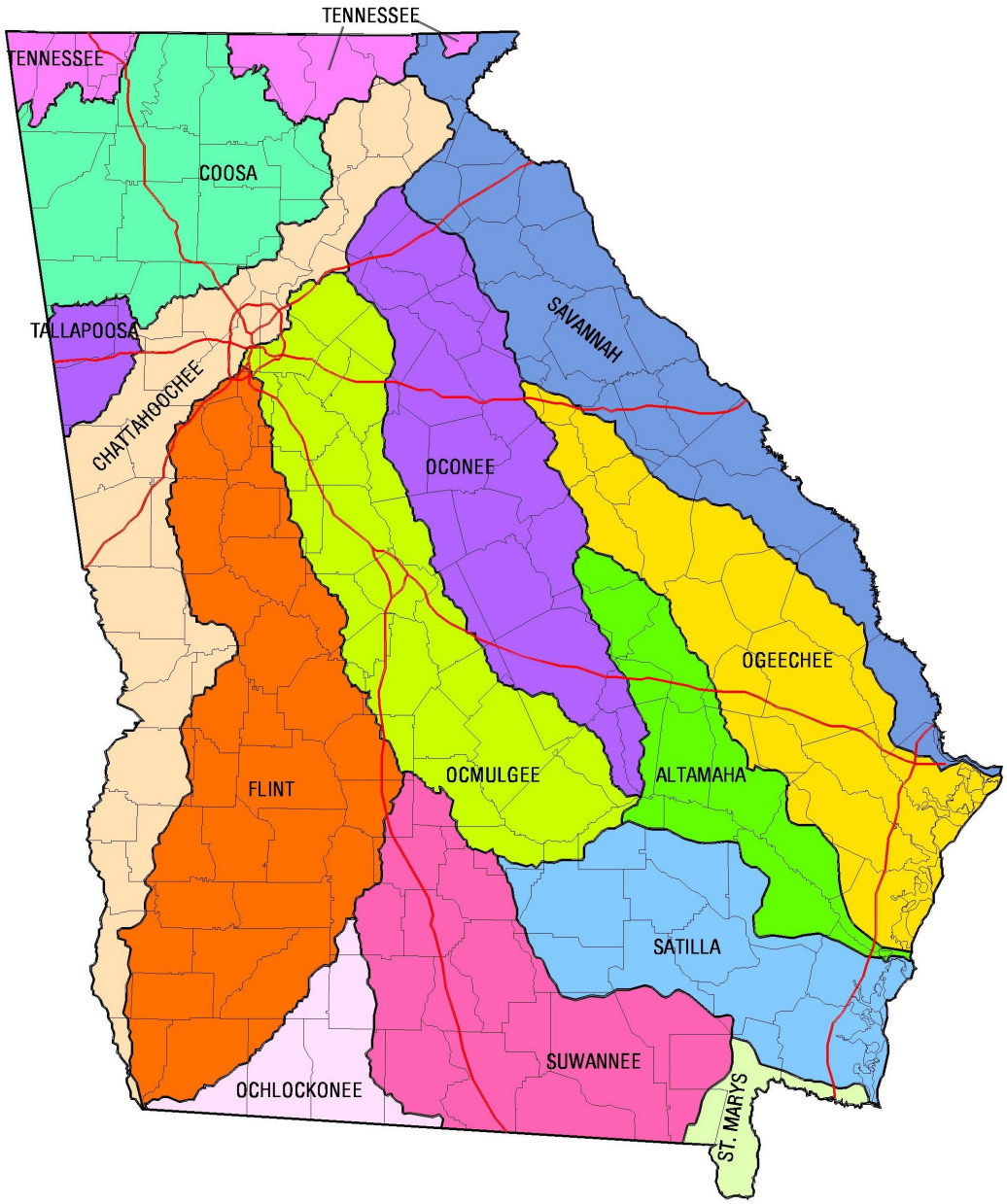
GEORGIA

Adopt-A-Stream

Department of Natural Resources
Environmental Protection Division
Spring 2008

Getting to Know Your Watershed



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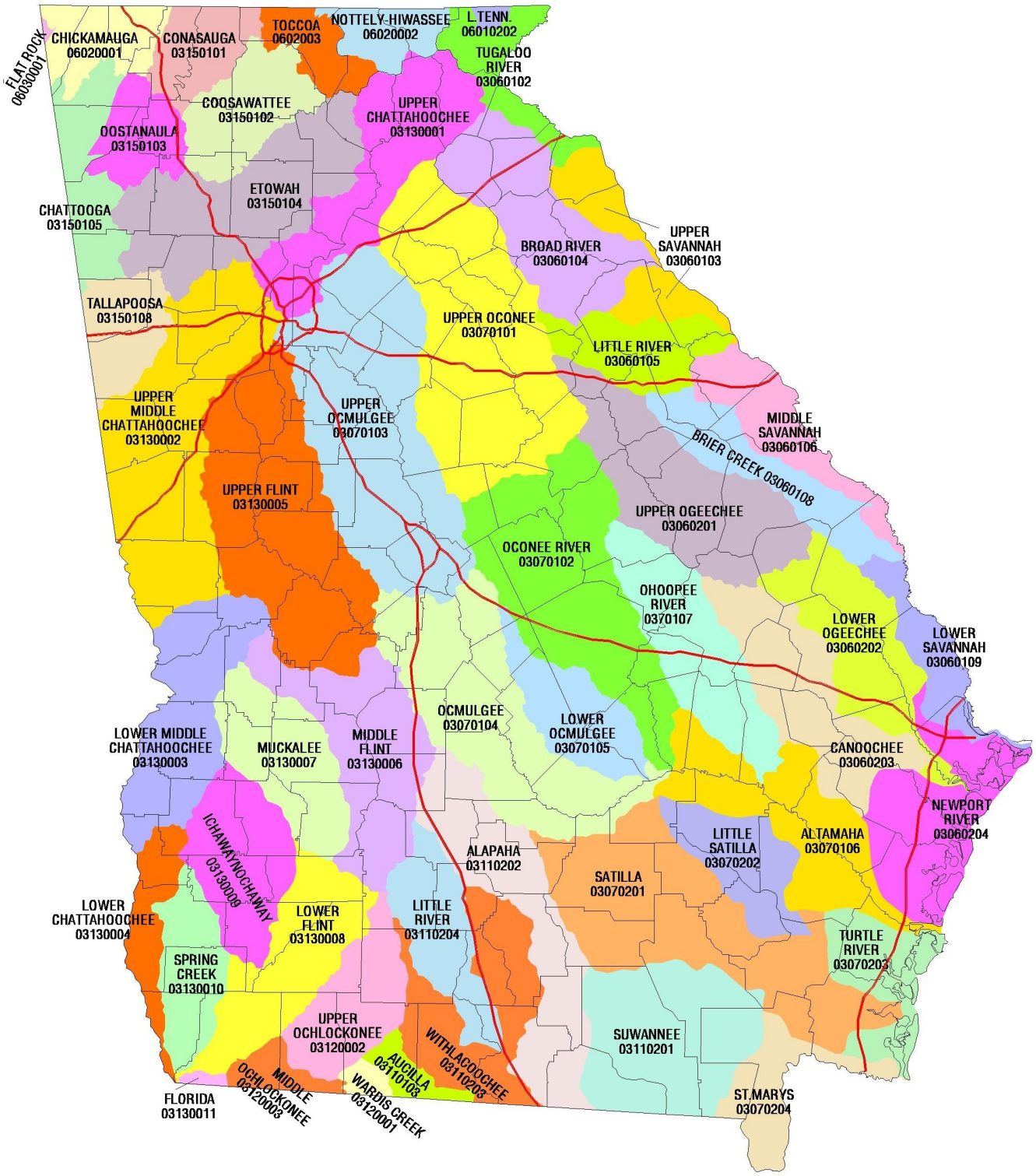
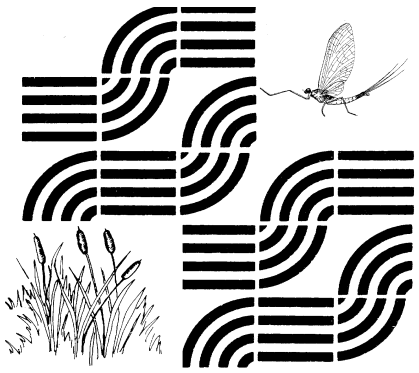
Georgia's 52 Major Watersheds



Map by the Geologic Survey Branch, Environmental Protection Division
Provided to the Georgia Water Management Campaign
Watershed boundaries from United States Geological Survey 8 digit Hydrologic Cataloging Units
Watershed names from Water Protection Branch, Environmental Protection Division
Cover: Georgia's 14 major river basins



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Coastal Georgia Region
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Writers/Editors
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Some of the material in this manual was taken from the following documents:

Stream Corridor Restoration: Principles, Processes and Practices
The Federal Interagency Stream Restoration Working Group, October 1998
http://www.usda.gov/stream_restoration/

Volunteer Stream Monitoring: A Methods Manual
EPA 841-B-97-003

Protecting Community Streams: A Guidebook For Local Governments In Georgia
Prepared by the Atlanta Regional Commission for Georgia Environmental Protection Division, Spring 1993.

Land Development Provisions To Protect Georgia Water Quality
Georgia DNR, EPD. Prepared by The School of Environmental Design, UGA, October 1997.

The Natural Environments of Georgia
DNR Georgia Geological Survey Bulletin 114. By Charles H. Wharton. Third printing 1998.

Adopt-A-Stream: A Northwest Handbook. University of Washington Press 1988.

Water Quality In Georgia 2000 – 2001. Prepared by Georgia DNR, EPD.

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Water Quality in Georgia

The key issues and challenges to be addressed now and in the future years include (1) the control of toxic substances, (2) the reduction of nonpoint source pollution, (3) the need to increase public involvement in water quality improvement projects, and (4) a sustainable supply of potable water. The implementation of the River Basin Management Planning program in Georgia provides a framework for addressing each of the key issues.

The reduction of toxic substances in rivers, lakes, sediment and fish tissue is extremely important in protecting both human health and aquatic life. The sources are widespread. The most effective method to reduce releases of toxic substances into rivers is pollution prevention, which consists primarily of eliminating or reducing the use of toxic materials or at least reducing the exposure of toxic materials to drinking water, wastewater and stormwater. It is very expensive and difficult to reduce low concentrations of toxic substances in wastewaters by treatment technologies. It is virtually impossible to treat large quantities of stormwater and reduce toxic substances. Therefore, toxic substances must be controlled at the source.

The pollution impact on Georgia streams has radically shifted over the last two decades. Streams are no longer dominated by untreated or partially treated sewage discharges which resulted in little or no oxygen and little or no aquatic life. The sewage is now treated, oxygen levels have returned and fish have followed. However, another source of pollution is now affecting Georgia streams. That source is referred to as nonpoint and consists of mud, litter, bacteria, pesticides, fertilizers, metals, oils, suds and a variety of other pollutants being washed into rivers and lakes by stormwater. This form of pollution, although somewhat less dramatic than raw sewage, must be reduced and controlled to fully protect Georgia's streams. As with toxic substance control, nonstructural techniques such as pollution prevention and best management practices must be significantly expanded. These include both watershed protection through planning, zoning, buffer zones, and appropriate building densities as well as increased use of stormwater retention ponds, street cleaning and perhaps eventual limitations on pesticide and fertilizer usage.

It is clear that local governments and industries, even with well-funded efforts, cannot fully address the challenges of toxic substances and nonpoint source pollution control.

Citizens must individually and collectively be part of the solution to these challenges. The main focus is to achieve full public acceptance of the fact that some of everything put on the ground or street ends up in a stream. Individuals are littering, driving cars which drip oils and antifreeze, applying fertilizers and pesticides and participating in a variety of other activities contributing to toxic and nonpoint source pollution. If streams and lakes are to be pollutant free, then some of the everyday human practices must be modified. The GAEPD will be emphasizing public involvement; not only in decision-making but also in direct programs of stream improvement. The first steps are education and adopt-a-stream programs.

Georgia is one of the fastest growing states in the nation. The burgeoning population is making considerable demands on Georgia's ground and surface water resources. The problems and issues are further complicated by the fact that surface water resources are limited in South Georgia and groundwater resources are limited in North Georgia. In some locations, the freshwater resources are approaching their sustainable limits.

Water management planning based on the Georgia 2004 Comprehensive State-wide Water Planning Act will provide an opportunity to explore opportunities to develop a plan that will provide for management of water resources in a sustainable manner to support the states economy, to protect public health and natural systems, and to enhance the quality of life for all citizens.

* Taken From *Water Quality In Georgia, 2002-2003, Chapter 1, Executive Summary*

Water Resources Atlas

State Population	8,383,915
State Surface Area	58,910 square miles
Number of Major River Basins	14
Number of Perennial River Miles	44,056 miles
Number of Intermittent River Miles	23,906 miles
Number of Ditches and Canals	603 miles
Total River Miles	70,150 miles
Number of Lakes Over 500 Acres	48
Acres of Lakes Over 500 Acres	265,365 acres
Number of Lakes Under 500 Acres	11,765
Acres of Lakes Under 500 Acres	160,017 acres
Total Number of Lakes & Reservoirs, Ponds	11,813
Total Acreage of Lakes, Reservoirs, Ponds	425,382 acres
Square Miles of Estuaries	854 square miles
Miles of Coastline	100
Acres of Freshwater Wetlands	4,500,000 acres
Acres of Tidal Wetlands	384,000 acres

Georgia Adopt-A-Stream

Georgia Adopt-A-Stream (AAS) is housed in the NonPoint Source Program in the Water Protection Branch of the Georgia Environmental Protection Division. The program is funded by a Section 319(h) Grant. The goals of Georgia Adopt-A-Stream are to (1) increase public awareness of the State's nonpoint source pollution and water quality issues, (2) provide citizens with the tools and training to evaluate and protect their local waterways, (3) encourage partnerships between citizens and their local government, and (4) collect quality baseline water quality data.

To accomplish these goals, Georgia Adopt-A-Stream encourages individuals and communities to monitor and/or improve sections of streams, wetlands, lakes or estuaries. Manuals, training, and technical support are provided through Georgia EPD, Adopt-A-Stream Regional Training Centers and more than 50 established Community/Watershed Adopt-A-Stream organizers. The Adopt-A-Stream and Wetland Regional Training Centers are located at State Universities in Columbus, Milledgeville, Americus, and Savannah. These centers play a key role in providing training, technical support and organizational support to citizens throughout Georgia.

There are more than 50 Community/Watershed Programs that organize Adopt-A-Stream groups in their watershed, county or city. These local Adopt-A-Stream programs are funded by counties, cities and nonprofit organizations and use the Georgia Adopt-A-Stream model, manuals and workshops to promote nonpoint source pollution education and data collection in their area. The State office works closely with these programs to ensure volunteers receive appropriate support and training.

The Adopt-A-Stream program offers different levels of involvement. At the most basic level, a new group informs their local government about their activities and creates partnerships with local schools, businesses and government agencies. A watershed survey and 4 visual surveys are conducted within a year's time. Volunteers create a "Who To Call List" so if something unusual is sighted, the appropriate agencies can be notified. *Getting To Know Your Watershed* and *Visual Stream Survey* manuals provide guidance in these activities.

If volunteers wish to learn more about their adopted body of water, they are encouraged to conduct biological or chemical monitoring. The *Biological and Chemical Stream Monitoring* manual guides volunteers through the monitoring process. Free workshops are provided at regular intervals in the across the State. These workshops are listed in our bimonthly newsletter and our website. Volunteers can monitor their waterways without attending a workshop, but those who attend and pass a QA/QC test will then be

considered quality data collectors under the Georgia Adopt-A-Stream Quality Assurance Plan. QA/QC data is posted on the Adopt-A-Stream database.

The title "Adopt-A-Stream" is a little misleading since the program also provides manuals and training for lake and wetland monitoring. The *Freshwater Wetland Monitoring* manual and workshops highlight wetland values and functions, which guides volunteers through the monitoring of soils, vegetation and hydrology. A separate *Coastal Wetland Monitoring* manual created by UGA Marine Extension Service provides guidance for volunteers interested in monitoring coastal habitats and the biological and chemical parameters specific to marine conditions. The Adopt-A-Lake program is a collaborative effort between Georgia Adopt-A-Stream and Georgia Lake Society. The Georgia Lake Society provides training workshops and technical advice throughout the state. An *Educator Guide* is also offered. This guide helps teachers put Adopt-A-Stream activities into a lesson plan format.

Georgia Adopt-A-Stream has partner with government and non-government groups to provide access to technical information and assistance to citizens interested in preserving and restoring the banks and vegetation along their waterways. This network will assist local governments to educate citizens on the importance of protecting riparian corridors and provide landowners with the information they need to restore the riparian zone on their property to reduce erosion, improve water quality, and provide wildlife habitat with native plantings.

*As of June 2005, Georgia Adopt-A-Stream has trained more than 14,000 volunteers and currently has 106 active groups monitoring in Georgia.

Resources Available from Georgia Adopt-A-Stream

- Website at www.georgiaadoptastream.org
- *Getting To Know Your Watershed* Manual
- *Visual Stream Survey* Manual
- *Biological and Chemical Stream Monitoring* Manual
- *Adopt-A-Wetland* Manual and workshop
- *Coastal Georgia Adopt-A-Wetland* Manual
- *Adopt-A-Lake* Manual
- *Adopt-A-Stream Educator's Guide*
- *Rivers Alive Guide to Organizing and Conducting a Cleanup*
- *Georgia Adopt-A-Stream: It All Begins With You* video
- Getting Started: Watershed Survey and Map Assessment workshops
- Biological Monitoring workshops
- Chemical Monitoring workshops
- Train – The – Trainer workshops
- You Are The Solution To Water Pollution Posters and Brochures
- Database
- Newsletter
- Technical and logistical support for volunteers and communities

Introduction

GETTING TO KNOW YOUR WATERSHED

Getting To Know Your Watershed is the first in a series of manuals produced by Georgia Adopt-A-Stream. Whether you wish to monitor a stream, wetland, lake or estuary, this manual will guide you through the important first steps. Included in this manual is all the information and activities you will need to adopt a stream, wetland or lake!

We hope you will find this manual a useful tool for beginning to understand your watershed. We are always open for suggestions on how to improve and modify future additions, so please don't hesitate to forward us your suggestions.

***Getting To Know Your Watershed* is an important first step towards gaining an in-depth understanding of the processes influencing water quality. Many of the potential land use activities that will impact your stream, wetland, lake or estuary can be pinpointed by carefully analyzing human activity within your watershed.**

By assessing the health of a waterbody, we are in fact making an assessment of the health of the land on which we live. The streams wind their way through our landscape and the wetlands nestled in our neighborhoods serve as indicators of the health of our natural environment.

Volunteers Assess Their Watershed