

03050201-03

(East Branch Cooper River)

General Description

Watershed 03050201-03 (formerly 03050201-040) is located in Berkeley County and consists primarily of the ***East Branch Cooper River*** and its tributaries. The watershed occupies 119,005 acres of the Lower Coastal Plain region of South Carolina. Land use/land cover in the watershed includes: 46.4% forested land, 43.2% forested wetland, 5.1% nonforested wetland, 2.8% agricultural land, 1.2% urban land, 1.2% water, and 0.1% barren land.

The East Branch Cooper River is formed by the confluence of Huger Creek and Quinby Creek. Huger Creek is formed by the merger of Nicholson Creek (Darlington Creek, Darlington Swamp, Kutz Creek, Cooks Creek, Jericho Branch, Fourth of July Branch) and Turkey Creek (Huitt Branch, Old Man Lead, Oakie Branch, Muddy Creek, Fox Gully Branch). Downstream of the confluence, Huger Creek accepts drainage from Negro Field Branch and Gough Creek (Alligator Creek, Midway Reserve, Little Hellhole Reserve, Little Hellhole Bay, Quarterman Branch, Upper Reserve, Lower Reserve). Quinby Creek accepts drainage from Harleston Dam Creek (Cropnel Dan Creek, Northampton Creek), Bennett Branch, Pinckney Reserve Branch, Menzer Run, Deep Branch, York Bottom Creek, and Hester Canal. The East Branch Cooper River receives drainage from Mayrant Lead, French Quarter Creek (Chipper Swamp, Redbank Reserve (Long Pond Savannah), Hard Pinch Reserve, Leneigh Reserve), and Comingtee Creek (Big Dam Lead). There are a total of 361.6 stream miles and 635.3 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>
CSTL-123	INT	FW	EAST BRANCH COOPER RIVER AT BONNEAU FERRY PLANTATION

East Branch Cooper River (CSTL-123) - Aquatic life uses are fully supported; however, there are significant increasing trends in five-day biochemical oxygen demand. Although dissolved oxygen excursions occurred, they were typical of values seen in such systems and were considered natural, not standard violations. Recreational uses are fully supported.

A fish consumption advisory has been issued by the Department for mercury and includes the East Branch Cooper River within this watershed. For more information and the most current advisory, visit <http://www.scdhec.gov/fish>.

Groundwater Quality

<u>Well #</u>	<u>Class</u>	<u>Aquifer</u>	<u>Location</u>
AMB-023	GB	BLACK MINGO	CAINHOY HIGH SCHOOL

NPDES Program

Active NPDES Facilities

<i>RECEIVING STREAM FACILITY NAME</i>	<i>NPDES# TYPE</i>
EAST BRANCH COOPER RIVER CAROLINA LOWCOUNTRY GS COUNCIL	SC0033073 MINOR DOMESTIC
FRENCH QUARTER CREEK FRENCH QUARTER CREEK MINE	SCG730086 MINOR INDUSTRIAL
FRENCH QUARTER CREEK FIRST RELIANCE BANK/POLE FARM MINE	SCG730986 MINOR INDUSTRIAL
MENZER RUN UNITED DIRT LLC/KEYSTONE MINE	SCG731019 MINOR INDUSTRIAL
ALLIGATOR CREEK TRIBUTARY TUTTLE ROAD LLC/TUTTLE ROAD MINE	SCG731022 MINOR INDUSTRIAL
BENNETT BRANCH TRIBUTARY COASTAL DIRT CO. LLC/WINDHAM POND MINE	SCG731063 MINOR INDUSTRIAL
FRENCH QUARTER CREEK TRIBUTARY RLF FRENCH QUARTER CK LLC/RLF FRENCH QUARTER CK MINE	SCG731184 MINOR INDUSTRIAL
QUIMBY CREEK PRIME TIME DEVELOPMENT LLC/PINE LAKE MINE	SCG731051 MINOR INDUSTRIAL
MENZER RUN PRIME TIME DEVELOPMENT LLC/KEYSTONE LAKE MINE	SCG731052 MINOR INDUSTRIAL

Nonpoint Source Management Program

Mining Activities

<i>MINING COMPANY MINE NAME</i>	<i>PERMIT # MINERAL</i>
FRENCH QUARTER CREEK INVESTORS FRENCH QUARTER CREEK MINE	0873-15 SAND/CLAY
OL THOMPSON CONSTRUCTION CO. BLESSING EAST MINE	1787-15 SAND/TOP SOIL

Growth Potential

There is a low potential for growth expected in this watershed, which is almost entirely within the Francis Marion National Forest. There are numerous historic structures located in the area, and great public sentiment to preserve the historic character of the area.

Watershed Protection and Restoration

Total Maximum Daily Loads (TMDLs)

The TMDLs addressing dissolved oxygen for the Ashley River and for the *Cooper River-Wando River-Charleston Harbor* have been revised. The revised TMDLs are combined in a single TMDL document covering Charleston Harbor and the Cooper, Ashley, and Wando Rivers.

The basis for this revision is a new 3-Dimensional Environmental Fluid Dynamics Code (EFDC) model covering the entire system completed in 2008, a revised Dissolved Oxygen standard as amended in the South Carolina Pollution Control Act in 2010 (adopted in S.C. R.61-68 in 2012), and subsequent reallocation of the TMDLs led by the Berkeley-Charleston-Dorchester Council of Governments. The revised TMDL was placed on public notice in October 2012 and approved by EPA in April 2013. The TMDL determined revised wasteload allocations for oxygen-demanding pollutants from continuous point sources which will be implemented in NPDES permits.

The previous and revised TMDLs can be compared on a percent reduction basis. The Cooper River TMDL required an interim reduction of 58% (Phase 1) and a final reduction of 69% (Phase 2) from pre-TMDL permitted UOD; the Ashley River TMDL required a reduction of 32% from pre-TMDL permitted UOD. This TMDL applies a more accurate water quality model in addition to a more accurate laboratory characterization of the wastewater. Based on this new information, the revised TMDL is equivalent to an additional 2% reduction below the Phase 1 level for the Cooper River. The revised TMDL for the Ashley River is equivalent to a 15% reduction from the pre-TMDL permitted UOD. For more detailed information on TMDLs, please visit www.scdhec.gov/tmdl.

Special Models

Charleston Harbor System TMDLs

Modeling for the revised TMDL includes EFDC hydrodynamic and water quality models for the river and harbor segments and linked Loading Simulation Program in C++ (LSPC) watershed model. Charleston waters are considered naturally low in dissolved oxygen, so the TMDL target is an allowable oxygen depression of 0.1 mg/L due to continuous NPDES point sources. Regulated stormwater and nonpoint sources were determined equivalent to natural background due to high levels of natural organic matter in the system. As such, they do not contribute to the 0.1mg/L depression target at existing conditions. The TMDL model is currently being adapted for future harbor deepening evaluations.

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