03040201-07

(Black Creek)

General Description

Watershed 03040201-07 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 187,077 acres of the Sandhills and Upper Coastal Plain regions of South Carolina. Land use/land cover in the watershed includes: 41.3% agricultural land, 22.1% forested wetland, 21.9% forested land, 13.0% urban land, 1.2% nonforested wetland, 0.5% water, 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. Black Creek is 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 this reach of Black Creek along with the remaining streams in the watershed are classified FW.

Surface Water Quality

Station #	Type	Class	Description
PD-159	W	FW*	BLACK CREEK AT S-16-23 4.7 MI NW OF HARTSVILLE
PD-268	W	FW*	SONOVISTA CLUB HARTSVILLE OFF DOCK OFF PRESTWOOD LAKE
PD-081	W	FW*	PRESTWOOD LAKE AT US 15
PD-258	W	FW	SNAKE BRANCH AT RAILROAD AVENUE IN HARTSVILLE
PD-137	W	FW	SNAKE BRANCH AT WOODMILL STREET IN HARTSVILLE
PD-021	W	FW*	BLACK CREEK AT S-16-18 1 MI NNE OF HARTSVILLE
PD-330	W	FW*	BLACK CREEK AT HIGHWAY 15 BYPASS
PD-023	W	FW*	BLACK CREEK AT S-16-13 5.5 MI NE OF HARTSVILLE
PD-542	BIO	FW	BOGGY SWAMP AT COUNTY ROAD 50
PD-024A	SPRP	FW*	BLACK CREEK AT US 401 & 52, 6 MI NW OF DARLINGTON
PD-025	W	FW	BLACK CREEK AT S-16-133 2.25 MI NE OF DARLINGTON
PD-141	W	FW	TILE DISCHARGING TO DITCH AROSS RD AT DARLINGTON WWTP TO SWIFT CK
PD-027/RS-07045	W	FW	BLACK CREEK AT S-16-35, 5.5 MI SE OF DARLINGTON
PD-103	W	FW	HIGH HILL CREEK AT US 52 ON COUNTY LINE
RS-06027	RS06	FW	ASHBY BRANCH AT CULVERT ON S-21-1511
PD-078	INT/BIO	FW	BLACK CREEK AT SC 327

Black Creek – There are eight 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. At the next site downstream ***(PD-021)***, aquatic life and recreational uses are fully supported; however, there is a significant increasing trend in five-day

biological oxygen demand. A significant decreasing trend in turbidity suggests improving conditions for this parameter. At the next site moving downstream (***PD-330)***, aquatic life and recreational uses are fully supported. Aquatic life and recreational uses are also fully supported further downstream at ***PD-023***; however there is a significant increasing trend in fecal coliform bacteria.

Aquatic life and recreational uses are fully supported at ***PD-024A***; however, there is a significant decreasing trend in dissolved oxygen concentration. Further downstream ***(PD-025)***, aquatic life and recreational uses are fully supported. At the next site downstream ***(PD-027)***, aquatic life and recreational uses are fully supported; however, there are significant increasing trends in five-day biological oxygen demand and total suspended solids. At the furthest downstream site ***(PD-078)***, aquatic life uses are fully supported based on macroinvertebrate community data; however, there are significant decreasing trends in dissolved oxygen concentration and increasing trends in turbidity. There is a significant decreasing trend in pH. Although 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; however, there is a significant increasing trend in fecal coliform bacteria.

Lake Prestwood **-** There are two SCDHEC monitoring sites along Lake Prestwood. Aquatic life and recreational uses are fully supported at both the uplake ***(PD-268)*** and downlake ***(PD-081)*** sites.

Snake Branch **-** There are two SCDHEC monitoring sites along Snake Branch. 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-258)***, aquatic life uses are fully supported. Recreational uses are not supported due to fecal coliform bacteria excursions. In addition, there is a significant increasing trend in fecal coliform bacteria. At the downstream site ***(PD-137)***, aquatic life uses are fully supported. Recreational uses are not supported due to fecal coliform bacteria excursions.

Boggy Swamp (PD-542) **–**Aquatic life uses are fully supported based on macroinvertebrate community data.

Tilefield to Ditch to Swift Creek (PD-141) **-** Aquatic life uses are not supported due to ammonia excursions. Significant increasing trends in dissolved oxygen concentration and decreasing trends in turbidity suggest improving conditions for these parameters. 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 dissolved oxygen conditions. Although dissolved oxygen excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations.

Ashby Branch (RS-06027) **-** Aquatic life uses are not supported due to dissolved oxygen and pH excursions. Recreational uses are not supported due to fecal coliform bacteria excursions.

*A fish consumption advisory has been issued by the Department for mercury and includes **Black Creek** and **Lake Prestwood** within this watershed (see advisory p.144).*

NPDES Program

Active NPDES Facilities

RECEIVING STREAM ***FACILITY NAME***	***NPDES#*** ***TYPE***
BLACK CREEK SONOCO PRODUCTS/HARTSVILLE	SC0003042 MAJOR INDUSTRIAL
BLACK CREEK CITY OF HARTSVILLE	SC0021580 MAJOR DOMESTIC
BLACK CREEK CITY OF DARLINGTON/BLACK CREEK WWTP	SC0039624 MAJOR DOMESTIC
BLACK CREEK LR STOKES/DOVESVILLE	SCG730200 MINOR INDUSTRIAL
BLACK CREEK GOODSON CONSTRUCTION/BARFIELD MINE	SCG731276 MINOR INDUSTRIAL
BLACK CREEK PEE DEE RIVER REG. WATER PLANT	SCG645035 MINOR MUNICIPAL
BLACK CREEK TRIBUTARY DARLINGTON DEVELOPMENT LLC/PALMETTO PLANT	SC0004162 MAJOR INDUSTRIAL
BLACK CREEK TRIBUTARY POND/FLORENCE #84 MINE	SCG731077 MINOR INDUSTRIAL
BLACK CREEK TRIBUTARY L. DEAN WEAVER/DOVESVILLE MINE	SCG730574 MINOR INDUSTRIAL
LAKE ROBINSON/BLACK CREEK PROGRESS ENERGY/HB ROBINSON	SC0002925 MAJOR INDUSTRIAL
HIGH HILL CREEK WEAVER CO., INC./MARLOWE PIT MINE	SCG731054 MINOR INDUSTRIAL
HORSE CREEK BRITTS CONSTRUCTION/HWY 52 PIT	SCG730557 MINOR INDUSTRIAL
LUCAS CREEK NUCOR STEEL CORPORATION	SC0048283 MINOR INDUSTRIAL
LUCAS CREEK NUCOR STEEL BORROW PIT	SCG730717 MINOR INDUSTRIAL
BEAVERDAM CREEK NEWSOM HAULING/NEWSOM 1 MINE	SCG731090 MINOR INDUSTRIAL
BEAVERDAM CREEK TRIBUTARY FLYING K FARMS MINE	SCG730987 MINOR INDUSTRIAL
LITTLE BOGGY SWAMP MARY JOHNSON/HUMMINGBIRD MINE	SCG731026 MINOR INDUSTRIAL

SWIFT CREEK DARLINGTON VENEER CO., INC.	SCG250223 MINOR INDUSTRIAL
SWIFT CREEK DCW&S CENTER ROAD PLANT	SCG645035 MINOR MUNICIPAL
MCCALL BRANCH FLORENCE/LUCAS ST WTP	SCG645024 MINOR MUNICIPAL
STAR FORK BRANCH TRIBUTARY DARLINGTON/52 BYPASS WATER PLANT	SCG646034 MINOR MUNICIPAL
SWIFT CREEK DARLINGTON/NORTH MAIN ST WTP	SCG646013 MINOR MUNICIPAL

Municipal Separate Storm Sewer Systems (MS4)

RECEIVING STREAM ***MUNICIPALITY*** ***RESPONSIBLE PARTY*** ***IMPLEMENTING PARTY***	***NPDES#*** ***MS4 PHASE*** ***MS4 SIZE***
BLACK CREEK UNINCORPORATED AREAS DARLINGTON COUNTY DARLINGTON COUNTY	SCR033101 PHASE II SMALL MS4
BLACK CREEK CITY OF FLORENCE CITY OF FLORENCE CITY OF FLORENCE	SCR034101 PHASE II SMALL MS4
BLACK CREEK CITY OF QUIMBY CITY OF QUIMBY FLORENCE COUNTY	SCR034103 PHASE II SMALL MS4
BLACK CREEK UNINCORPORATED AREAS FLORENCE COUNTY FLORENCE COUNTY	SCR034102 PHASE II SMALL MS4

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 ----------
DARLINGTON DEV. / 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	ND0067636 DOMESTIC

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
L.H. STOKES & SON, INC. DOVESVILLE	0924-31 SAND
INDUSTRIAL PAVING, INC. BRUNSEN MINE	0349-31 SAND/CLAY
FLYING K FARMS FLYING K FARMS MINE	1788-25 SAND
KIRYEN CONSTRUCTION INC. GODLEY FARM MINE	1995-31 SAND; TOP SOIL
NEWSOM HAULING NEWSOM MINE #1	1925-31 SAND; TOP SOIL
MARY JOHNSON HUMMINGBIRD MINE	1853-31 SAND; TOP SOIL
BROCKS HAULING & CONSTRUCTION RANCHO ROAD PIT	1606-31 SAND/CLAY
POND LIMITED PARTNERSHIP ASPHALT PLANT #8	0084-25 SAND

LH STOKES & SON INC. MCLELLAN MINE	1881-41 SOIL; SAND/CLAY
HWY 52 PIT LLC BRITTS MINE	1347-31 SAND; SAND/CLAY
PALMETTO CORP. OF CONWAY HWY 52 MINE	2048-31 SAND; TOP SOIL
BRADY HILL BRADY'S PIT	2055-31 SAND; TOP SOIL

Groundwater Quantity

Portions of this watershed fall within the Pee Dee Capacity Use Area and large groundwater uses must be reported (see Capacity Use Program p.22).

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 plans to continue the widening from Darlington to Dovesville by November of 2015. 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. All three domestic systems have aggressive growth plans, especially the City of Florence which has constructed a new treatment facility and outfall to the Great Pee Dee River. The City of Florence completed development of a regional surface water treatment facility along the Pee Dee River in 2006 to address severe groundwater supply problems being experienced by many Pee Dee municipalities.

Watershed Restoration and Protection

Total Maximum Daily Loads (TMDLs)

Fecal coliform TMDLs were developed by SCDHEC and approved by the USEPA for the Black Creek watershed at seven water quality monitoring sites along Black Creek and its tributaries. This watershed has several continuous point sources and includes several Municipal Separate Storm Sewer System (MS4) designated areas. There are also many animal feeding operations in the watershed. Probable sources of fecal contamination identified in the TMDL report include agricultural runoff, failing septic systems, and wildlife. The TMDL report specifies a 0% reduction in the load of fecal coliform bacteria into Black Creek at PD-078, an 81% reduction into Snake Branch at PD-137 and 84% into PD-258, an 83% reduction into an unnamed tributary to Swift Creek (PD-141), a 42% reduction into Swift Creek (RS-01023), a 72% reduction into Boggy Swamp (RS-03507), and an 83% reduction of fecal coliform into Ashby Branch (RS-06027) in order for the waterbodies to meet the recreational use standard.

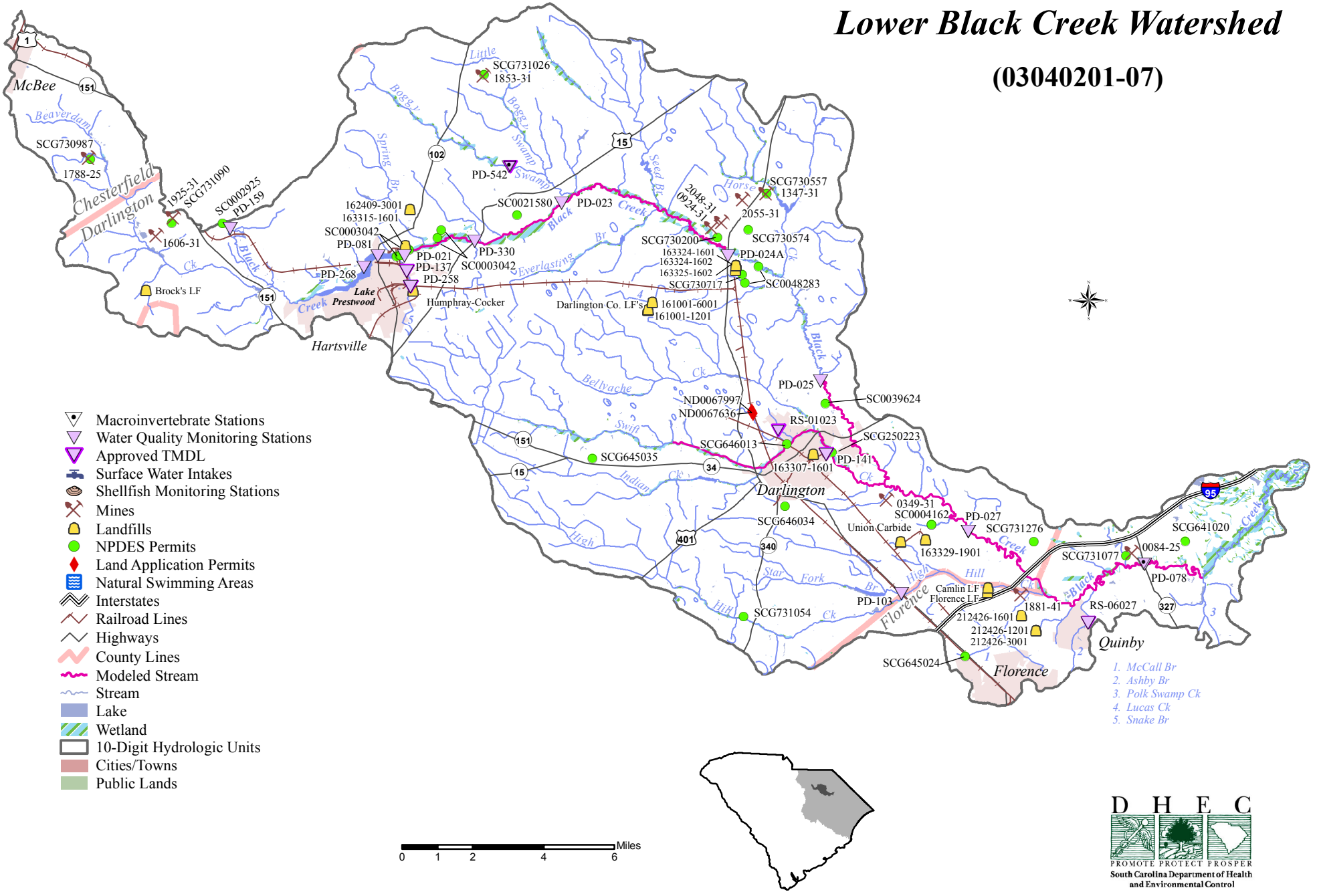
Special Projects

Hartsville Demonstration Project

In 2007, the City of Hartsville was awarded a 319 grant to construct a bio retention area on a vacant lot in the downtown business district. The installment of this low impact development technique met the visual goals of the City, utilized native plants and reduced runoff concerns in the area by utilizing infiltration of improve water quality. The water quality goal of the project was the reduction of total suspended solids (TSS) and oil and grease loading on Snake Branch. An educational kiosk is displayed to provide information about nonpoint source pollution and the bio retention area.

Lower Black Creek Watershed

(03040201-07)



- Macroinvertebrate Stations
- Water Quality Monitoring Stations
- Approved TMDL
- Surface Water Intakes
- 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

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control