

## 03050203-01

(North Fork Edisto River - Headwaters)

### General Description

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

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

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

### Surface Water Quality

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

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

fecal coliform bacteria excursions. Aquatic life uses are partially supported at the downstream site (*E-606*) based on macroinvertebrate community data.

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

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

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

## Groundwater Quality

| <u>Well #</u> | <u>Class</u> | <u>Aquifer</u>   | <u>Location</u> |
|---------------|--------------|------------------|-----------------|
| AMB-026       | GB           | MIDDENDORF       | WAGENER         |
| AMB-063       | GB           | PIEDMONT BEDROCK | GILBERT         |

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

## NPDES Permitted Activities

### *Active NPDES Facilities*

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

## Nonpoint Source Permitted Activities

### *Land Disposal Activities*

#### **Landfill Facilities**

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

#### **Land Application Sites**

| <i>LAND APPLICATION SYSTEM<br/>FACILITY NAME</i> | <i>ND#<br/>TYPE</i>   |
|--|-----------------------|
| SPRAY IRRIGATION<br>GILBERT ELEMENTARY SCHOOL    | ND0013587<br>DOMESTIC |

### *Mining Activities*

| <i>MINING COMPANY<br/>MINE NAME</i>   | <i>PERMIT #<br/>MINERAL</i> |
|---------------------------------------|-----------------------------|
| B&T SAND COMPANY, INC.<br>SUMMIT MINE | 1215-63<br>SAND; SAND/CLAY  |

|   |                            |
|---|----------------------------|
| WILSON BROTHERS SAND CO., INC.<br>FRICK MINE        | 0718-63<br>SAND            |
| WILSON BROTHERS SAND CO., INC.<br>AIKEN MINE        | 1006-03<br>SAND            |
| B & T SAND COMPANY, INC.<br>OLD CHARLESTON HWY/I-20 | 1311-63<br>SAND, SAND/CLAY |
| BOWERS LEASING COMPANY<br>HUGHES MINE               | 0637-63<br>SAND            |

## Water Quantity

| <i>WATER USER</i>            | <i>REG. CAPACITY (MGD)</i>  |
|------------------------------|-----------------------------|
| <i>WATERBODY</i>             | <i>PUMP. CAPACITY (MGD)</i> |
| TOWN OF BATESBURG-LEESVILLE  | 4.32                        |
| LIGHTWOOD KNOT CREEK         | 2.16                        |
| TOWN OF BATESBURG -LEESVILLE | 4.8                         |
| DUNCAN CREEK                 | 2.4                         |

## Growth Potential

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

## Watershed Protection and Restoration Strategies

### *Total Maximum Daily Loads (TMDLs)*

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

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

- ▽ Macroinvertebrate Stations
- ▽ Water Quality Monitoring Stations
- ▽ Approved TMDL
- ▲ Groundwater Monitoring Stations
- ▼ Special Study Stations
- ⚡ Mines
- 🗑️ Landfills
- NPDES Permits
- ◆ Land Application Permits
- 🏊 Natural Swimming Areas
- ⚡ Interstates
- 🚂 Railroad Lines
- 🛣️ Highways
- 🗺️ County Lines
- 🌊 Modeled Stream
- 🌊 Stream
- 🌊 Lake
- 🌿 Wetland
- 📏 10-Digit Hydrologic Units
- 🏘️ Cities/Towns
- 🌳 Public Lands

