

03050103-05
(Rocky Creek)

General Description

Watershed 03050103-05 (formerly 03050103-090) is located in Chester and Fairfield Counties and consists primarily of **Rocky Creek** and its tributaries. The watershed occupies 127,983 acres of the Piedmont region of South Carolina. Land use/land cover in the watershed includes: 70.4% forested land, 20.5% agricultural land, 6.4% urban land, 1.6% forested wetland (swamp), 0.6% barren land, and 0.5% water.

Rocky Creek originates near the Town of Chester and accepts drainage from Grassy Run Branch, Bull Run Creek, Hooper Creek (Melton Branch), Barbers Creek (McDaniels Branch, Waters Branch), Bull Skin Creek, and Beaverdam Creek. Little Rocky Creek accepts drainage from Shannon Creek and Bell Creek (Stover Creek) before flowing into Rocky Creek. Hodges Branch and Turkey Branch drain into Rocky Creek at the base of the watershed. Rocky Creek drains into Cedar Creek Reservoir near the Town of Great Falls. There are a total of 547.9 stream miles and 342.7 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>
CW-088	S/W	FW	GRASSY RUN BRANCH AT SC 72 1.6 MI NE OF CHESTER
CW-002	P/W/BIO	FW	ROCKY CREEK AT S-12-335 3.5 MI E OF CHESTER
CW-708	BIO	FW	BEAVERDAM CREEK AT BRIDGE ON S-12-198 3.5 MI E OF CHESTER
RS-06171	RS06	FW	BEAVERDAM CREEK AT BRIDGE ON S-12-198 3.5 MI E OF CHESTER
CW-067	BIO	FW	LITTLE ROCKY CREEK AT S-12-144
CW-236	W/INT	FW	ROCKY CREEK AT S-12-138
CW-175	S/W	FW	CEDAR CREEK RESERVOIR/ROCKY CK ARM AT S-12-141 NW OF GREAT FALLS

Grassy Run Branch (CW-088) – Aquatic life uses are fully supported; however, there are significant increasing trends in five-day biochemical oxygen demand and turbidity. Recreational uses are not supported due to fecal coliform bacteria excursions.

Rocky Creek – There are two SCDHEC monitoring sites along Rocky Creek. Although macroinvertebrate communities appeared to be impacted at the upstream site (**CW-002**), the sample was considered to be not representative due to severe drought conditions that existed during the sampling year. Recreational uses are partially supported at this site due to fecal coliform bacteria excursions; however, a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter. At the downstream site (**CW-236**), aquatic life uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. Recreational uses are partially supported at this site due to fecal coliform bacteria excursions.

Beaverdam Creek – There are two stations in the same general area of Beaverdam Creek. Although macroinvertebrate communities appeared to be impacted at the upstream site (**CW-708**), the sample was considered to be not representative due to severe drought conditions that existed

during the sampling year. At the downstream site (**RS-06171**), aquatic life uses are also partially supported based on macroinvertebrate community data. Recreational uses are not supported at this site due to fecal coliform bacteria excursions.

Little Rocky Creek (CW-067) – Although macroinvertebrate communities appeared to be impacted at this site, the sample was considered to be not representative due to severe drought conditions that existed during the sampling year.

Rocky Creek Arm of Cedar Creek Reservoir (CW-175) - Aquatic life uses are not supported due to total nitrogen, total phosphorus, and dissolved oxygen concentration excursions. This is compounded by a significant decreasing trend in dissolved oxygen concentration. There is a significant increasing trend in pH. Recreational uses are partially supported due to fecal coliform bacteria excursions; however, a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter.

NPDES Permitted Activities

Active NPDES Facilities

RECEIVING STREAM FACILITY NAME	NPDES# TYPE
ROCKY CREEK CITY OF CHESTER/ROCKY CREEK PLANT	SC0036056 MAJOR DOMESTIC
ROCKY CREEK TRIBUTARY CHESTER WOOD PRODUCTS LLC	SCG250221 MINOR INDUSTRIAL
MCDANIELS BRANCH GASTON PROPERTIES MINE	SCG730658 MINOR INDUSTRIAL
LITTLE ROCKY CREEK STEVENSON-WEIR INC./HWY 97 PIT MINE	SCG731119 MINOR INDUSTRIAL

Nonpoint Source Permitted Activities

Land Disposal Activities

Landfill Facilities

LANDFILL NAME FACILITY TYPE	PERMIT # STATUS
CHESTER WOOD PRODUCTS LANDFILL INDUSTRIAL	123301-1601 INACTIVE
CHESTER COUNTY C&D LANDFILL CONSTRUCTION	121001-1101 INACTIVE
CHESTER COUNTY C&D LANDFILL CONSTRUCTION	121003-1201 ACTIVE
CHESTER COUNTY TRANSFER STATION MUNICIPAL	121001-6001 ACTIVE

CHESTER COUNTY WOOD CHIPPING FACILITY COMPOSTING	121001-3001 INACTIVE
HYONEX COMPOSTING SITE COMPOSTING	123331-3001 ACTIVE

Mining Activities

<i>MINING COMPANY</i> <i>MINE NAME</i>	<i>PERMIT #</i> <i>MINERAL</i>
GASTON & GASTON GASTON PROPERTIES	1567-23 SAND/TOP SOIL

Growth Potential

This watershed has moderate potential for growth and contains portions of the Towns of Richburg and Great Falls, and the City of Chester. Residential, commercial, and industrial developments are located in the City of Chester and extend north and east of the city, along U.S. Hwy 321 and S.C. Hwys 72, 9 and 97. Industrial, residential, and commercial growth has occurred in the Richburg area, associated with the I-77/S.C. Hwy 9 interchange and near Great Falls because of the presence of utilities in those areas. Water service is available in the City of Chester, along S.C. Hwy 9 to Fort Lawn, and down S.C. Hwy 99 to Great Falls. Sewer service exists in Chester, Great Falls, Richburg, and the surrounding areas. The presence of I-77 will continue to have an impact on future growth in the watershed, especially in the Richburg area. The County’s other important transportation artery, S.C. Hwy 9, has now been widened to four lanes between Chester and Fort Lawn. Rail service is available along the S.C. Hwy 72 and 9 corridors. The remainder of the watershed is rural and will continue to see scattered development in the future.

Watershed Protection and Restoration

Total Maximum Daily Loads (TMDLs)

A TMDL was developed by SCDHEC and approved by EPA for ***Grassy Run Branch*** water quality monitoring site CW-088 to determine the maximum amount of fecal coliform bacteria it can receive from nonpoint sources and still meet water quality standards. The primary sources of fecal coliform to the stream were determined to be runoff from urban areas in the watershed. The TMDL states that an 86% reduction in fecal coliform loading from urban sources is necessary for the stream to meet the recreational use standard.

A TMDL was also developed by SCDHEC and approved by EPA for ***Rocky Creek*** water quality monitoring sites CW-002, CW-236, and CW-175 to determine the maximum amount of fecal coliform bacteria it can receive from nonpoint sources and still meet water quality standards. The primary sources of fecal coliform to the stream were determined to be runoff from urban and agricultural areas in the watershed, including failing septic systems, leaking and overflowing sanitary sewers, and cattle-in-streams. The TMDL states that an 83% reduction in fecal coliform loading from urban and agricultural sources is necessary for the stream to meet the

recreational use standard. For more detailed information on TMDLs, please visit www.scdhec.gov/tmdl.

Special Projects

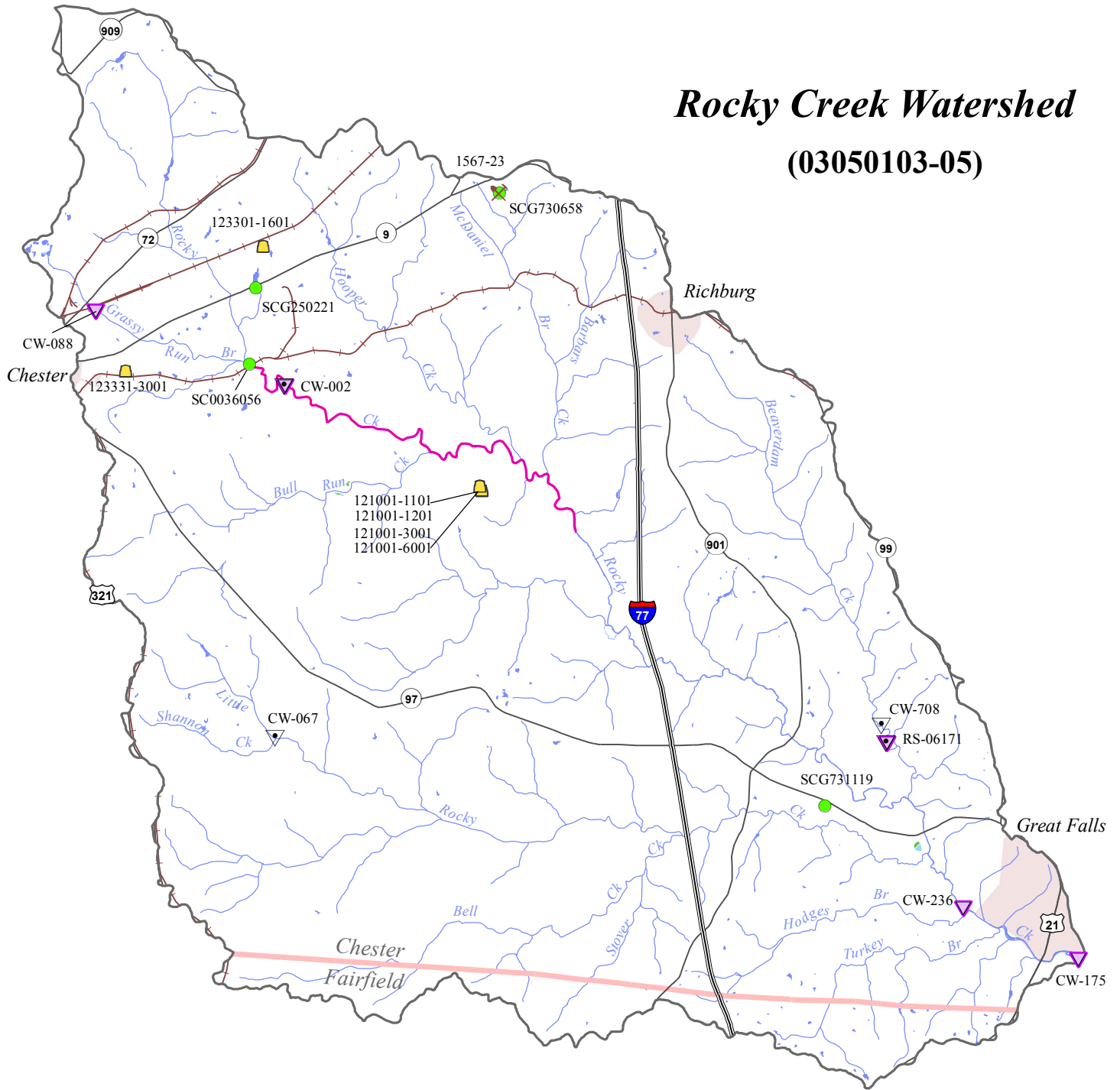
TMDL Implementation for Rocky Creek and the Catawba River

In 2004, Research Planning, Inc., the City of Columbia, and the Clemson University Extension Service cooperatively initiated a three-year project to improve water quality in the Rocky Creek watershed by reducing fecal coliform bacteria concentrations and implementing a TMDL. The project implemented agricultural best management practices (BMPs) on seven targeted farms in the watershed. The project also addressed residential fecal coliform sources by implementing septic system improvements. The data collected at the four impaired monitoring sites in the watershed (CW-002, CW-236, CW-175, and CW-174) indicate water quality improvement at three of those sites after installing selected BMPs. These improvements have resulted in the project being considered a 319 success story by the USEPA. TMDL implementation efforts have continued in the watershed with the goal of improving water quality until data from all four stations fully meet water quality standards for bacteria.

NPS Assessment and TMDL Development for Nutrients in the Catawba River Basin

SCDHEC continues to address nutrient loading concerns in the impaired reservoirs (Fishing Creek, Great Falls, and Cedar Creek Reservoirs and Lake Wateree) of the lower Catawba-Wateree Basin using the WARMF (Watershed Analysis Risk Management Framework) water quality model. This watershed model was updated previously through 2005, but changes in phosphorus loading, land use, and population made the model out dated in terms of the model time period. Significant changes in the watershed since 2005 include new phosphorus limits on the three Charlotte-Mecklenburg WWTPs in the Sugar Creek watershed, closing of two major industrial dischargers in the South Carolina portion of the basin, and a significant increase in population and developed land use in the Charlotte – Rock Hill area. In late 2012 SCDHEC began an update of the model that will incorporate these changes in the watershed and make the model as current as feasible. SCDHEC intends to use the updated model for nutrients and pH TMDLs by determining new Wasteload Allocations for point source dischargers and Municipal Separate Storm Sewer Systems (MS4s) and Load Allocations for the nonpoint sources within the basin.

Rocky Creek Watershed (03050103-05)



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| ▽ Macroinvertebrate Stations | ≡ Interstates |
| ▽ Water Quality Monitoring Stations | ≡ Railroad Lines |
| ▽ Approved TMDL | ≡ Highways |
| ▲ Groundwater Monitoring Stations | ≡ County Lines |
| ▽ Special Study Stations | ≡ Modeled Stream |
| ⊠ Mines | ≡ Stream |
| ⊠ Landfills | ≡ Wetland |
| ● NPDES Permits | ■ Lake |
| ◆ Land Application Permits | □ 10-Digit Hydrologic Units |
| ■ Natural Swimming Areas | ■ Cities/Towns |
| | ■ Public Lands |

