

03050204-01

(*South Fork Edisto River - Headwaters*)

General Description

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

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

Surface Water Quality

<u>Station #</u>	<u>Type</u>	<u>Class</u>	<u>Description</u>
E-001	W	FW	FIRST BRANCH AT S-19-41, BESIDE WATER PLANT AT JOHNSTON
E-002	W	FW	SOUTH FORK EDISTO RIVER AT S-19-57, BELOW JOHNSTON WWTP
E-090	W/BIO	FW	SOUTH FORK EDISTO RIVER AT US 1, 12 MI NE OF AIKEN
RS-03518	RS03/BIO	FW	FIRST MCTIER CREEK TRIB ON ALBERTA PEACH RD OFF S-02-25
E-578	BIO	FW	MCTIER CREEK AT S-02-209
E-113	INT	FW	SOUTH FORK EDISTO RIVER AT S-02-152
E-021	W	FW	SOUTH FORK EDISTO RIVER AT SC 302
RS-03344	RS03/BIO	FW	HILLYER BR AT UNNAMED RD OFF S-19-75, 3.5 MI NE OF TRENTON
RS-02480	RS02/BIO	FW	SHAW CREEK AT SC191
E-579	BIO	FW	SHAW CREEK AT S-02-153
E-094	W	FW	SHAW CREEK AT S-02-26, 4.2 MILES NE OF AIKEN
E-106	INT	FW	SHAW CREEK AT S-02-576

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

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

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

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

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

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

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

Shaw Creek – There are four SCDHEC monitoring stations along Shaw Creek. This is a blackwater system, characterized by naturally low pH conditions. Although pH excursions occurred at the furthest upstream and downstream sites, they were typical of values seen in

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

Groundwater Quality

<u>Well #</u>	<u>Class</u>	<u>Aquifer</u>	<u>Location</u>
AMB-028	GB	MIDDENDORF	MONTMORENCI COUCHTON

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

Natural Swimming Areas

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

NPDES Permitted Activities

Active NPDES Facilities

<i>RECEIVING STREAM</i>	<i>FACILITY NAME</i>	<i>NPDES#</i>	<i>TYPE</i>
SOUTH FORK EDISTO RIVER	ECW&SA/JOHNSTON #1 PLT	SC0025691	MINOR DOMESTIC
BEAVERDAM BRANCH	KENTUCKY-TENNESSEE CLAY CO./GENTRY PIT	SC0046388	MINOR INDUSTRIAL
SHAW CREEK	KENTUCKY-TENNESSEE CLAY CO.	SCG730046	MINOR INDUSTRIAL
PACES BRANCH	ECW&SA/TRENTON WWTP	SC0025682	MINOR DOMESTIC

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

Municipal Separate Storm Sewer Systems (MS4)

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

Nonpoint Source Permitted Activities

Land Disposal Activities

Landfill Facilities

<i>LANDFILL NAME</i>	<i>PERMIT #</i>
<i>FACILITY TYPE</i>	<i>STATUS</i>
CITY OF AIKEN LANDFILL MUNICIPAL	----- CLOSED
CITY OF AIKEN COMPOSTING FACILITY COMPOSTING	021002-3001 ACTIVE
AIKEN COUNTY DUMP MUNICIPAL	----- CLOSED
OWENS CORNING FIBERGLASS CORP. INDUSTRIAL	022431-1601 ACTIVE
OWENS CORNING FIBERGLASS CORP. INDUSTRIAL	----- INACTIVE
WR GRACE & CO. INDUSTRIAL	----- INACTIVE

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

Land Application Sites

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

Mining Activities

<i>MINING COMPANY MINE NAME</i>	<i>PERMIT # MINERAL</i>
JAMES HENRY BLEDSOE CONSTRUCTION CO. MONETTA CLAYPIT	0956-03 SAND; SAND/CLAY
HOLMES TIMBER, INC. ABNEY MINE	0954-03 SAND; SAND/CLAY
GL WILLIAMS & SON TRUCKING PIT 49	0978-03 SAND
JM HUBER CORP. CORDER MINE	0406-03 KAOLIN
SOUTHEASTERN CLAY COMPANY SHADE MINE	0071-03 KAOLIN
WR GRACE & CO. SCOTT MINE	0072-03 KAOLIN
KENTUCKY-TENNESSEE CLAY CO. GENTRY MINE	0594-03 KAOLIN

JM HUBER CORP. BRODIE MINE	0038-03 KAOLIN
JM HUBER CORP. LAUGHLIN WEST MINE	1136-03 KAOLIN
EC CULBREATH & SON, INC. CULBREATH ASPHALT PLANT	0152-03 SAND
GL WILLIAMS & SON TRUCKING, INC. APAC MINE	1142-03 SAND; SAND/CLAY
HILLS CONSTRUCTION LLC SHILOH HEIGHTS MINE	1366-03 SAND; SAND/CLAY
TED M. PARKER PARKER PIT	1565-03 SAND; TOPSOIL

Water Quantity

<i>WATER USER</i> <i>WATERBODY</i>	<i>REG. CAPACITY (MGD)</i> <i>PUMP. CAPACITY (MGD)</i>
CITY OF AIKEN	12.8
SHAW CREEK	6.0

Growth Potential

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

Watershed Protection and Restoration Strategies

Total Maximum Daily Loads (TMDLs)

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

runoff, and wildlife. The TMDL states that a reduction of 28% in fecal coliform loading is necessary for this stream to meet the recreational use standard.

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

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

