

## 03060101-02

(*Keowee River/Lake Keowee*)

### General Description

The South Carolina portion of watershed 03060101-02 (formerly 03060101-030) is located in Oconee and Pickens Counties in the Blue Ridge and Piedmont physiographic regions, and consists primarily of the **Keowee River** and its tributaries from the Jocassee Dam to the Keowee Dam forming **Lake Keowee**. A small portion of this Keowee River watershed extends into North Carolina. There are 79,952 acres in the entire watershed; 1,116 acres or 1.4% are outside of South Carolina. Land use/land cover in the South Carolina portion of the watershed includes: 77.5% forested land, 9.8% water, 8.0% agricultural land, 4.1% urban land, 0.5% barren land, and 0.1% forested wetland (swamp). A map depicting this watershed is found in Appendix A, page A-33.

The Keowee River flows out of the Jocassee Dam and into Lake Keowee. Cane Creek (Bully Branch, Dammo Branch), McKinneys Creek, and Eastatoe Creek all form arms in the upper portion of the lake. Eastatoe Creek flows over the NC Stateline and accepts drainage from Wild Hog Creek, Abner Creek (Dogwood Creek), Rocky Bottom Creek, Side-of-Mountain Creek, Laurel Branch, and Laurel Creek. Downstream of Laurel Creek, Eastatoe Creek accepts drainage from Reedy Cove Creek, Smith Creek, Jewell Branch, Mill Creek (Kinney Branch, Chucky Branch), Barn Branch, Peach Orchard Branch, Little Eastatoe Creek (Winnie Branch, Mine Times Creek, Clearwater Branch), and Poe Creek before flowing into the Keowee River. Downstream from the Eastatoe Creek confluence, the river accepts drainage from Boones Creek, Cedar Creek (Lake Diana, Little Cedar Creek), and Fall Creek. Crow Creek (Lake Carlton, Katoma Branch, East Fork, Ellenburg Branch, Taylor Branch, Little Crow Creek) enters the lake next, followed by Betty Branch, Caney Branch, Mile Creek, Whetner Branch, and Kelly Creek.

There are a total of 309.8 stream miles and 7,598.2 acres of lake waters in this extended watershed. Lake Keowee and its tributaries are classified FW with the following exceptions. Cane Creek and its tributaries from its origin to Lake Keowee are classified TN. Eastatoe Creek and tributaries are classified ORW from the Stateline to Laurel Creek, and TPGT from Laurel Creek to Lake Keowee. Laurel Creek and Laurel Branch are classified ORW. Little Eastatoe Creek is classified TGPT from its headwaters to its confluence with Eastatoe Creek. McKinneys Creek is classified TN from its headwaters to SC 25, and FW below that line to Lake Keowee.

### Surface Water Quality

<u>Station #</u>	<u>Type</u>	<u>Class</u>	<u>Description</u>
SV-741	BIO	ORW	EASTATOE CREEK AT S-39-237
SV-676	BIO	ORW	ROCKY BOTTOM CREEK AT US 178
SV-230	SPRP	TPGT	EASTATOE CREEK AT S-39-143
RS-05392	RS05	ORW	LITTLE EASTATOE CREEK, BESIDE SR-49, 8.4 MI NW OF PICKENS
SV-341	SPRP/BIO	TPGT	LITTLE EASTATOE CREEK AT S-39-49
RL-04380	RL04	ORW	EASTATOE CK ARM OF L. KEOWEE, 0.5 MIN N OF STATE PARK

SV-338	INT	FW	LAKE KEOWEE ABOVE SC 130 AND DAM
RL-02304	RL02	ORW	LAKE KEOWEE, 7.0 MI E OF WALHALLA

**Eastatoe Creek** – There are two SCDHEC monitoring stations along Eastatoe Creek. Aquatic life uses are fully supported at the upstream site (**SV-741**) based on macroinvertebrate community data. At the downstream site (**SV-230**), aquatic life and recreational uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. Significant increasing trends in dissolved oxygen concentration, and decreasing trends in turbidity and total phosphorus concentration suggest improving conditions for these parameters.

**Rocky Bottom Creek (SV-676)** – Aquatic life uses are fully supported based on macroinvertebrate community data.

**Little Eastatoe Creek** - There are two SCDHEC monitoring stations along Little Eastatoe Creek. At the upstream site (**RS-05392**), aquatic life and recreational uses are fully supported. At the downstream site (**SV-341**), aquatic life uses are fully supported based on macroinvertebrate community data; 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 not supported at this site due to fecal coliform bacteria excursions.

**Eastatoe Creek arm of Lake Keowee (RL-04380)** - Aquatic life and recreational uses are fully supported.

**Lake Keowee** - There are two SCDHEC monitoring stations along this section of Lake Keowee, and aquatic life and recreational uses are fully supported at both sites (**SV-338, RL-02304**). Trend data at the uplake site (**SV-338**), indicated there are significant increasing trends in five-day biochemical oxygen demand and total nitrogen concentration. Significant decreasing trends in turbidity and total phosphorus concentration suggest improving conditions for these parameters at this site. *Fish tissue analyses on species caught within Lake Keowee indicate no advisories or restrictions on consumption of fish from these waters.*

**Natural Swimming Areas**

<i>FACILITY NAME</i>	<i>PERMIT #</i>
<i>RECEIVING STREAM</i>	<i>STATUS</i>
MCCALL ROYAL AMBASSADOR CAMP	39-N03
REEDY COVE CREEK	ACTIVE

**NPDES Program**

**Active NPDES Facilities**

<i>RECEIVING STREAM</i>	<i>NPDES#</i>
<i>FACILITY NAME</i>	<i>TYPE</i>

LAKE KEOWEE  
DUKE POWER CO./OCONEE NUCLEAR

SC0000515  
MAJOR INDUSTRIAL

KELLY CREEK  
GREENVILLE WATER SYSTEM

SCG645039  
MINOR MUNICIPAL

## **Nonpoint Source Management Program**

### ***Land Disposal Activities***

#### **Landfill Facilities**

<b><i>LANDFILL NAME</i></b>	<b><i>PERMIT #</i></b>
<b><i>FACILITY TYPE</i></b>	<b><i>STATUS</i></b>
MARTIN GRADING & SAND CO./HWY 88 S C&D	392900-1301 INACTIVE
CRAWFORDS LCD LANDFILL C&D	392738-1701 ACTIVE
CLEMSON-SENECA LCD LANDFILL C&D	372690-1701 ACTIVE

#### **Water Quantity**

<b><i>WATER USER</i></b>	<b><i>TOTAL PUMP. CAP.(MGD)</i></b>
<b><i>STREAM</i></b>	<b><i>RATED PUMP CAP.(MGD)</i></b>
GREENVILLE WATER SYSTEM	90.0
LAKE KEOWEE	67.5

#### **Growth Potential**

There is a moderate to high potential for growth in this watershed, which contains Lake Keowee. Residential growth in and adjacent to the mountain region is predicted at relatively high levels, despite the low population base.

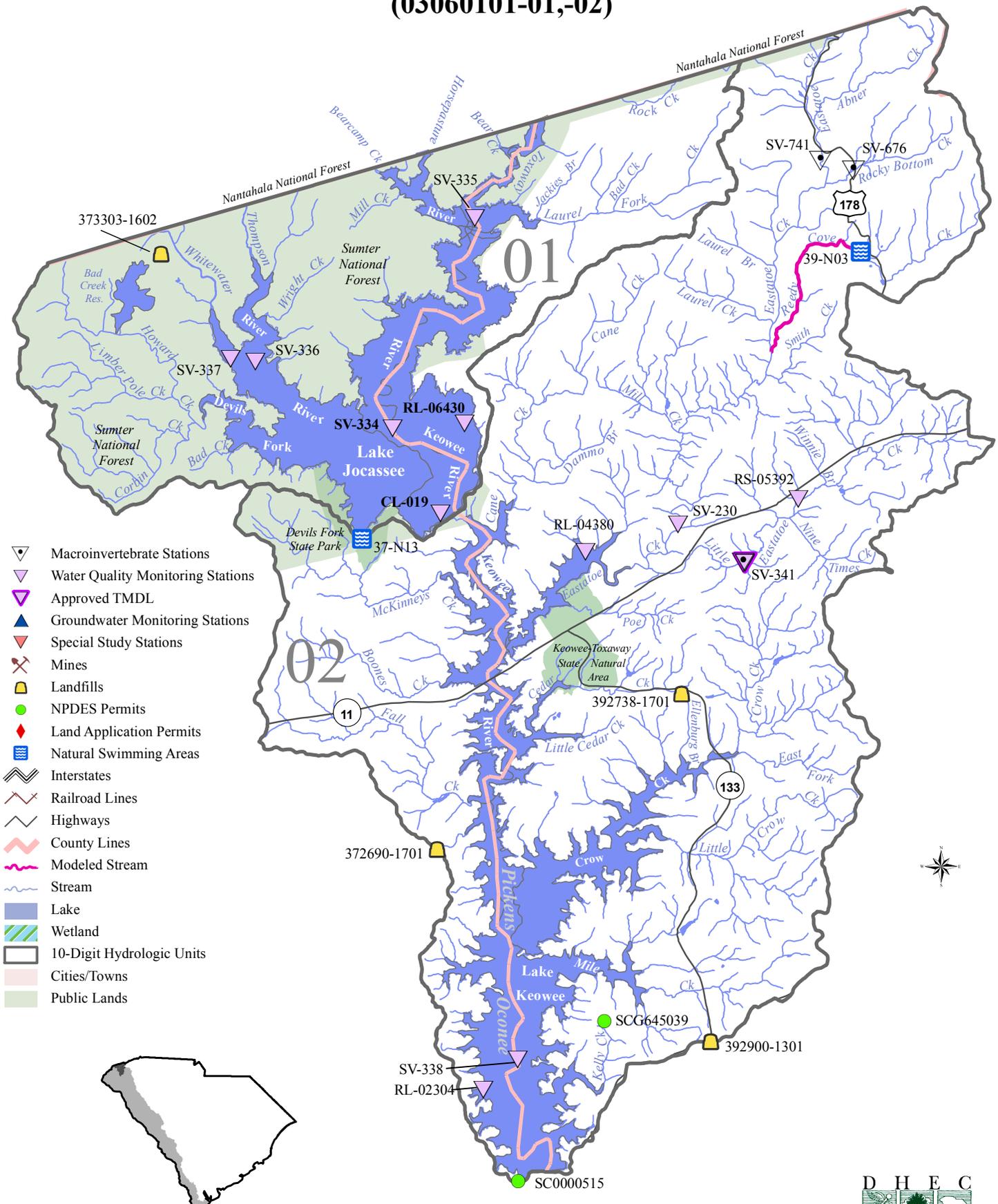
#### **Watershed Protection and Restoration Strategies**

##### ***Total Maximum Daily Loads (TMDLs)***

A TMDL was developed for SCDHEC and approved by EPA for **Little Eastatoe Creek** at water quality monitoring site SV-341. The TMDLs determine the maximum amount of fecal coliform bacteria these streams can receive and still meet water quality standards. Agriculture and forest are two major land uses in the Little Eastatoe Creek watershed. Both can be sources of fecal coliform bacteria. Targeting agricultural land for reduction of bacteria is the most effective strategy for this watershed. Forested lands are not targeted for reduction, as there are currently no acceptable means of reducing fecal coliform sources within that land use. The TMDLs require reductions of 21% in fecal coliform loading from agriculture for this stream to meet the recreational use standard.

# Keowee River/Lake Jocassee/Lake Keowee Watersheds

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- ▽ 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

