

03060107-01
(Stevens Creek)

General Description

Watershed 03060107-01 (formerly 03060107-010) is located in Greenwood and McCormick Counties and consists primarily of upper *Stevens Creek* and its tributaries from its origin to Turkey Creek. The watershed occupies 159,297 acres of the Piedmont region of South Carolina. Land use/land cover in the watershed includes: 69.3% forested land, 21.0% agricultural land, 7.2% urban land, 1.9% forested wetland (swamp), 0.3% barren land, and 0.3% water. A map depicting this watershed is found in Appendix C, page C-37.

Hard Labor Creek originates within the City of Greenwood and accepts drainage from Panola Branch (Oregon Pond), Muskrat Pond Branch, Armstrong Branch, Big Cowhead Creek (Little Cowhead Creek), Beaverdam Branch, Coleman Branch, Chiles Branch (Stillhouse Branch), Cuning Ford Creek (Church Branch), Brissey Branch, Calabash Branch (Goatneck Branch), Big Branch, Hibbler Branch, Buncombe Branch, Bracknell Branch, and Blue Branch. Cuffytown Creek originates near the City of Greenwood and accepts drainage from Horsepen Creek, Beaverdam Creek, Reedy Creek, Little Horsepen Creek, Little Creek, Mill Branch, Sand Branch, Cow Branch, Sandhill Branch, Lick Creek, Hill Branch, Doctors Branch, and Bee Tree Branch. Hard Labor Creek and Cuffytown Creek merge to form Stevens Creek, which accepts drainage from Deal Branch, Rocky Creek (Persimmon Branch), Plum Branch, and Byrd Creek. There are a total of 508.4 stream miles and 475.6 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>
SV-151	W/BIO	FW	HARD LABOR CREEK AT S-24-164 BRIDGE
RS-06016 RS06		FW	CHURCH BRANCH AT S-24-375, 3.6 MI E OF BRADLEY
SV-731	BIO	FW	HARD LABOR CREEK AT SR 23
SV-351	W/BIO	FW	CUFFYTOWN CREEK AT S-33-138
RS-03342 RS03/BIO		FW	DOCTORS BRANCH AT S-33-21, 6.75 MI E OF MCCORMICK
SV-330	W	FW	STEVENS CREEK AT S-33-21
SV-365	INT	FW	STEVENS CREEK AT S-33-138

Hard Labor Creek - There are two SCDHEC monitoring stations along Hard Labor Creek. At the upstream site (**SV-151**), aquatic life uses are partially supported based on macroinvertebrate community data and there is a significant increasing trend in five-day biochemical oxygen demand. 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. At the downstream site (**SV-731**), aquatic life uses are fully supported based on macroinvertebrate community data.

Church Branch (RS-06016) – Aquatic life uses are fully supported. Recreational uses are not supported due to fecal coliform bacteria excursions.

Cuffytown Creek (SV-351) – Aquatic life uses are partially supported based on macroinvertebrate community data and there is a significant increasing trend in five-day biochemical oxygen demand. There is a significant increasing trend in pH. Recreational uses are partially supported due to fecal coliform bacteria excursions.

Doctors Branch (RS-03342) – Aquatic life uses are partially supported based on macroinvertebrate community data. Recreational uses are fully supported.

Stevens Creek – There are two SCDHEC monitoring stations along this portion of Stevens Creek. At the upstream site (**SV-330**), aquatic life uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. There is a significant increasing trend in pH. A significant decreasing trend in total phosphorus concentration suggests improving conditions for this parameter. Recreational uses are partially supported due to fecal coliform bacteria excursions. At the downstream site (**SV-365**), aquatic life and recreational uses are fully supported and there is a significant decreasing trend in five-day biochemical oxygen demand. There is a significant increasing trend in pH.

Groundwater Quality

<u>Well #</u>	<u>Class</u>	<u>Aquifer</u>	<u>Location</u>
AMB-107	GB	PIEDMONT BEDROCK	N.W. EDGEVILLE COUNTY

All water samples collected from ambient monitoring well **AMB-107** met standards for Class GB groundwater.

NPDES Program

Active NPDES Facilities

<i>RECEIVING STREAM FACILITY NAME</i>	<i>NPDES# TYPE</i>
HARD LABOR CREEK CITY OF GREENWOOD/W. ALEXANDER WWTP	SC0022870 MAJOR DOMESTIC
PANOLA BRANCH GREENWOOD MILLS/MATTHEWS PLT	SCG250127 MINOR INDUSTRIAL
PERSIMMON BRANCH TOWN OF MCCORMICK/WTP	SCG645007 MINOR INDUSTRIAL
PERSIMMON BRANCH TRIBUTARY MILLIKEN & CO./MCCORMICK PLT	SC0000396 MINOR INDUSTRIAL
ROCKY CREEK MCCORMICK CPW/ROCKY CREEK WWTF	SC0030783 MINOR DOMESTIC
STEVENS CREEK TRIBUTARY GS ROOFING PRODUCTS/PLUM BRANCH	SCG730227 MINOR INDUSTRIAL

Municipal Separate Storm Sewer Systems (MS4)

<i>RECEIVING STREAM</i>	<i>NPDES#</i>	<i>4 PHASE SIZE</i>
<i>MUNICIPALITY MS RESPONSIBLE PARTY IMPLEMENTING PARTY</i>	<i>MS4</i>	
UPPER CITY CITY CITY OF GREENWOOD	STEVENS CREEK OF GREENWOOD OF GREENWOOD CITY OF GREENWOOD	----- PHASE SMALL II MS4

Nonpoint Source Management Program

Mining Activities

<i>MINING COMPANY</i>	<i>PERMIT #</i>
<i>MINE NAME MINERAL</i>	
GS ROOFING PRODUCTS CO., INC. PLUM BRANCH QUARRY	0998-65 TE
METAANDESI	

Water Quantity

<i>WATER USER STREAM</i>	<i>TOTAL RATED</i>	<i>PUMP. CAP (MGD)</i> <i>PUMP CAP (MGD)</i>
MCCORMICK CPW	0.5	
ROCKY CREEK		0.5

Growth Potential

There is a low to moderate potential for growth in this watershed, which contains portions of the Towns of Troy, McCormick, Plum Branch, and Parksville, the communities of Promised Land and Bradley, and a portion of the City of Greenwood. The Town of McCormick has experienced population growth with the establishment of a State Prison near the town. Growth has occurred around the Savannah Lakes Village Development, a retirement village, on Lake Thurmond, and may encourage more in the future. The Greenwood Industrial Park, just south of the City of Greenwood, is considered a source of potential industrial growth. The midsection of the watershed resides within the Sumter National Forest and would tend to limit growth in that area.

Watershed Protection and Restoration Strategies

Total Maximum Daily Loads (TMDLs)

A TMDL was developed by SCDHEC and approved by EPA for **Cuffytown Creek** water quality monitoring site SV-351. TMDLs determine the maximum amount of fecal coliform bacteria water bodies can receive and still meet water quality standards. There are no permitted wastewater dischargers in this watershed. Much of the watershed is within the Sumter National Forest. There is very little urban land and the watershed has no designated MS4s. At the time the TMDL was developed there were some 63 fields permitted for the application of poultry litter in the watershed. Likely fecal coliform sources include improperly applied or handled litter, grazing livestock, especially cattle in the streams, failing septic systems, and wildlife. The TMDL states

that a reduction of 11% in fecal coliform loading is necessary for the stream to meet the water quality standard.

A TMDL was developed by SCDHEC and approved by EPA for **Hard Labor Creek** at water quality monitoring site SV-151. TMDLs determine the maximum amount of fecal coliform bacteria water bodies can receive from pollution sources and still meet water quality standards. Hard Labor Creek has one permitted wastewater discharger. At the time the TMDL was developed there were no MS4s in the watershed. The primary sources of fecal coliform to the stream were identified as grazing livestock, especially those with access to creeks, failing septic systems, urban runoff, and sanitary sewer overflows (SSOs). The TMDL states that a 64% reduction in fecal coliform loading is necessary for the stream to meet the recreational use standard.

The nonpoint source component of the Hard Labor Creek TMDL is currently being implemented using §319 grant funds. Implementation is scheduled to be completed in 2011. For more information on §319 grants, visit <http://www.scdhec.gov/water> and click on Nonpoint Source Program.

(Upper) Stevens Creek Watershed (03060107-01)

