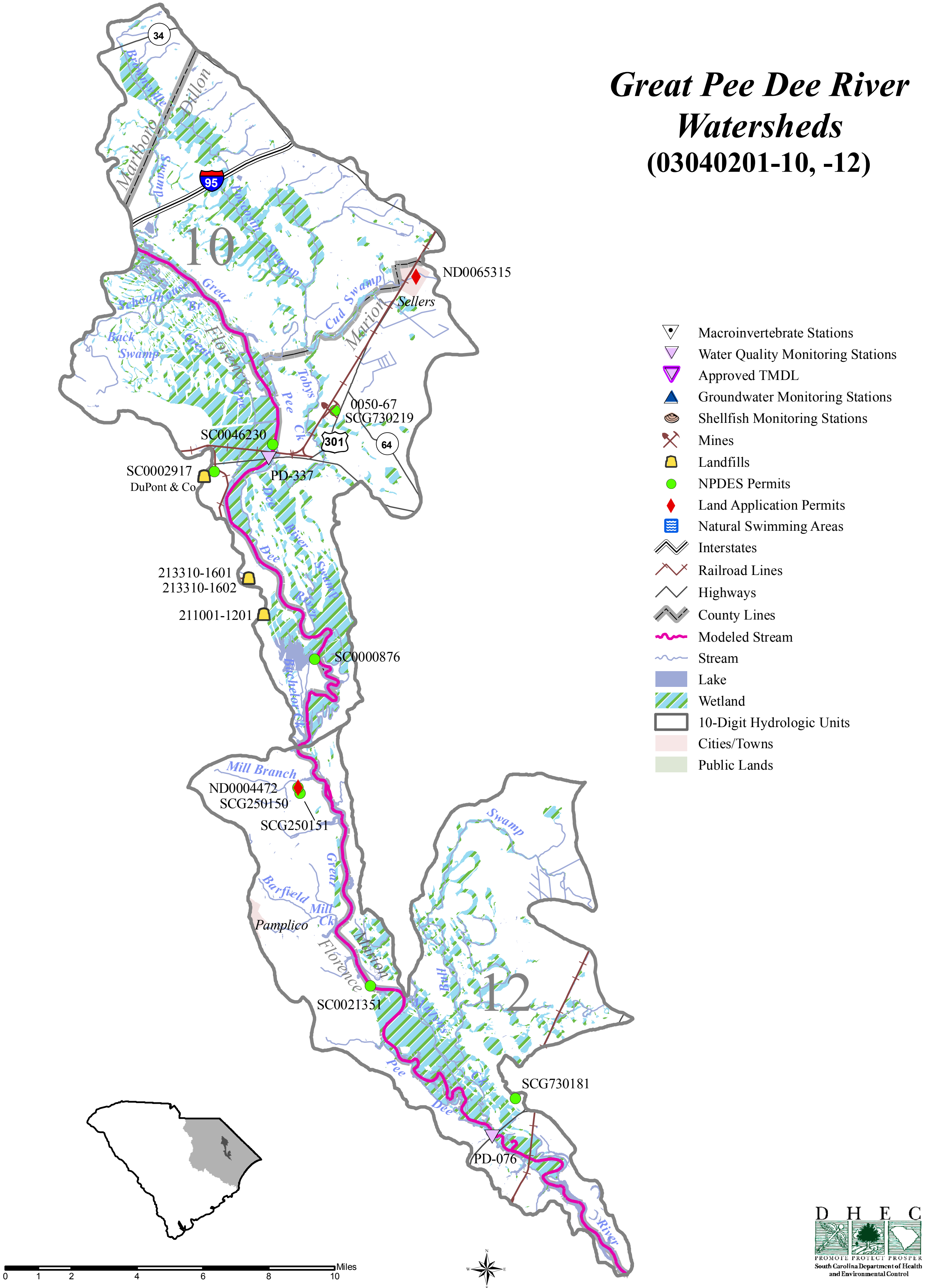


Jeffries Creek Watershed

(03040201-09)



Great Pee Dee River Watersheds
(03040201-10, -12)



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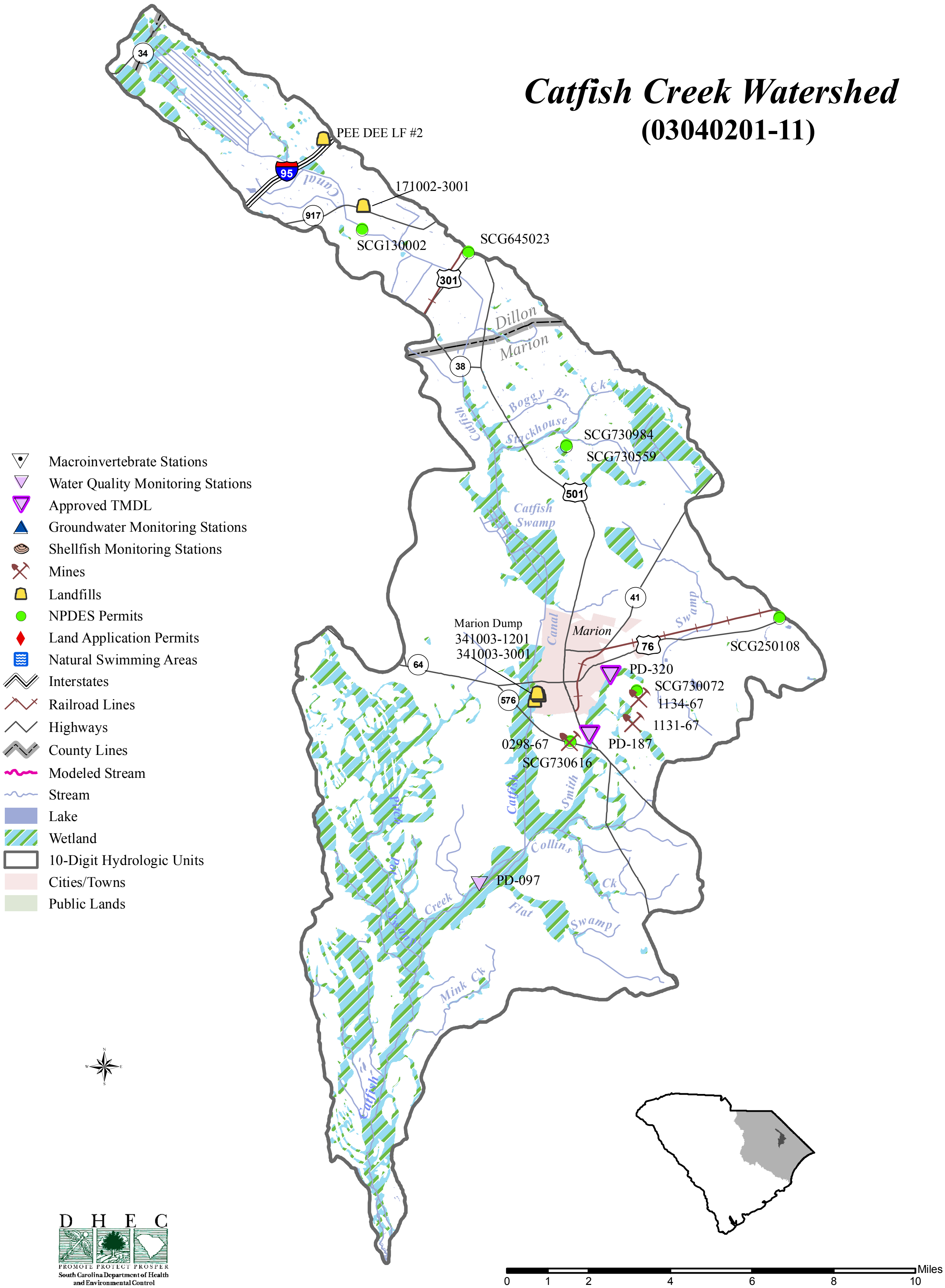
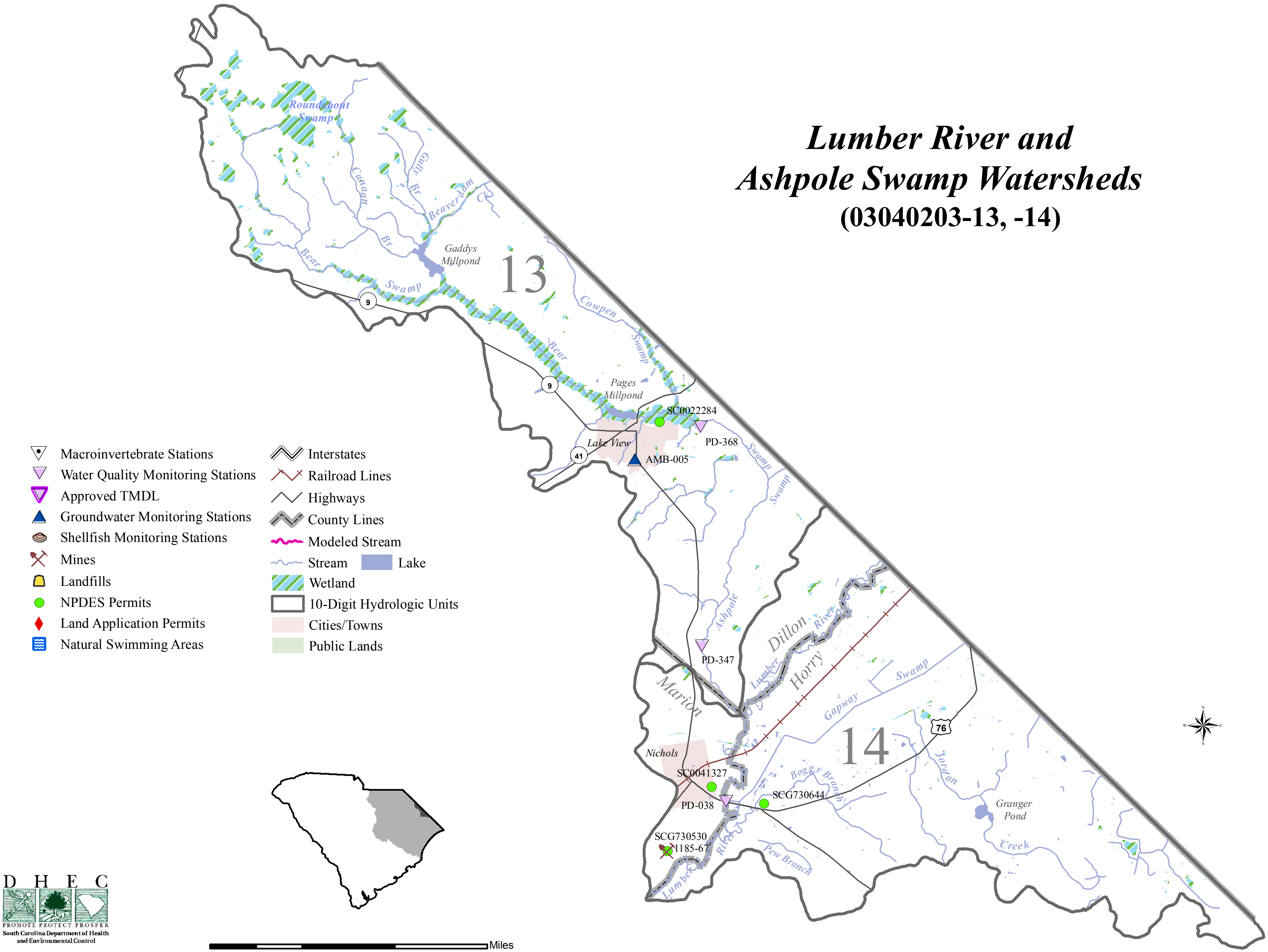
Catfish Creek Watershed
(03040201-11)

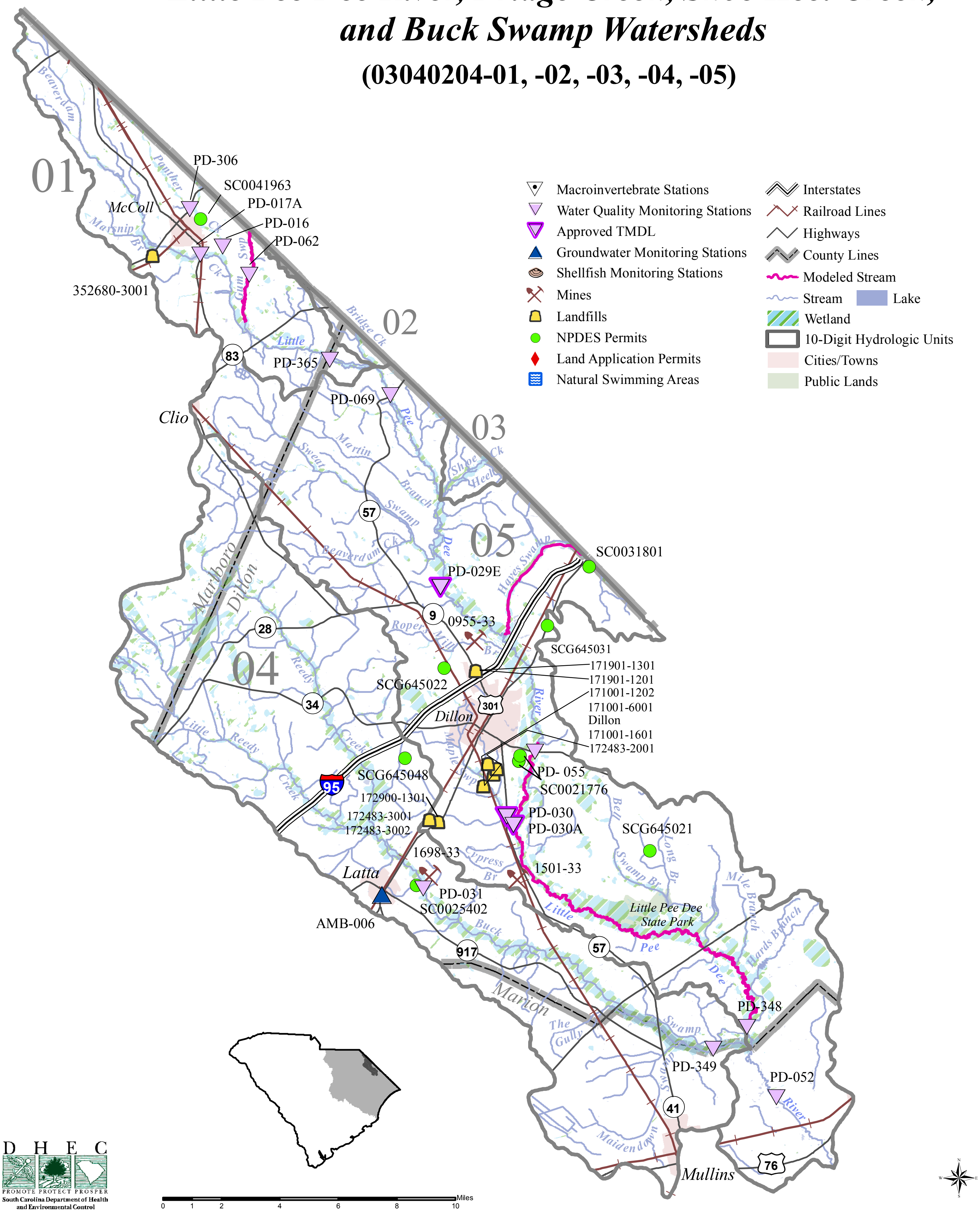


Lumber River and Ashpole Swamp Watersheds
(03040203-13, -14)



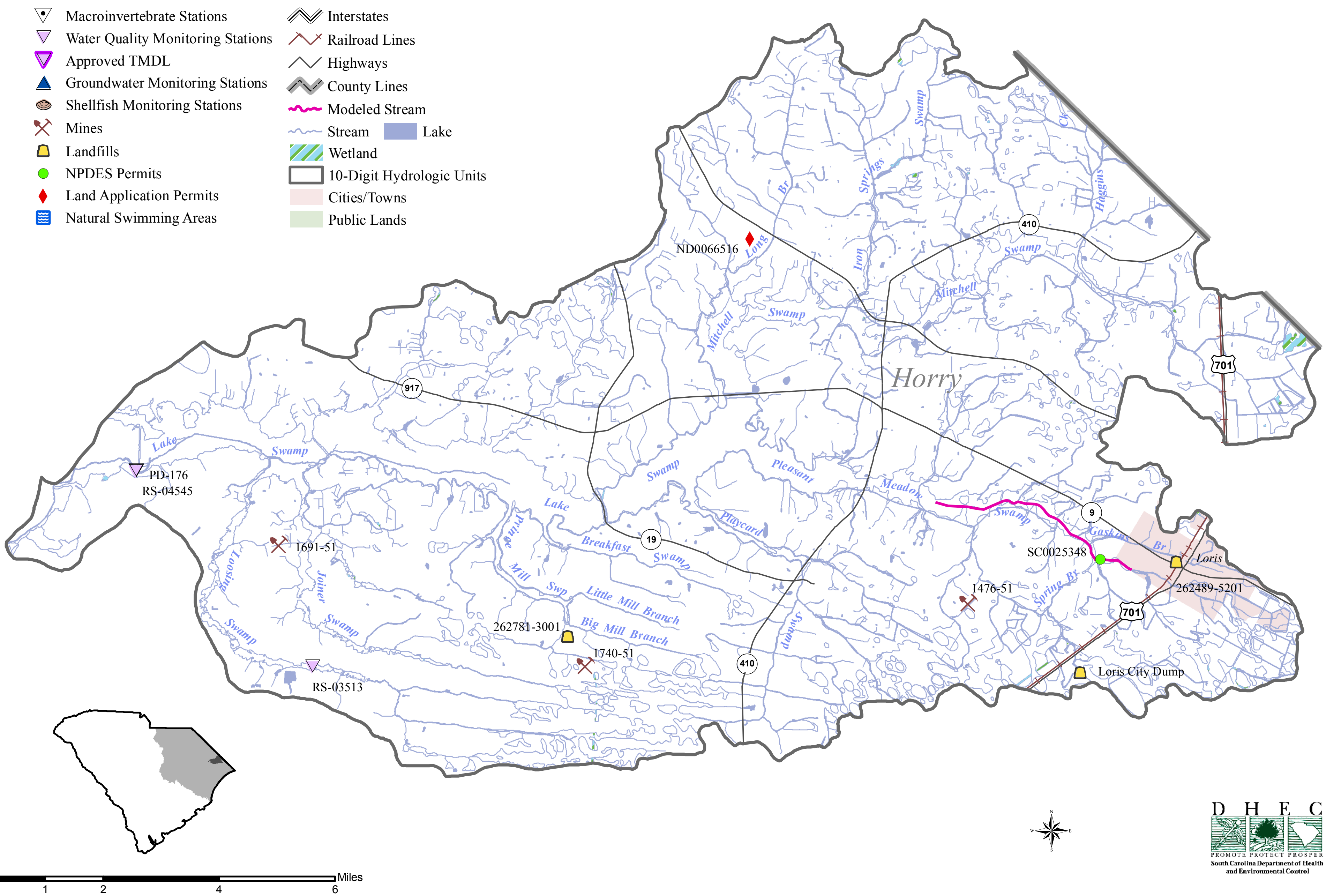
Little Pee Dee River, Bridge Creek, Shoe Heel Creek, and Buck Swamp Watersheds

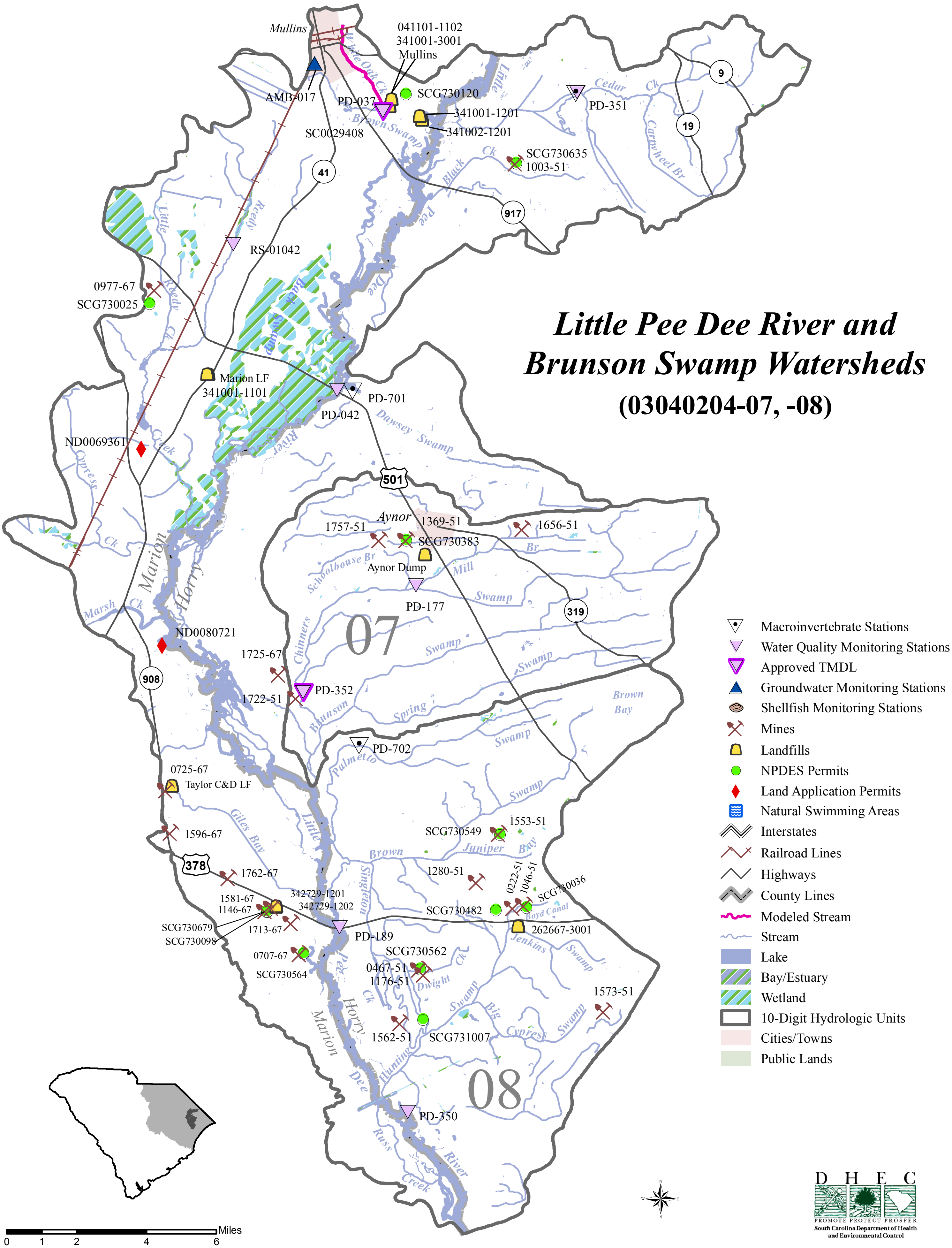
(03040204-01, -02, -03, -04, -05)



Lake Swamp Watershed

(03040204-06)





Little Pee Dee River and Brunson Swamp Watersheds
(03040204-07, -08)
Macroinvertebrate Stations
Water Quality Monitoring Stations
Approved TMDL
Groundwater Monitoring Stations
Shellfish Monitoring Stations
Mines
Landfills
NPDES Permits
Land Application Permits
Natural Swimming Areas
Interstates
Railroad Lines
Highways
County Lines
Modeled Stream
Stream
Lake
Bay/Estuary
Wetland
10-Digit Hydrologic Units
Cities/Towns
Public Lands
Mullins
041101-1102
341001-3001
Mullins
AMB-017
PD-037
SCG730120
341001-1201
341002-1201
SC0029408
PD-351
SCG730635
1003-51
RS-01042
0977-67
SCG730025
Marion LF
341001-1101
PD-701
PD-042
ND0069361
Aynor
1369-51
1656-51
1757-51
SCG730383
Aynor Dump
PD-177
07
ND0080721
1725-67
PD-352
1722-51
PD-702
0725-67
Taylor C&D LF
1596-67
1762-67
1581-67
1146-67
342729-1201
342729-1202
SCG730679
SCG730098
1713-67
PD-189
SCG730549
1553-51
1280-51
0222-51
1046-51
SCG730036
SCG730482
262667-3001
0707-67
SCG730564
SCG730562
0467-51
1176-51
1573-51
1562-51
SCG731007
08
PD-350
Marion
Horry
0 1 2 4 6 Miles
DHEC
PROMOTE PROTECT PROSPER
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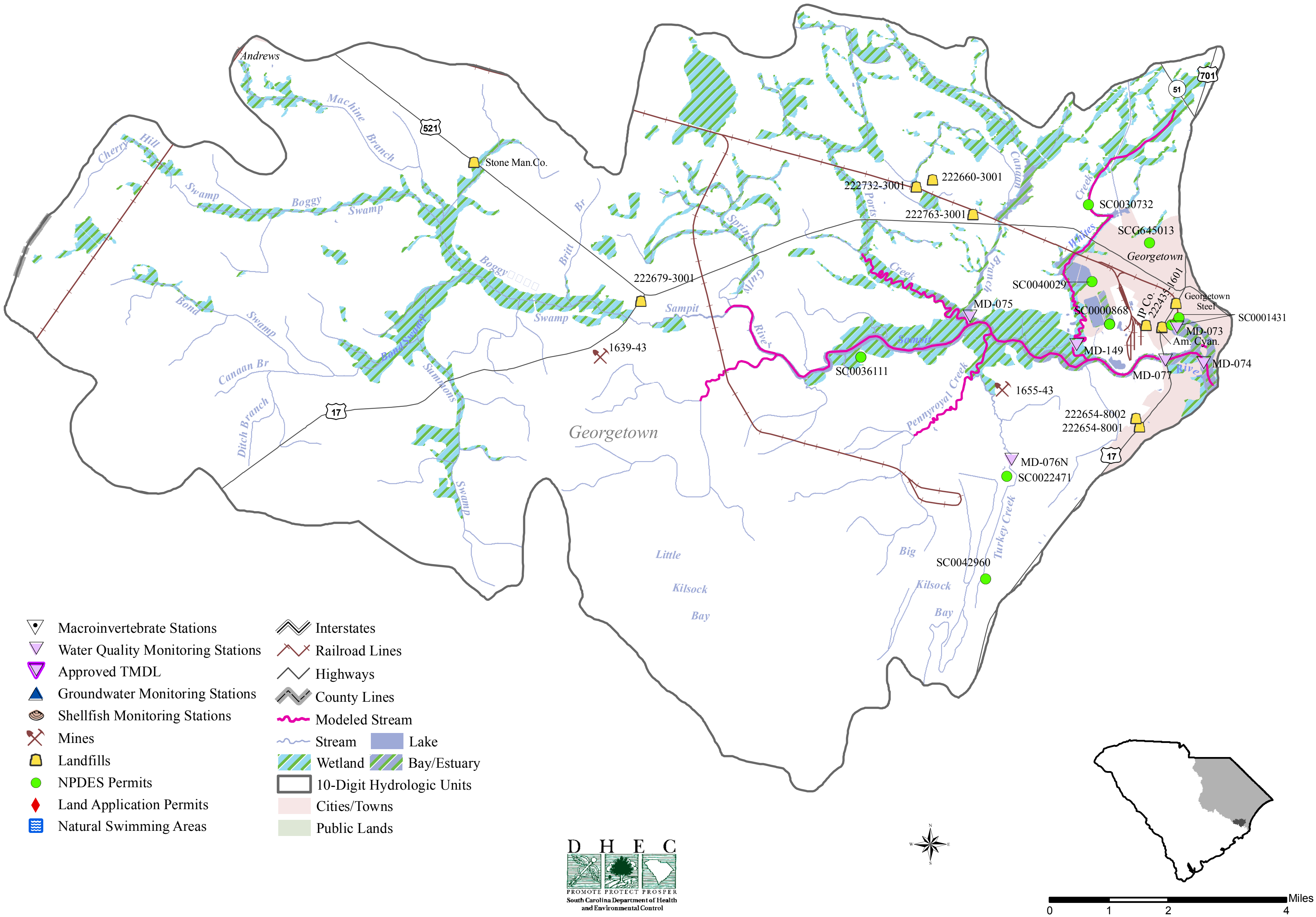
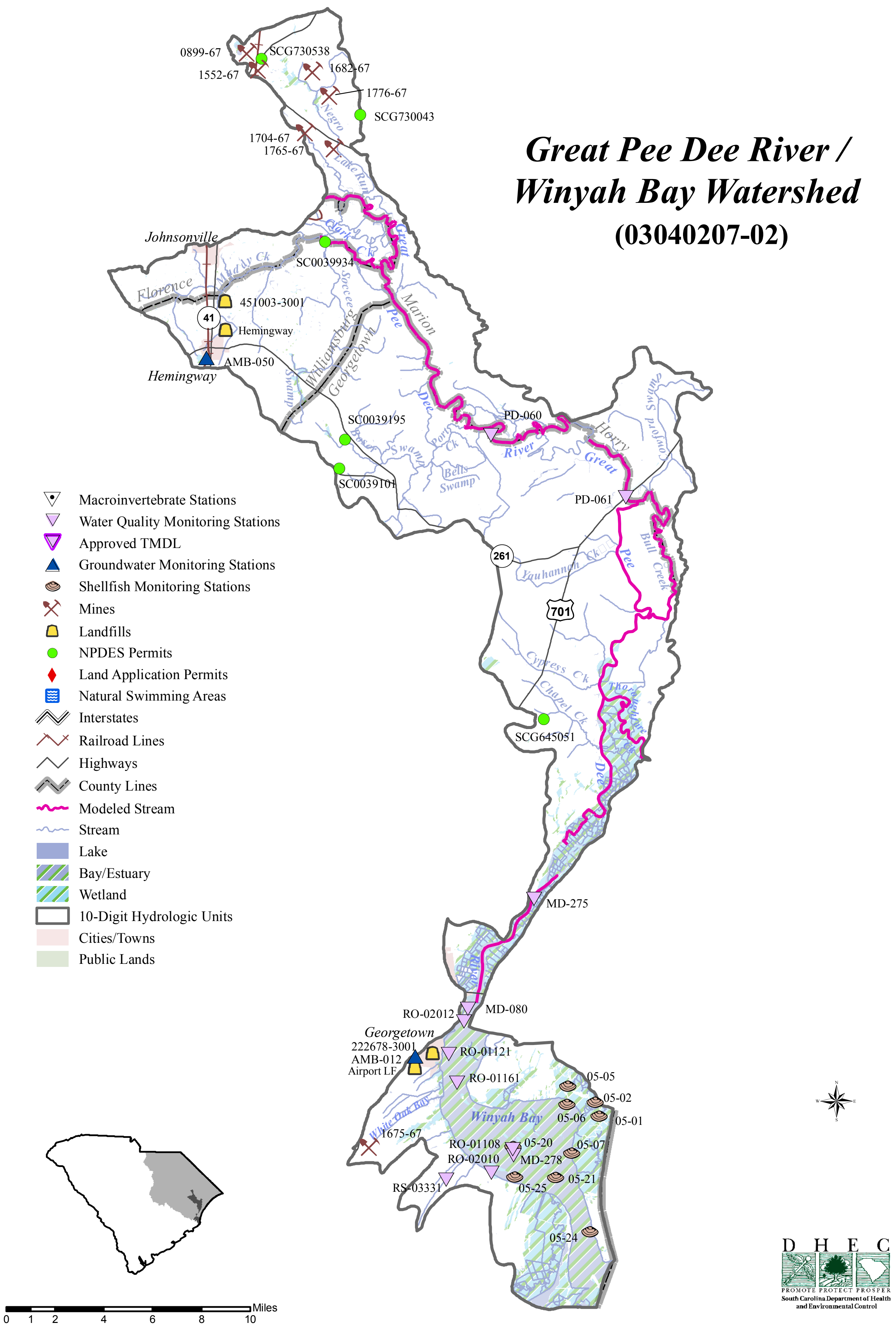
Sampit River Watershed
(03040207-01)



Great Pee Dee River / Winyah Bay Watershed
(03040207-02)



APPENDIX E.

Pee Dee Coastal Frontage Basin

Ambient Water Quality Monitoring Site Descriptions

Station #	Type	Class	Description
03040208-03			
MD-162	P/W	SA	LITTLE RIVER AT S END OF ISLAND DUE E OF TOWN
MD-125	S/INT	FW/SA	AIWW (LITTLE RIVER) ON SC 9 (US 17)
MD-091	S/W	FW	AIWW 4 MI N OF BRIDGE ON US 501
MD-276	INT	SFH	HOUSE CREEK AT 53RD AVE OUT FROM BOAT LANDING (01-19)
MD-277	INT	SFH	PARSONNAGE CREEK AT INLET PORT BASIN (04-17)
RT-01655	RT01	SFH	ALLSTON CREEK, 10 MI SSE OF SOCASTEE
MD-085	S/INT	FW	AIWW AT POINT 3 MI N OF BRIDGE ON US 501
MD-087	P/W	FW	AIWW JUST N OF BRIDGE ON US 501
03040208-04			
RT-01645	RT01	ORW	COOKS CREEK, 6 MI E OF GEORGETOWN

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

Statistical Abbreviations:

N	For *standards compliance*, number of surface samples collected between January 1999 and December 2003. For *trends*, number of surface samples collected between January 1989 and December 2003. For *total phosphorus*, an additional trend period of January 1992 to December 2003 is also reported.
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 1999 and December 2003. 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 1999 and December 2003

Key to Trends:

D	Statistically significant decreasing trend in parameter concentration
I	Statistically significant increasing trend in parameter concentration
*****	No statistically significant trend

Pee Dee Coastal Frontage Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS		DO N	DO EXC.	DO %	MEAN EXC.	TRENDS (89 -2003) DO	N	MAG	BOD	N
	0304020803												
MD-162	PD	LITTLE RVR	SA		20	2	10	3.75	*	137	-0.029	*	137
MD-125	INT	ICWW	**FW**/SA		33	1	3	1.7	*	80	0.019	D	79
MD-125	INT	ICWW	FW/**SA**		33	1	3	1.7	*	80	0.019	D	79
MD-091	PD	ICWW	FW		11	7	64	3.8	*	70	-0.025	*	65
MD-085	INT	ICWW	FW		34	8	24	3.813	I	95	0.08	*	88
MD-087	PD	ICWW	FW		22	7	32	3.614	*	120	-0.04	*	113
MD-276	INT	HOUSE CK	SFH		36	7	19	3.753	D	36	-1.468	*	33
MD-277	INT	PARSONNAGE CK	SFH		35	8	23	4.14	D	35	-1.361	*	32
RT-01655	RT01	ALLSTON CREEK	SFH		11	0	0						
	0304020804												
RT-01645	RT01	COOKS CREEK	ORW		11	2	18	3.665					

Pee Dee Coastal Frontage Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	MAG
	0304020803			
MD-162	PD	LITTLE RVR	SA	0
MD-125	INT	ICWW	**FW**/SA	-0.085
MD-125	INT	ICWW	FW/**SA**	-0.085
MD-091	PD	ICWW	FW	-0.01
MD-085	INT	ICWW	FW	-0.014
MD-087	PD	ICWW	FW	0
MD-276	INT	HOUSE CK	SFH	0
MD-277	INT	PARSONNAGE CK	SFH	0
RT-01655	RT01	ALLSTON CREEK	SFH	
	0304020804			
RT-01645	RT01	COOKS CREEK	ORW	

Pee Dee Coastal Frontage Basin

STATION					pH	pH	pH	MEAN	TRENDS (89-2003)				TURB
NUMBER	TYPE	WATERBODY NAME	CLASS		N	EXC.	%	EXC.	PH	N	MAG		N
	0304020803												
MD-162	PD	LITTLE RVR	SA		20	4	20	6.11	I	139	0.026		20
MD-125	INT	ICWW	**FW**/SA		32	2	6	7.185	I	80	0.038		33
MD-125	INT	ICWW	FW/**SA**		32	2	6	7.185	I	80	0.038		33
MD-091	PD	ICWW	FW		12	4	33	5.673	*	74	0		10
MD-085	INT	ICWW	FW		35	1	3	5.83	I	97	0.033		32
MD-087	PD	ICWW	FW		23	9	39	5.743	*	122	0		21
MD-276	INT	HOUSE CK	SFH		36	0	0		D	36	-0.146		36
MD-277	INT	PARSONNAGE CK	SFH		35	0	0		*	35	0.02		34
RT-01655	RT01	ALLSTON CREEK	SFH		12	0	0						12
	0304020804												
RT-01645	RT01	COOKS CREEK	ORW		10	0	0						11

Pee Dee Coastal Frontage Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	TURB EXC.	TURB %	MEAN EXC.	TRENDS (89-2003) TURB	N	MAG		TP N	TP EXC.
	0304020803											
MD-162	PD	LITTLE RVR	SA	5	25	31.2	*	138	0.027			
MD-125	INT	ICWW	**FW**/SA	0	0		*	80	-0.016			
MD-125	INT	ICWW	FW/**SA**	5	15	28.2	*	80	-0.016			
MD-091	PD	ICWW	FW	0	0		I	67	0.336			
MD-085	INT	ICWW	FW	0	0		I	90	0.414			
MD-087	PD	ICWW	FW	0	0		I	115	0.251			
MD-276	INT	HOUSE CK	SFH	1	3	72	*	36	-0.576			
MD-277	INT	PARSONNAGE CK	SFH	2	6	27	*	34	-0.325			
RT-01655	RT01	ALLSTON CREEK	SFH	2	17	75						
	0304020804											
RT-01645	RT01	COOKS CREEK	ORW	1	9	28						

Pee Dee Coastal Frontage Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	TP %	MEAN EXC.	TRENDS (92-2003) TP	N	MAG		TRENDS (89-2003) TP	N	MAG
	0304020803											
MD-162	PD	LITTLE RVR	SA			*	75	0		D	109	-0.003
MD-125	INT	ICWW	**FW**/SA			*	37	-0.001		D	55	-0.002
MD-125	INT	ICWW	FW/**SA**			*	37	-0.001		D	55	-0.002
MD-091	PD	ICWW	FW			*	41	-0.003		*	58	0
MD-085	INT	ICWW	FW			*	53	0		*	70	0
MD-087	PD	ICWW	FW			*	73	0		*	89	0
MD-276	INT	HOUSE CK	SFH									
MD-277	INT	PARSONNAGE CK	SFH									
RT-01655	RT01	ALLSTON CREEK	SFH									
	0304020804											
RT-01645	RT01	COOKS CREEK	ORW									

Pee Dee Coastal Frontage Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS		TN N	TN EXC.	TN %	MEAN EXC.	TRENDS (89-2003) TN	N	MAG		CHL N
	0304020803												
MD-162	PD	LITTLE RVR	SA						*	129	-0.008		
MD-125	INT	ICWW	**FW**/SA										
MD-125	INT	ICWW	FW/**SA**										
MD-091	PD	ICWW	FW										
MD-085	INT	ICWW	FW										
MD-087	PD	ICWW	FW						D	95	-0.012		
MD-276	INT	HOUSE CK	SFH										
MD-277	INT	PARSONNAGE CK	SFH										
RT-01655	RT01	ALLSTON CREEK	SFH										
	0304020804												
RT-01645	RT01	COOKS CREEK	ORW										

Pee Dee Coastal Frontage Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	CHL EXC.	CHL %	MEAN EXC.		TRENDS (89-2003) TSS	N	MAG
	0304020803									
MD-162	PD	LITTLE RVR	SA							
MD-125	INT	ICWW	**FW**/SA							
MD-125	INT	ICWW	FW/**SA**							
MD-091	PD	ICWW	FW							
MD-085	INT	ICWW	FW							
MD-087	PD	ICWW	FW							
MD-276	INT	HOUSE CK	SFH							
MD-277	INT	PARSONNAGE CK	SFH							
RT-01655	RT01	ALLSTON CREEK	SFH							
	0304020804									
RT-01645	RT01	COOKS CREEK	ORW							

Pee Dee Coastal Frontage Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS		GEO MEAN	BACT N	BACT EXC.	BACT %	MEAN EXC.	TRENDS (BACT	N
	0304020803										
MD-162	PD	LITTLE RVR	SA		63.1633	20	1	5	450	D	138
MD-125	INT	ICWW	**FW**/SA		74.4584	33	1	3	580	D	81
MD-125	INT	ICWW	FW/**SA**		74.4584	33	1	3	580	D	81
MD-091	PD	ICWW	FW		70.6126	7	0	0		D	63
MD-085	INT	ICWW	FW		72.8068	30	0	0		D	87
MD-087	PD	ICWW	FW		76.6839	19	0	0		D	113
MD-276	INT	HOUSE CK	SFH		5.1977	36	0	0		*	36
MD-277	INT	PARSONNAGE CK	SFH		8.5912	34	1	3	740	*	34
RT-01655	RT01	ALLSTON CREEK	SFH		7.8553	12	0	0			
	0304020804										
RT-01645	RT01	COOKS CREEK	ORW		3.1956	11	0	0			

Pee Dee Coastal Frontage Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	89-2003) MAG		NH3 N	NH3 EXC.	NH3 %	MEAN EXC.
	0304020803								
MD-162	PD	LITTLE RVR	SA	-21.91		22	0	0	
MD-125	INT	ICWW	**FW**/SA	-11.316		17	0	0	
MD-125	INT	ICWW	FW/**SA**	-11.316		17	0	0	
MD-091	PD	ICWW	FW	-144.636					
MD-085	INT	ICWW	FW	-100.572		18	0	0	
MD-087	PD	ICWW	FW	-173.954		22	0	0	
MD-276	INT	HOUSE CK	SFH	0.737		21	0	0	
MD-277	INT	PARSONNAGE CK	SFH	4.514		17	0	0	
RT-01655	RT01	ALLSTON CREEK	SFH			4	0	0	
	0304020804								
RT-01645	RT01	COOKS CREEK	ORW			6	0	0	

Pee Dee Coastal Frontage Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS		CD N	CD EXC.	CD %	MEAN EXC.		CR N	CR EXC.	CR %		CU N	CU EXC.
	0304020803														
MD-162	PD	LITTLE RVR	SA		8	0	0			8	0	0		8	0
MD-125	INT	ICWW	**FW**/SA		8	0	0			8	0	0		8	2
MD-125	INT	ICWW	FW/**SA**		8	0	0			8	0	0		8	2
MD-091	PD	ICWW	FW												
MD-085	INT	ICWW	FW		8	0	0			8	0	0		8	1
MD-087	PD	ICWW	FW		7	0	0			7	0	0		7	0
MD-276	INT	HOUSE CK	SFH		12	0	0			12	0	0		12	2
MD-277	INT	PARSONNAGE CK	SFH		12	0	0			12	0	0		12	0
RT-01655	RT01	ALLSTON CREEK	SFH		4	0	0			4	0	0		4	1
	0304020804														
RT-01645	RT01	COOKS CREEK	ORW		4	0	0			3	0	0		4	0

Pee Dee Coastal Frontage Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	CU %	MEAN EXC.		PB N	PB EXC.	PB %	MEAN EXC.
	0304020803									
MD-162	PD	LITTLE RVR	SA	0			8	0	0	
MD-125	INT	ICWW	**FW**/SA	25	21.5		8	0	0	
MD-125	INT	ICWW	FW/**SA**	25	21.5		8	0	0	
MD-091	PD	ICWW	FW							
MD-085	INT	ICWW	FW	13	12		8	0	0	
MD-087	PD	ICWW	FW	0			7	0	0	
MD-276	INT	HOUSE CK	SFH	17	11.5		12	0	0	
MD-277	INT	PARSONNAGE CK	SFH	0			12	0	0	
RT-01655	RT01	ALLSTON CREEK	SFH	25	16		4	0	0	
	0304020804									
RT-01645	RT01	COOKS CREEK	ORW	0			4	0	0	

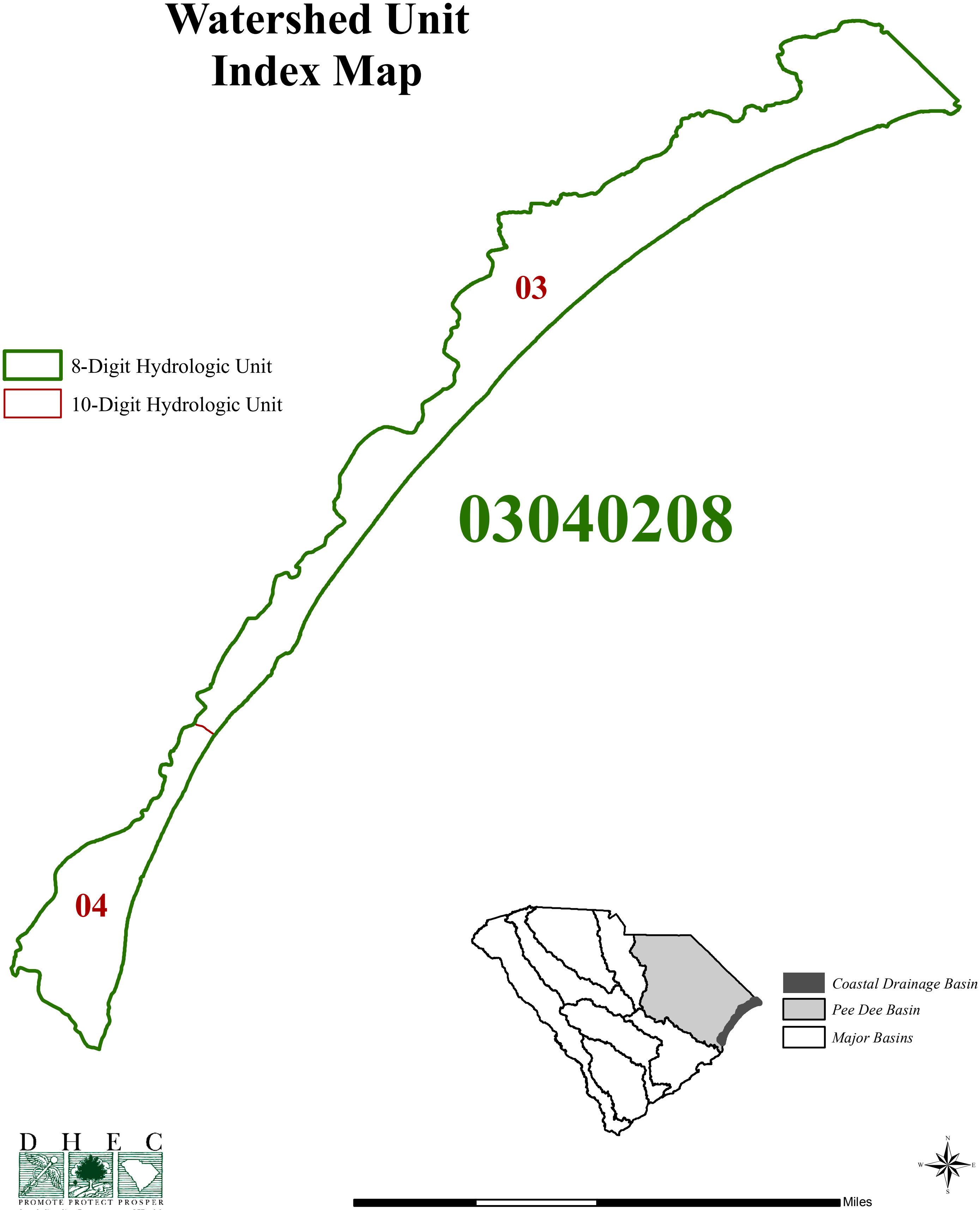
Pee Dee Coastal Frontage Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS		HG N	HG EXC.	HG %	MEAN EXC.		NI N	NI EXC.	NI %		ZN N	ZN EXC.	ZN %
	0304020803															
MD-162	PD	LITTLE RVR	SA		8	0	0			8	0	0		8	0	0
MD-125	INT	ICWW	**FW**/SA		8	0	0			8	0	0		8	0	0
MD-125	INT	ICWW	FW/**SA**		8	0	0			8	0	0		8	0	0
MD-091	PD	ICWW	FW													
MD-085	INT	ICWW	FW		8	0	0			8	0	0		8	0	0
MD-087	PD	ICWW	FW		7	0	0			7	0	0		7	0	0
MD-276	INT	HOUSE CK	SFH		12	0	0			12	0	0		12	1	8
MD-277	INT	PARSONNAGE CK	SFH		12	0	0			12	0	0		12	0	0
RT-01655	RT01	ALLSTON CREEK	SFH		4	0	0			4	0	0		4	0	0
	0304020804															
RT-01645	RT01	COOKS CREEK	ORW		4	0	0			4	0	0		4	0	0

Pee Dee Coastal Frontage Basin

STATION NUMBER	TYPE	WATERBODY NAME	CLASS	MEAN EXC.
	0304020803			
MD-162	PD	LITTLE RVR	SA	
MD-125	INT	ICWW	**FW**/SA	
MD-125	INT	ICWW	FW/**SA**	
MD-091	PD	ICWW	FW	
MD-085	INT	ICWW	FW	
MD-087	PD	ICWW	FW	
MD-276	INT	HOUSE CK	SFH	440
MD-277	INT	PARSONNAGE CK	SFH	
RT-01655	RT01	ALLSTON CREEK	SFH	
	0304020804			
RT-01645	RT01	COOKS CREEK	ORW	

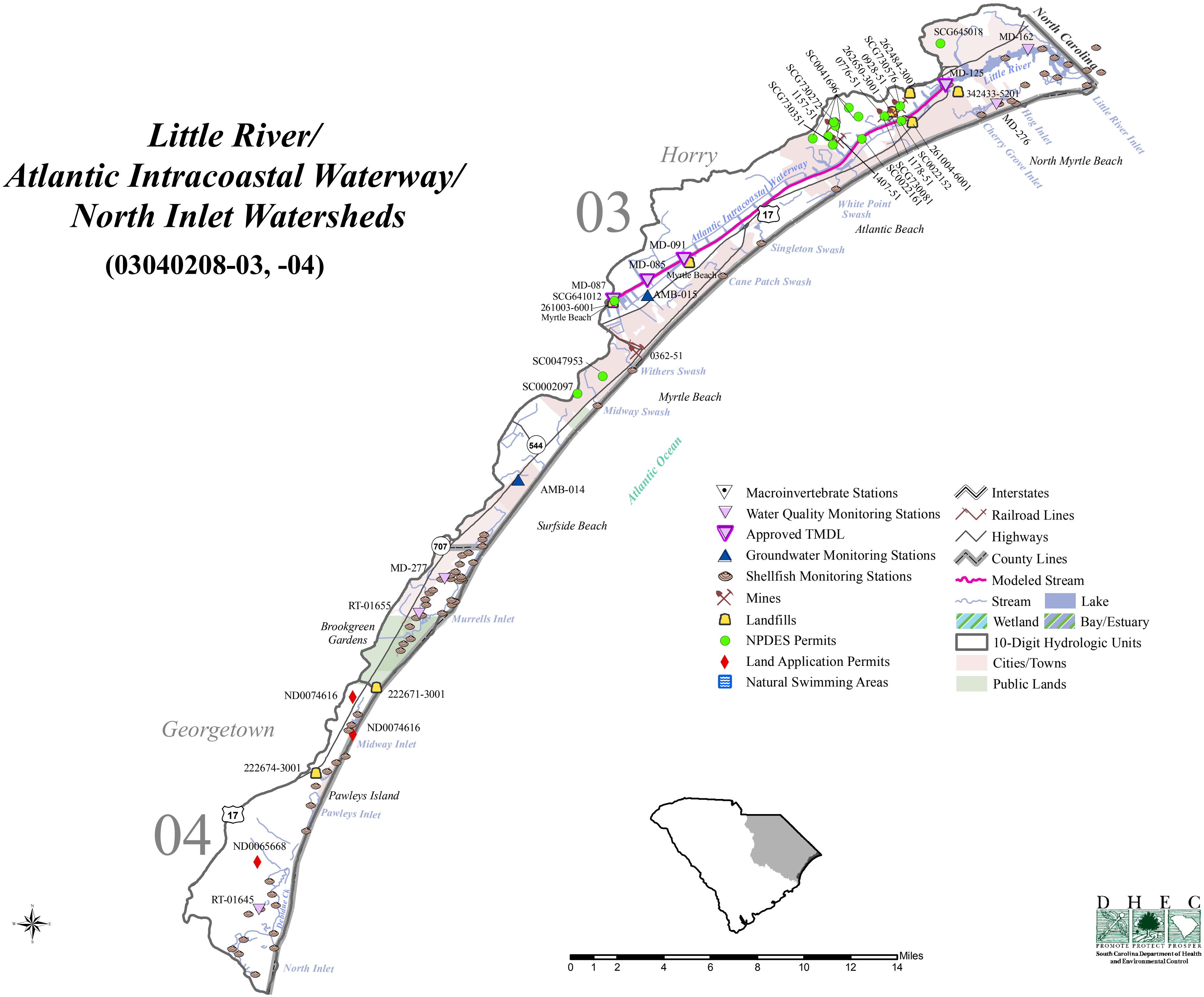
Pee Dee Coastal Frontage Basin Watershed Unit Index Map



D H E C
PROMOTE PROTECT PROSPER
South Carolina Department of Health and Environmental Control

Little River/ Atlantic Intracoastal Waterway/ North Inlet Watersheds

(03040208-03, -04)



Waterbody Index

Facility Index

Facility Permit Index

NPDES

General Permits

<u>**General Permits (continued)**</u>

Landfills (continued)

Landfills (continued)