

03060101-03

(Little River/Lake Keowee)

General Description

Watershed 03060101-03 (formerly 03060101-050) is located in Oconee County and consists primarily of the ***Little River*** and its tributaries as it flow through ***Lake Keowee***. The watershed occupies 104,996 acres of the Blue Ridge and Piedmont regions of South Carolina. Land use/land cover in the watershed includes: 65.4% forested land, 17.2% agricultural land, 7.5% urban land, 9.2% water, 0.3% barren land, 0.2% forested wetland (swamp), and 0.2% nonforested wetland (marsh). A map depicting this watershed is found in Appendix A, page A-34.

Burgess Creek (Long Branch) and Mill Creek join to form the North Fork Little River, which accepts drainage from Craven Creek, Whitewater Lake, Smeltzer Creek, Fiddlers Creek, Barbeque Branch, and the Flat Shoals River. The Flat Shoals River is formed from the confluence of Cheohee Creek and Tamassee Creek (Horse Bone Branch). Cheohee Creek accepts drainage from White Rock Creek (Bee Cave Creek, Wilson Creek, Pack Branch), Townes Creek, and Mud Creek. Townes Creek is formed by the confluence of Crane Creek and West Fork and accepts drainage from Wash Branch and Crossland Creek before flowing through Lake Isaqueena (also known as Lake Cherokee). Moody Creek (Cantrell Creek, Cheohee Lake, White Oak Creek) and Jumping Branch also drain into Townes Creek through the lake. Flat Shoals River then accepts drainage from Reece Branch and Davey Branch before merging with the North Fork Little River to form the Little River.

Downstream of the confluence, the Little River accepts drainage from Oconee Creek (Alexander Creek, Station Creek), Yarborough Branch, Camp Bottom Branch, and Todd Branch before the river begins to impound into Lake Keowee. Beaman Branch enters the river next, followed by Neal Branch, Wilson Branch, Whetstone Creek, and Stamp Creek (Davis Branch, Cornhouse Creek). The impounded river then accepts drainage from Long Branch, Barkshed Branch, Von Hollen Creek (Frenge Branch), Big Creek, and Crooked Creek (Cater Branch). Cane Creek (Walhalla Reservoir) accepts drainage from Browns Lake, Little Cane Creek (Beaty Creek, Williams Creek), and Dodgens Creek before flowing into the Little River near the base of the watershed.

Lake Keowee, divided between 03060101-02 (Keowee River) and this watershed, is connected through a narrow channel bisected by SC 130. Waters flowing through this connection flow out of the Keowee dam at the base of 03060101-02 and into the Keowee River in 03060101-03. The Little River Dam is located near the confluence with Cane Creek at the base of this watershed and discharges waters into a segment of the Little River, which flows into the Keowee River in 03060101-03. There are a total of 339.5 stream miles and 9,758.4 acres of lake waters in this watershed. Burgess Creek, Mill Creek, White Oak Creek, Jumping Branch, West Fork, Townes Creek (from headwaters to Lake Isaqueena), and Crane Creek are classified TN. North Fork Little River and its tributaries from the confluence of Mill Creek and Burgess Creek to SC

11 is classified TPGT, below that line it is classified FW. Cheohee Creek and Tamassee Creek and their tributaries from their headwaters to the end of U.S. Forest Service land are classified ORW, below that line are classified FW. Moody Creek is classified TN from its headwaters to its confluence with and including Cantrell Creek. West Fork Townes Creek, from its headwaters to its confluence with Lake Isaqueena, is classified TN. Smeltzer Creek is classified TN from its headwaters to SC 130, below that line to its confluence with the North Fork Little River it is classified TN. All other streams in the watershed are classified FW.

Surface Water Quality

<u>Station #</u>	<u>Type</u>	<u>Class</u>	<u>Description</u>
RS-02466	RS02	TN	BURGESS CREEK AT S-37-171
SV-684	BIO	FW	CRANE CREEK AT WINDING STAIRS RD
SV-742	BIO	FW	OCONEE CREEK AT S-37-129
SV-203	W	FW	LITTLE RIVER AT S-37-24 7.1 MI NE OF WALHALLA
RL-03354	RL03	FW	LAKE KEOWEE, 1.6 MI NW OF SC 188 & 0.7 MI SE OF S-37-175
SV-312	W	FW	LAKE KEOWEE AT SC 188 – CROOKED CK ARM 4.5 MI N SENECA
RL-05466	RL05	FW	LAKE KEOWEE, 0.25 MI NWN OF S-37-340 & S-37-588
SV-361	INT	FW	LAKE KEOWEE IN FOREBAY OF LITTLE RIVER DAM
SV-342	SPRP	FW	CANE CREEK AT S-37-133
SV-807	SS	FW	LITTLE CANE CREEK AT NELLIE ROAD
SV-808	SS	FW	LITTLE CANE CREEK AT AUSTIN EDWARDS ROAD
SV-809	SS	TN	LITTLE CANE CREEK AT OCONEE BELLE LANE
SV-810	SS	FW	LITTLE CANE CREEK AT PICKENS HIGHWAY
SV-811	SS	FW	LITTLE CANE CREEK TRIBUTARY NEAR PICKENS HIGHWAY
SV-812	SS	FW	LITTLE CANE CREEK TRIBUTARY AT TAYLOR ROAD
SV-343	W/BIO	FW	LITTLE CANE CREEK AT S-37-133
SV-311	W	FW	LAKE KEOWEE AT SC 188 – CANE CK ARM 3.5 MI NW SENECA
RL-05394	RL05	FW	LAKE KEOWEE, 5.06 MI NNW OF SENECA

Burgess Creek (RS-02466) - Aquatic life uses are fully supported. Although dissolved oxygen excursions occurred, they were considered natural, not standards violations. Recreational uses are not supported due to fecal coliform bacteria excursions.

Crane Creek (SV-684) – Aquatic life uses are fully supported based on macroinvertebrate community data.

Oconee Creek (SV-742) - Aquatic life uses are fully supported based on macroinvertebrate community data.

Little River (SV-203) – Aquatic life uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. Recreational uses are partially supported due to fecal coliform bacteria excursions.

Lake Keowee – There are six SCDHEC monitoring stations along this section of Lake Keowee, and aquatic life and recreational uses are fully supported at all sites (***RL-03354, SV-312, RL-05466, SV-361, SV-311, RL-05394***). At ***SV-312***, there is a significant increasing trend in pH.

Significant decreasing trends in total phosphorus concentration and fecal coliform bacteria concentration suggest improving conditions for these parameters at this site. At *SV-361*, there are significant increasing trends in total nitrogen concentration and fecal coliform bacteria concentration. A significant increasing trend in dissolved oxygen concentration suggests improving conditions for this parameter at this site. At *SV-311*, there is a significant decreasing trend in dissolved oxygen concentration. There is a significant increasing trend in pH. A significant decreasing trend in total phosphorus concentration suggests improving conditions for this parameter at this site. *Fish tissue analyses on species caught within Lake Keowee indicate no advisories or restrictions on consumption of fish from these waters.*

Cane Creek (SV-342) - Aquatic life uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. 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.

Little Cane Creek - There are five SCDHEC monitoring stations along Little Cane Creek. The four upstream sites were special study stations and only examined recreational uses. Recreational uses are partially supported at the furthest upstream sites (*SV-807, SV-808*), and not supported at the next two stations (*SV-809, SV-810*) due to fecal coliform bacteria excursions. At the furthest downstream site (*SV-343*), aquatic life uses are fully supported based on macroinvertebrate community data; however, there is a significant increasing trend in five-day biochemical oxygen demand. Recreational uses are not supported due to fecal coliform bacteria excursions.

Little Cane Creek Tributary - There are two SCDHEC monitoring stations along the Little Cane Creek tributary. The stations were special study stations and only examined recreational uses. Recreational uses were not supported at the upstream site (*SV-811*) and partially supported at the downstream site (*SV-812*) due to fecal coliform bacteria excursions.

Natural Swimming Areas

<i>FACILITY NAME</i>	<i>PERMIT #</i>
<i>RECEIVING STREAM</i>	<i>STATUS</i>
DIAKONIA CENTER	37-1008N
CRAVEN CREEK	ACTIVE

NPDES Program

Active NPDES Facilities

<i>RECEIVING STREAM</i>	<i>NPDES#</i>
<i>FACILITY NAME</i>	<i>TYPE</i>
DAVEY BRANCH	SC0026727
TAMASSEE DAR SCHOOL	MINOR DOMESTIC

LAKE KEOWEE
TYCO HEALTHCARE KENDALL

SCG250067
MINOR INDUSTRIAL

LAKE KEOWEE
KEOWEE KEY UTILITY SYSTEMS, INC.

SC0022322
MINOR DOMESTIC

LAKE KEOWEE
CITY OF SENECA WTP

SCG641010
MINOR INDUSTRIAL

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME

FACILITY TYPE

PERMIT #

STATUS

WOOD LCD & YT LANDFILL
C&D

372669-1701
ACTIVE

FLAT ROCK LANDCLEARING & YD FILL
C &D

372664-1701
INACTIVE

NORTHWEST GRADING LANDCLEARING
C & D

372614-1701
ACTIVE

Mining Activities

MINING COMPANY

MINE NAME

PERMIT #

MINERAL

LOST DUTCHMANS MINING ASSOC.
NEW OCONEE CAMP

1310-73
GOLD

Water Quantity

WATER USER

STREAM

TOTAL PUMP. CAP (MGD)

RATED PUMP CAP (MGD)

CITY OF SENECA INTAKE
LAKE KEOWEE

30.0
18.0

Growth Potential

There is a moderate potential for growth in this watershed, which contains the Town of Salem and portions of the Cities of Walhalla and Seneca. Salem and the shoreline of Lake Keowee are predicted for growth in the form of retirement communities. SC 130, running from Salem to Seneca, will be particularly prone to development. The Sumter National Forest extends across the upper portion of the watershed and would limit growth in that area.

Watershed Protection and Restoration Strategies

Total Maximum Daily Loads (TMDLs)

TMDLs were developed by SCDHEC and approved by the EPA for **Cane Creek** (SV-342) and **Little Cane Creek** (SV-343) to determine the maximum amount of fecal coliform bacteria these creeks can receive from sources and still meet water quality standards. The

nonpoint sources that were identified to be possible contributors to the Cane Creek impairment include grazing livestock, livestock depositing manure directly into streams, failing septic systems, and urban runoff. The possible sources of the impairment of Little Cane Creek were grazing livestock, livestock depositing manure directly into streams, failing septic systems, and land applied manure. Neither stream had a permitted point source within its drainage area. The TMDL would require reductions of 54% for Cane Creek and 65% for Little Cane Creek to the existing loads for the creeks to meet standards. The nonpoint source component of the Cane Creek TMDL has been implemented using §319 grant funds. Implementation was completed in January 2009. For more information on §319 grants, visit <http://www.scdhec.gov/water> and click on Nonpoint Source Program.

Little River/ Lake Keowee Watershed (03060101-03)

- ▽ Macroinvertebrate Stations
- ▽ Water Quality Monitoring Stations
- ▽ Approved TMDL
- ▲ Groundwater Monitoring Stations
- ▽ Special Study Stations
- ⚡ Mines
- 🗑️ Landfills
- NPDES Permits
- ♦ Land Application Permits
- 🏊 Natural Swimming Areas
- 🛣️ Interstates
- 🚂 Railroad Lines
- 🛣️ Highways
- 🗺️ County Lines
- 🌊 Modeled Stream
- 🌊 Stream
- 🌊 Lake
- 🌿 Wetland
- 🗺️ 10-Digit Hydrologic Units
- 🏘️ Cities/Towns
- 🌲 Public Lands

