

# GEORGIA ADOPT-A-STREAM AND GEORGIA PROJECT WET: TOOLS FOR AN URBAN WATERSHED

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**Abstract.** Urban watersheds pose unique challenges for environmental protection and preservation. Citizen-based groups and educators in metropolitan areas can help alleviate some urban impacts on the health of these watershed systems. Two programs that have had success in reaching out and connecting with urban communities and educators are Georgia Adopt-A-Stream (AAS) and Georgia Project WET (Water Education for Teachers). These programs provide citizens with a combination of hands-on tools that promote: education through exploration and investigation of waterways; sharing of information with other concerned citizens and partnering with local governments and schools; and options for action to protect watersheds and improve environmentally degraded systems.

## INTRODUCTION

Georgia Adopt-A-Stream (AAS) and Georgia Project WET (Water Education for Teachers) are programs of the Environmental Education Unit housed in the NonPoint Source Program in the Water Protection Branch of the Georgia Environmental Protection Division (EPD). These programs are funded through a Section 319(h) Grant.

### Georgia Adopt-A-Stream

Georgia Adopt-A-Stream was created in 1993. The goals of the program 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. These centers play a key role in providing training,

technical support and organizational support to citizens throughout Georgia.

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 AAS office works closely with these programs to ensure that volunteers are receiving appropriate support and training.

### Georgia Project WET

Georgia Project WET was established in 1996 when Georgia EPD selected Project WET as its water and nonpoint source education curriculum for the State. Project WET is an international program with an interdisciplinary water science and education curriculum that can be integrated into the existing education curriculum of a school, museum, university, or organization. The goals of the Georgia Project WET program are to facilitate and to promote awareness, appreciation, knowledge and stewardship of water resources through the development and dissemination of K-12 classroom-ready teaching aids. The Georgia Project WET program provides additional water resource education for teachers such as the nonpoint source classroom module, the Enviroscape and additional supplemental curriculum.

## CHALLENGES FOR URBAN WATERSHEDS

Citizens in metropolitan areas are faced with challenges unique to the urban environment. Stresses on urban aquatic systems include highly fluctuating hydrographs as a result of stormwater runoff. This stormwater washes nonpoint source pollutants into streams from urban roadways, businesses and homeowner property. Improperly managed land disturbing activities and erosion from homeowners can increase instream sedimentation. These and other impacts result from increased impervious surfaces, reduction of greenspace, and unprotected riparian corridors.

## **Tools for Urban Systems**

Georgia Adopt-A-Stream provides hands-on activities that help citizens identify and remediate some of the water quality problems that urbanites encounter. Hands-on activities include assessing water chemistry and the health of biological communities, and perhaps most important for urban communities, investigating the physical characteristics of stream conditions. All Adopt-A-Stream participants are encouraged to make thorough investigations of landuse practices that may adversely impact their watershed.

Adopt-A-Stream activities provide the volunteer with opportunities to collect valuable information about their local waterways and to share their newly acquired knowledge with others in the community through an outreach activity. This sharing of information in turn raises environmental awareness within the larger community and with local partners. This information may also provide local governments with additional information to make wise stewardship decisions on greenspace protection and acquisition.

All Adopt-A-Stream activities are inexpensive and easy to implement. Emphasis is placed on activities that will help participants become stewards of their environment. In all cases, partnerships with local organizations will help ensure project success.

Recently, Georgia Adopt-A-Stream teamed up with a number of Atlanta area groups to increase awareness and knowledge of watershed stewardship practices available to the Georgia urban and suburban homeowner. Practices focus on management for healthy riparian area, and on a variety of approaches to reduce pollutants and stormwater from lawns and gardens.

This network provides access to technical information and assistance for citizens interested in preserving and restoring urban watersheds. Communication occurs via passive means – published materials and the Internet – and hands-on opportunities such as participation at demonstration sites and via tours of completed sites. Through these practices, homeowners are provided information to conduct property and backyard riparian improvements and minor stream restoration projects. These practices will help protect water quality and provide wildlife habitat.

Watershed groups and local government can provide a great deal of assistance to improve urban waterways. However, citizens and homeowners are an important part of the puzzle to make these improvements a reality. Through hands-on activities to investigate streams, identify problems and improve conditions, Georgia Adopt-A-Stream can serve as a tool for connecting citizens and local organizations.

## **Tools for Urban Schools**

Just as can a watershed and neighborhood group, schools can play an important role in improving waterways by educating our children about water issues. To bring real life applications to the classroom, Georgia Project WET is currently developing *The Urban Watershed, a Supplement to the Project WET Curriculum and Activity Guide* for teachers in Atlanta. This 4-8<sup>th</sup> grade activity guide is designed to help students understand what happens to water as it moves through the city. The activities use the City of Atlanta as an example but are appropriate for any city to use for study of urban watersheds.

As the City of Atlanta grows so do the challenges that surround the provision of safe drinking water, sewage collection and treatment services for residents and businesses. The Chattahoochee River, a small river by most standards, is metro Atlanta's principal drinking water source and also where wastewater is discharged once it is cleaned. Protecting this finite resource while making it available for potable water uses and recreation is important to sustaining the growth and prosperity of the City. Over the next 14 years Atlanta will undergo major water-related improvements.

*Sewer System Soup* is an activity in the Urban Watershed Supplement that helps students understand the difference between combined and separated sewer pipes and become aware of the impacts of stormwater on the wastewater system. For example, sewer system wastewater and stormwater are carried to treatment in the same pipe. During heavy rain episodes wastewater is transferred to the Combined Sewer Overflow facility for some treatment prior to wastewater entering the river. Students become wastewater or stormwater moving through a pipe and will experience the journey with rain and storm episodes.

## **CONCLUSIONS**

By providing hands-on tools and activities, citizens and students are able to understand and therefore, protect urban watersheds. Even though progress has been made, more work is to be done. If you are interested in learning more about Project WET or Adopt-A-Stream, or would like to receive copies of manuals, please contact the EPD Education Outreach Unit at 404-675-6240.