

**Carters Lake Chlorophyll *a* TMDL Study**

**2008 Field Study Plan  
Module 1  
Watershed Flow**

**Georgia Department of Natural Resources  
Environmental Protection Division  
Watershed Protection Branch  
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## **Introduction**

The primary objective of this module is to operate and maintain streamflow gages in the Carters Lake Watershed. The USGS will operate three streamflow gages located at strategic sites within the Carters Lake Watershed. In addition, at least four branches to the mainstem of the Lake will be periodically gaged and a rating curve will be established for these streams. Also, periodic stage measurements will be taken at ungaged tributaries in order to establish a relationship between gaged and ungaged streams.

## **Study Area**

Carters Lake is located in the upper part of the Coosawattee River Basin. This basin originates in the Northeast Georgia Mountains, primarily in Gilmer and Pickens Counties. It drains westward until it joins the Conasauga River and becomes the Oostanaula River then flows generally southward where it joins the Etowah River at Rome and becomes the Coosa River. Major Tributaries to the Coosawattee River in the watershed above Carters Lake include Cartecay River Ellijay River, Mountaintown Creek, Tails Creek, Talking Rock Creek, and numerous other streams with somewhat smaller watersheds. For the purpose of this study, only the watershed above Carters Reregulation Dam is considered. This one-year study will cover an area of 519 mi<sup>2</sup> of the Coosawattee River and Talking Rock Creek Basins.

## **Mainstem Flow Gages**

The Carters Lake Watershed has three Flow Gages operated by the USGS within the study area. One of these is located on the Coosawattee mainstem one located on Mountaintown Creek, and the other on Talking Rock Creek.

**Table 1-1. Location of Carters Lake Watershed USGS Flow Gages**

<b>Stream</b>	<b>Location</b>	<b>USGS Station ID</b>
Coosawattee River	Near Ellijay, Ga	02380500
Mountaintown Creek	At GA Hwy 282, Near Ellijay, Ga	02381090
Talking Rock Creek	Near Hinton, Ga	02382200

## **Ungaged Tributaries Flow Measurements**

Four branches to the mainstem of Carters Lake are gaged at a frequency of approximately once per month. Flow rating curves are maintained on these streams so that nutrient loads may be estimated.

**Table 1-2. Location of Carters Lake Tributary Ungaged Stations**

<b>Stream</b>	<b>Location</b>	<b>EPD Station ID</b>
Ellijay River	Goose Isle Road	14056401
Tails Creek	US 76	14116001
Flat Creek	SR 382	14119251
Tickanety Creek	Macedonia Creek	14063901

**Quality Control**

USGS will conduct all streamflow measurements and streamflow data collection activities according to the standards and procedures outlined in “Surface Water Quality-Assurance Plan, U.S. Geological Survey, Georgia District”, T. C. Stamey, Open-File Report 99-71 and the upcoming revision “Surface Water Quality-Assurance Plan for the Georgia District of the U.S. Geological Survey”, A. J. Gotvald and T. C. Stamey, Open-File Report XX-XX, which is currently under review.

USGS will conduct all water temperature measurements and water temperature data collection activities according to the standards and procedures outlines in “Guidelines and Standard Procedures for Continuous Water-Quality Monitors: Site Selection, Field Operation, Calibration, Record Computation, and Report”, R. J. Wagner, H. C. Matraw, G. F. Ritz, and B. A. Smith, Water-Resources Investigations Report 00-4252.

All data will be stored and maintained as historical public record in the USGS National Water Information System (NWIS) database. All flow and temperature data will be entered and maintained in the Watershed Protection Branch's Water Resources Data-Base (WRDB).

# Module 1 Watershed Flow Data

