

Lake Lanier Chlorophyll a TMDL Study

**2007 Field Study Plan
Module 1
Watershed Flow**

**Georgia Department of Natural Resources
Environmental Protection Division
Watershed Protection Branch
Watershed Planning & Monitoring Program
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Introduction

The primary objective of this module is to operate and maintain streamflow gages in the Lake Lanier Watershed. The USGS will operate four streamflow gages located at strategic sites within the Lake Lanier Watershed. In addition, at least 6 tributaries to 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

Lake Sydney Lanier is located in the upper part of the Chattahoochee River Basin. This basin originates in the Northeast Georgia Mountains, primarily in Lumpkin, White, and Habersham Counties. It drains southwestward until it reaches the Georgia - Alabama State line then flows generally southward where it joins the Flint River at Lake Seminole and becomes the Apalachicola River. Major Tributaries to the Chattahoochee River in the watershed above Lake Lanier include the Chestatee River, Soquee River, and numerous other streams with somewhat smaller watersheds. For the purpose of this study, only the watershed above Buford Dam is considered. This one-year study will cover an area of 1,035 mi² of the Chattahoochee Basin above Buford Dam.

Mainstem Flow Gages

The Chattahoochee Basin above Buford Dam has 4 Flow Gages operated by the USGS. Two of these are located on the Chattahoochee mainstem, one located on the Chestatee River, and the other on the Soquee River.

Table 1-1. Location of Lake Lanier Watershed USGS Flow Gages

Stream	Location	USGS Station ID
Chattahoochee River	Helen, Georgia	02330450
Chattahoochee River	near Cornelia, Georgia	02331600
Chestatee River	Near Dahlonega, Georgia	02333500
Soquee River	Ga. Hwy 197 near Clarkesville, Ga	023312495

Ungaged Tributaries Flow Measurements

Six Tributaries to Lake Lanier are gaged at a frequency of approximately once per month. These tributaries flow directly into the lake in major embayment areas. Flow rating curves are maintained on these streams so that nutrient loads may be estimated.

Table 1-2. Location of Lake Lanier Tributary Ungaged Stations

Stream	Location	EPD Station ID
Mud Creek	McEver Road	12038781
Balus Creek	McEver Road	12038610
East Fork Little River	Honeysuckle Road	12030151
West Fork Little River	Jess Helton Road	12030141
Wahoo Creek	Ben Parks Road	12030171
Six Mile Creek	Burrus Mill Road	12039601

Quality Control

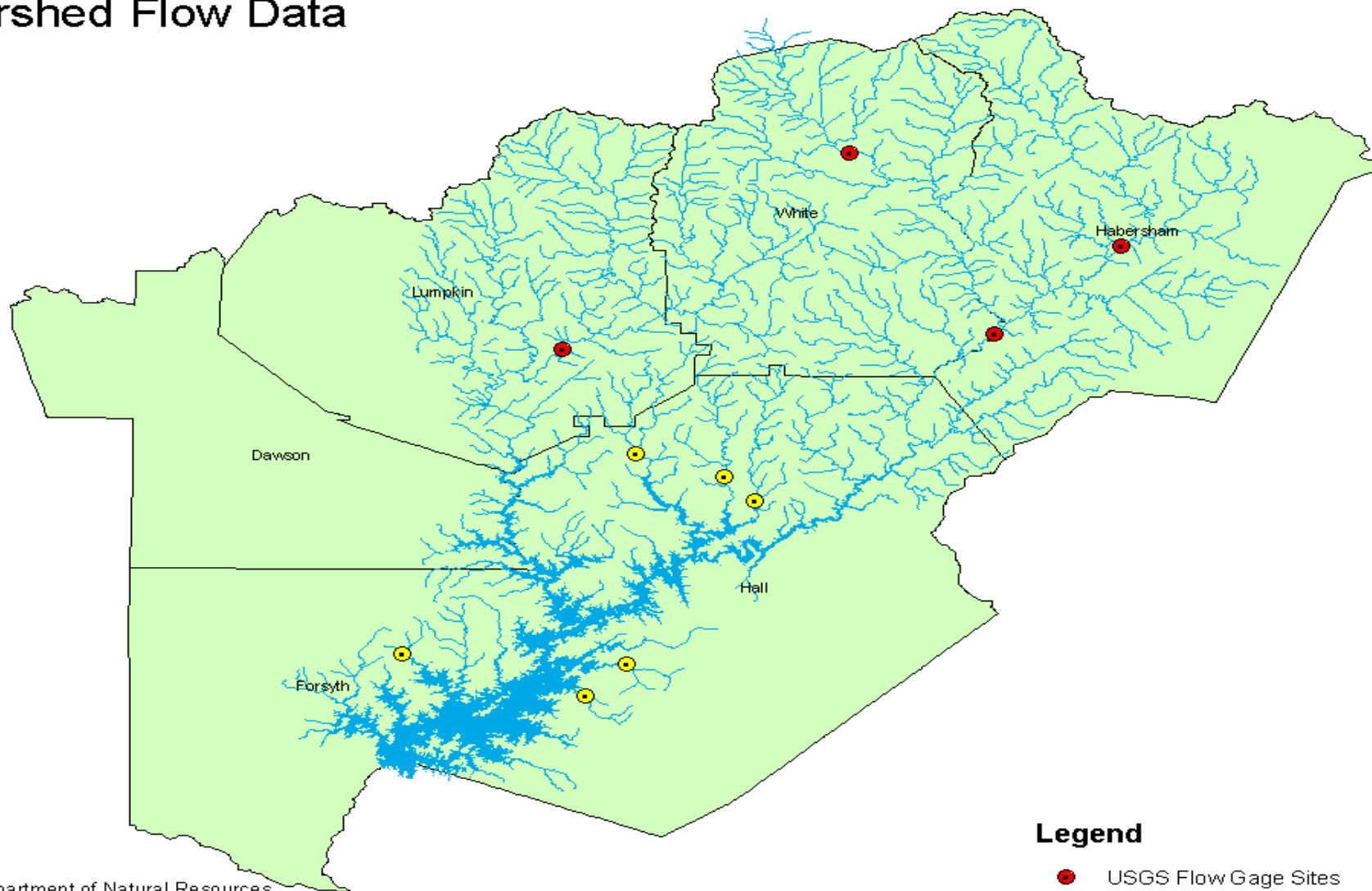
USGS will conduct all streamflow measurements and streamflow data collection activities according to the standards and procedures outlined in “Surface Water Quality-Assurance Plan, U.S. Geological Survey, Georgia District”, T. C. Stamey, Open-File Report 99-71 and the upcoming revision “Surface Water 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. Mattraw, 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



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Atlanta, Georgia

Legend

- USGS Flow Gage Sites
- Lanier Tributary Gaging Sites