

03060109-03
(Savannah River)

General Description

The South Carolina portion of watershed 03060109-03 (formerly 03060109-060 and 03050208-140) is located in Hampton and Jasper Counties and consists primarily of the *Savannah River* and its tributaries from Ebenezer Creek (in Georgia) to the Atlantic Ocean. This Savannah River watershed extends into Georgia. There are 285,167 acres in this extended watershed; 141,113 acres or 49.5% are outside of South Carolina. The South Carolina portion is within the Coastal Zone physiographic region. Land use/land cover in the South Carolina portion of the watershed includes: 33.5% forested wetland (swamp), 31.6% forested land, 17.2% nonforested wetland (marsh), 8.6% agricultural land, 3.5% urban land, 3.8% water, and 1.8% barren land. A map depicting this watershed is found in Appendix C, pageC-41.

This section of the Savannah River accepts drainage from Ebenezer Creek*, Lockner Creek*, Mill Creek*, Bear Creek *, and Black Swamp. An asterisk connotes a stream entering from the Georgia side of the river. Black Swamp originates near the Towns of Furman and Scotia and accepts drainage from Long Branch, Cypress Branch, Cypress Creek (Sweet Leaf Swamp, Big Boar Flat, Tew Lake), Umber Run, Hodgins Lake, Chunk Creek, Tee Lake, Coleman Run, Gator Holes, and Coleman Lake before flowing into the Savannah River. Downstream of the Black Swamp, the Savannah River accepts drainage from Far Lake, Meyer Lake, Big Collis Creek*, and Abercorn Creek*. Downstream of Abercorn Creek, McCays Cut connects the Savannah River to the Little Back River. The Little Back River accepts drainage from Union Creek, Vernezobre Creek, and Clydesdale Creek before flowing into the Back River. Murray Hill Canal, Clydesdale Canal, and Shubra Canal drain into the Back River before it merges back into the Savannah River. The SC/GA state line follows McCays Cut to the Little Back River, to the Back River and returning to the Savannah River near Ft. Jackson on the Georgia side.

Fields Cut or the Mud River connects the Savannah River to the Wright River. The Wright River accepts drainage from Salt Water Creek (Monkey John Swamp), Fields Cut, and Watts Cut before flowing into the Atlantic Ocean. Watts Cut connects the Wright River to the New River Watershed. The Savannah River is Class SB* (DO not less than daily average 5 mg/l and minimum 4 mg/l) from the Seaboard Coastline Railroad to Ft. Pulaski, and Class SA from Ft. Pulaski to the Atlantic Ocean. The Wright River and Fields Cut are classified SA, and the remainder of the watershed is FW. There are a total of 702.8 stream miles, 1,801.4 acres of lake waters, and 8,256.2 acres of estuarine waters in this extended watershed.

Surface Water Quality

<u>Station #</u>	<u>Type</u>	<u>Class</u>	<u>Description</u>
SV-744	BIO	FW	CYPRESS BRANCH AT US 321
SV-356	W	FW	CYPRESS CREEK AT S-27-119
RS-04372	RS04	FW	UNNAMED SWAMP AT BRIDGE ON S-27-119 1MI W OF TILLMAN
RO-046061	RO04	SA/SB*	SAVANNAH RIVER, 3.3MI NW OF FIELDS CUT (MUD RIVER)
RT-032032	RT03	SA	WRIGHT RIVER, 1.9MI SE OF TURN BRIDGE LANDING
MD-259	INT	SA	WRIGHT RIVER, 1.5MI FROM FIELDS CUT

Cypress Branch (SV-744) – Aquatic life uses are fully supported based on macroinvertebrate community data.

Cypress Creek (SV-356) – Aquatic life uses are not supported due to dissolved oxygen excursions. 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. A significant decreasing trend in turbidity suggests improving conditions for this parameter. Recreational uses are partially supported due to fecal coliform bacteria excursions.

Unnamed Swamp (RS-04372) – Aquatic life uses are not supported due to occurrences of zinc in excess of the aquatic life chronic criterion. 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.

Savannah River (RO-046061) – Aquatic life and recreational uses are fully supported.

Wright River – There are two SCDHEC monitoring stations along the Wright River and recreational uses are fully supported at both sites. This is a tidally influenced system, which are often characterized by naturally low dissolved oxygen concentrations. Although dissolved oxygen excursions were noted at both sites, they were typical of values seen in such systems and were considered natural, not standards violations. At the upstream site (**RT-032032**), aquatic life uses are not supported due to turbidity excursions. At the downstream site (**MD-259**), aquatic life uses are partially supported due to occurrences of copper and nickel in excess of the aquatic life chronic criterion.

A fish consumption advisory has been issued by the Department for mercury and includes the Savannah River within this watershed (see advisory p. 111).

Shellfish Monitoring Stations

<u>Station #</u>	<u>Description</u>
19-06	WRIGHT RIVER, MARKER #43
19-20	1.5 MILES UP THE WRIGHT RIVER FROM FIELDS CUT
19-22	WRIGHT RIVER AT FIELDS CUT
19-27	WRIGHT RIVER AT CONFLUENCE WITH ATLANTIC OCEAN

Groundwater Quality

<u>Well #</u>	<u>Class</u>	<u>Aquifer</u>	<u>Location</u>
AMB-097	GB	TERTIARY LIMESTONE	HARDEEVILLE

All water samples collected from ambient monitoring well **AMB-097** met standards for Class GB groundwater.

NPDES Program

Active NPDES Facilities

<i>RECEIVING STREAM FACILITY NAME</i>	<i>NPDES# TYPE</i>
SAVANNAH RIVER BJW&SA/HARDEEVILLE CHURCH ROAD	SC0034584 MAJOR DOMESTIC
MONKEY JOHN SWAMP TO SAVANNAH RIVER RINKER MATERIALS/DEERFIELD PIT	SCG730624 MINOR INDUSTRIAL
SAVANNAH RIVER TRIBUTARY REED-HTI/SAVANNAH LAKE MINE	SCG731042 MINOR INDUSTRIAL

Nonpoint Source Management Program

Mining Activities

<i>MINING COMPANY MINE NAME</i>	<i>PERMIT # MINERAL</i>
MALPHRUS CONSTRUCTION CO. NEW HARDEEVILLE MINE	1251-53 SAND
BAIRD TRANSPORT BAIRD MINE	1759-53 SAND

Water Quantity

<i>WATER USER STREAM</i>	<i>TOTAL PUMP. CAP (MGD) RATED PUMP CAP (MGD)</i>
BJW&SA	40.2
SAVANNAH RIVER	31.2

Growth Potential

There is a moderate potential for growth in this watershed, primarily in the vicinity of the Town of Hardeeville. Portions of the Towns of Scotia and Furman are located at the top of the watershed, where there is a limited potential for growth. Beaufort-Jasper Water and Sewer Authority is in the process of expanding the wastewater treatment facility, which should promote future growth. Less than 25% of the total land area is suitable for septic system installations; and another 25% or less is classified as marginally suitable. Also, growth in the area tends to be spread out over a large area not served by a sewer system. The Savannah National Wildlife Preserve and the Tybee Island National Wildlife Preserve are located at the base of this watershed, and would limit growth in these areas.

Watershed Protection and Restoration Strategies

Total Maximum Daily Loads (TMDLs)

Portions of the **Savannah Harbor** have been included on the Georgia 303(d) list of impaired waters as impaired for dissolved oxygen. This tidal area is considered, at times, to experience naturally occurring levels of dissolved oxygen (DO) below the Georgia standard. This naturally occurring low DO is further impacted by point source discharges both to the harbor and the Savannah River upstream of the estuarine portion of the river. In 2006, the US Environmental Protection Agency (EPA) finalized a dissolved oxygen TMDL for the system that required a 100% reduction in the loading of oxygen demanding substances being discharged to the system. This essentially required that all discharges to the system below Thurmond Dam cease discharging.

Subsequent to development of this TMDL, the State of Georgia adopted a new DO standard for the harbor. The new Georgia standards allow for a 0.1 mg/L depression in DO levels below natural conditions in naturally low DO waters. This is essentially consistent with the South Carolina standard for the waters it shares with Georgia. EPA, with assistance and input from Georgia, South Carolina and interested stakeholders, is developing a new TMDL based on the new Georgia standard. It is anticipated that the new TMDL, though very restrictive, will allow continued discharge of some oxygen demanding substances to the Savannah River and Harbor. The final TMDL is not expected until 2011.

Savannah River Watershed

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