

## 03060101-06

### (Eighteenmile Creek/Lake Hartwell)

#### General Description

Watershed 03060101-06 (formerly 03060101-090) is located in Pickens and Anderson Counties and consists primarily of *Eighteenmile Creek* and its tributaries, which form an arm of *Lake Hartwell*. The watershed occupies 38,109 acres of the Piedmont region of South Carolina. Land use/land cover in the watershed includes: 51.5% forested land, 24.9% agricultural land, 20.6% urban land, 1.6% forested wetland (swamp), 0.9% water, and 0.5% barren land. A map depicting this watershed is found in Appendix A, page A-37.

Eighteenmile Creek originates near the City of Easley and accepts drainage from Woodside Branch, Mohasco Branch, and Fifteenmile Creek, before forming an arm of Lake Hartwell. There are a total of 130.1 stream miles and 361.3 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>  |
|------------------|-------------|--------------|---|
| SV-017           | W           | FW           | EIGHTEENMILE CREEK AT UNNUMBERED COUNTY RD, 2.25 MI SSW OF EASLEY |
| SV-241           | W           | FW           | WOODSIDE BRANCH AT US 123, 1.5 MI E OF LIBERTY                    |
| SV-245           | W           | FW           | EIGHTEENMILE CREEK AT S-39-27, 3.3 MI S OF LIBERTY                |
| SV-135           | W           | FW           | EIGHTEENMILE CREEK AT S-39-93, S OF CENTRAL                       |
| SV-233           | INT         | FW           | EIGHTEENMILE CREEK AT S-04-279                                    |
| SV-268           | SUMM        | FW           | EIGHTEENMILE CREEK ARM OF LAKE HARTWELL AT S-04-1098              |
| RL-05392         | RL05        | FW           | EIGHTEENMILE CREEK ARM OF LAKE HARTWELL, 5.96 MI SSW OF PENDLETON |

*Eighteenmile Creek* - There are four SCDHEC monitoring stations along Eighteenmile Creek. At the furthest upstream site (*SV-017*), 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. Recreational uses are not supported at this site due to fecal coliform bacteria excursions. Further downstream at *SV-245*, aquatic life uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. Significant decreasing trends in turbidity and increasing trends in dissolved oxygen concentration suggest improving conditions for these parameters. Recreational uses are partially supported due to fecal coliform bacteria excursions.

At the next site downstream (*SV-135*), aquatic life uses are partially supported due to pH excursions. There are also significant increasing trends in five-day biochemical oxygen demand and total nitrogen concentration. 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 furthest downstream site (*SV-233*), aquatic life uses are fully supported; however, there is a significant increasing trend in total nitrogen concentration. Recreational uses are not supported due to fecal coliform bacteria excursions.

**Woodside Branch (SV-241)** – Aquatic life uses are partially supported due to pH excursions. There is also a significant increasing trend in turbidity. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter. 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.

**Eighteenmile Creek Arm of Lake Hartwell** - There are two SCDHEC monitoring stations along the Eighteenmile Creek arm of Lake Hartwell. At the uplake site (**SV-268**), aquatic life uses are not supported due to excursions of dissolved oxygen concentration, turbidity, and total phosphorus concentration; compounded by a significant decreasing trend in dissolved oxygen concentration. Significant decreasing trends in turbidity and total phosphorus concentration suggest improving conditions for these parameters. Recreational uses are not supported due to fecal coliform bacteria excursions. At the downlake site (**RL-05392**), aquatic life and recreational uses are fully supported.

*A fish consumption advisory has been issued by the Department for PCBs (Polychlorinated biphenols) and includes the impounded area (Lake Hartwell) of Eighteenmile Creek within this watershed (see advisory p.38).*

## **NPDES Program**

### **Active NPDES Facilities**

| <b>RECEIVING STREAM<br/>FACILITY NAME</b>                       | <b>NPDES#<br/>TYPE</b>        |
|---|-------------------------------|
| EIGHTEENMILE CREEK<br>MILLIKEN & CO./PENDLETON FINISHING        | SC0000477<br>MAJOR INDUSTRIAL |
| EIGHTEENMILE CREEK<br>TOWN OF PENDLETON-CLEMSON REG. WWTP       | SC0035700<br>MAJOR DOMESTIC   |
| EIGHTEENMILE CREEK<br>PICKENS COUNTY/18MILE CK UPPER REG. WWTP  | SC0042994<br>MAJOR DOMESTIC   |
| EIGHTEENMILE CREEK<br>PICKENS COUNTY/18MILE CK MIDDLE REG. WWTP | SC0047856<br>MAJOR DOMESTIC   |
| EIGHTEENMILE CREEK TRIBUTARY<br>HEATHERWOOD SD/MADERA UTIL.     | SC0029548<br>MINOR DOMESTIC   |
| EIGHTEENMILE CREEK TRIBUTARY<br>EASLEY CUSTOM PLASTICS INC.     | SCG250077<br>MINOR INDUSTRIAL |
| WOODSIDE BRANCH<br>LIBERTY DENIM LLC                            | SC0000264<br>MAJOR INDUSTRIAL |

***Municipal Separate Storm Sewer Systems (MS4)***

| <b><i>RECEIVING STREAM</i></b>   | <b><i>NPDES#</i></b>    |
|----------------------------------|-------------------------|
| <b><i>MUNICIPALITY</i></b>       | <b><i>MS4 PHASE</i></b> |
| <b><i>RESPONSIBLE PARTY</i></b>  | <b><i>MS4 SIZE</i></b>  |
| <b><i>IMPLEMENTING PARTY</i></b> |                         |
| EIGHTEENMILE CREEK               | -----                   |
| CITY OF CLEMSON                  | PHASE II                |
| CITY OF CLEMSON                  | SMALL MS4               |
| CITY OF CLEMSON                  |                         |
| EIGHTEENMILE CREEK               | SCR037701               |
| CITY OF EASLEY                   | PHASE II                |
| CITY OF EASLEY                   | SMALL MS4               |
| CITY OF EASLEY                   |                         |
| EIGHTEENMILE CREEK               | SCR037702               |
| CITY OF LIBERTY                  | PHASE II                |
| CITY OF LIBERTY                  | SMALL MS4               |
| CITY OF LIBERTY                  |                         |
| EIGHTEENMILE CREEK               | SCR037704               |
| UNINCORPORATED AREAS             | PHASE II                |
| PICKENS COUNTY                   | SMALL MS4               |
| PICKENS COUNTY                   |                         |

**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>   |
| TOWN OF PENDLETON MSW LANDFILL       | 041001-1103            |
| DOMESTIC                             | INACTIVE               |
| ANDERSON COUNTY LANDFILL             | -----                  |
| DOMESTIC                             | INACTIVE               |
| PENDLETON MUNICIPAL TRANSFER STATION | 042401-6001            |
| DOMESTIC                             | ACTIVE                 |
| PICKENS COUNTY RECYCLING DEPT        | 391001-5201            |
| RECYCLING                            | ACTIVE                 |
| PICKENS CENTRAL LANDFILL             | 391001-1102            |
| DOMESTIC                             | ACTIVE                 |
| HIGHWAY 93 C&D LANDFILL              | PROPOSED               |
| C&D                                  | -----                  |
| CLEMSON UNIVERSITY LANDFILL          | -----                  |
| INDUSTRIAL                           | INACTIVE               |
| CLEMSON UNIVERSITY PHYSICAL PLANT    | -----                  |
| INDUSTRIAL                           | INACTIVE               |
| CLEMSON UNIVERSITY SANITARY LANDFILL | -----                  |
| DOMESTIC                             | INACTIVE               |

|   |                         |
|---|-------------------------|
| CLEMSON CENTRAL MSW LANDFILL<br>DOMESTIC      | 391001-1103<br>INACTIVE |
| WACCAMAW LANE LAND CLEARING LANDFILL<br>C & D | 392603-1701<br>INACTIVE |
| EASLEY BUILDERS SUPPLY LANDFILL<br>C & D      | 392639-1701<br>INACTIVE |
| WALTER MOODY LC&D LANDFILL<br>C & D           | 392775-1701<br>ACTIVE   |

## Mining Activities

| <i>MINING COMPANY</i><br><i>MINE NAME</i>           | <i>PERMIT #</i><br><i>MINERAL</i> |
|---|-----------------------------------|
| VENESKY ASPHALT PAVING & GRADING<br>HIGHWAY 93 MINE | 1647-77<br>SAND                   |
| KENNETH M MERCK<br>126 EIGHTEENMILE RD CENTER       | 1597-77<br>SAND                   |

## Growth Potential

There is a moderate to high potential for growth in this watershed, which contains portions of the Cities of Easley and Clemson and the Towns of Liberty, Norris, Central, and Pendleton. A residential growth trend extends eastward from Clemson to Central, Liberty, and Easley along SC 93 and US 123. Commercial growth is predicted between Easley and Pickens along SC 8. The City of Easley has the greatest potential for commercial growth due to its proximity to SC 93, SC 153, and SC 8, and US 123.

Industrial growth in this watershed is due, in part, to the established infrastructure and transportation system, and the proximity to I-85. The topography of Easley is most conducive to industrial development and gives it the highest potential for growth in this area. The Town of Liberty also has a high potential for industrial growth due to the large tracts in the Liberty vicinity that are projected to develop, pending the construction of new or expanded sewage disposal plants in the area. Construction of these will encourage growth along the US 123 corridor as well. The Town of Pendleton is also projected for industrial growth along the US 76 corridor from Pendleton to Anderson. In addition, a rail line runs through Pendleton to Seneca, a criterion for siting a new industry.

## Watershed Protection and Restoration Strategies

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

TMDLs were developed for SCDHEC and approved by EPA for the water quality monitoring sites at **Eighteenmile Creek** (SV-017, SV-135, SV-233, and SV-245), **Woodside Branch** (SV-241), and the **Eighteenmile Creek Arm of Lake Hartwell** (SV-268). The TMDLs determine the maximum amount of fecal coliform bacteria these streams can receive and still meet water quality standards. There were several permitted wastewater treatment facilities

located on Eighteenmile Creek. Parts of the watershed have been designated as small MS4s. Probable sources of fecal coliform bacteria that were identified in the watershed are failing septic systems, leaking sewers, domestic animals, especially cattle watering in the creeks, residential stormwater runoff, and wildlife. The TMDLs state that reductions of 57% to 89% in fecal coliform loading are necessary for these streams to meet the recreational use standard.

# Eighteenmile Creek/ Lake Hartwell Watershed (03060101-06)

