

# **Professional Learning Units for Teachers**

## Information for Georgia Adopt-A-Stream Trainers

### **The What and Why of Professional Learning Units (PLU's)**

Teachers in Georgia must participate in continuing education activities to renew their teaching certificate. This continuing education is measured in "Professional Learning Units (PLU). They need to earn 10 PLU's every five years. Ten hours of instruction and some sort of verification (either mastery (test/observation) or on the job assessment) are required for each PLU credit.

### **The How of Professional Learning Units.**

PLU credit has to be offered by an approved provider who has a system for getting courses approved and keeping track of them. **Georgia Adopt-A-Stream/Georgia Project WET** is an approved PLU provider and will issue all of the PLU credit for certified teachers in Georgia who participate in Adopt-A-Stream Training. Here is what you as a trainer have to do to provide this credit:

1. Review the attached syllabus and plan your training accordingly.
2. Ask the teacher(s) to get the Prior Approval Form signed before coming to your workshop. This gives them permission to take the course. Teacher can return the form to you prior to the workshop or bring it with them on the first day. Note that the Prior Approval Form needs to have a syllabus attached to it and has blank spaces on it filled in the local information (your agency, the date, the time, the trainer's name). If all the teachers are from one system, they only need one form with all of their names on it.
3. Keep a roll, verifying their attendance for the required number of hours. To receive the one PLU credit, a teacher must attend ten hours of training.
4. Give QA/QC tests at the end. You may set your own level for passing for PLU credit that doesn't require the level of performance that submitting certified data does.
5. Give the Teachers a filled out copy of the completion form and **KEEP A COPY**. (Suggestion: because you will need a copy of these forms, and the teachers have to fill in the top, get that part filled out at the first session so that you can have the copies made to return to them at the second one.) Tell them to give it to their staff development director.
6. Send the following copies to **GEORGIA ADOPT-A-STREAM**: Prior Approval, PLU Completion Forms, and the Sign-In sheets. Direct questions to 404-651-8512, e-mail: [AAS@gaepd.org](mailto:AAS@gaepd.org) or mail to the following address:

2 MLK Jr. Drive, 1462 East  
Atlanta, GA 30334

# Performance Learning Units Syllabus

## Georgia Adopt-A-Stream Training Workshop



Georgia Adopt-A-Stream  
404.675.6240  
[www.GeorgiaAdoptAStream.org](http://www.GeorgiaAdoptAStream.org)

**1. Course Title:** Georgia Adopt-A-Stream for Teachers

**2. Course Information:**

- Number of PLU's: 1
- Location: Various, as scheduled by Adopt-A-Stream trainers.
- Dates: To be arranged. Format is minimum of 2 days.

**3. Goals to be addressed by the PLU course**

- To understand the purpose of water quality monitoring programs
- To learn sampling, identification and interpretation techniques for water quality monitoring

**4. Improvement Practice to be implemented:**

- Engage students in water quality monitoring activities
- Utilize water quality monitoring as a way to address state curriculum standards

**5. Competencies to be developed with associated performance indicators identified**

**An understanding how to:**

- Use maps to identify a watershed.
- Conduct a watershed walk in a segment of that watershed and interpret the results, using Georgia Adopt-A-Stream forms.
- Identify a watershed protection activity suitable for the location and age of students involved.
- Compile a list of local watershed protection and problem solving resources.
- Demonstrate appropriate sampling techniques, as specified by the Georgia Adopt-A-Stream (AAS) program.
- Use appropriate sampling, interpretation and safety procedures as specified by the AAS program

**Performance Indicators for Competencies:**

- Quality Assured Quality Controlled water quality macroinvertebrate parameters test.
- Quality Assured Quality Controlled water quality chemical parameters test.
- Quality Assured Quality Controlled water quality bacterial parameters test.

# GEORGIA ADOPT-A-STREAM TRAINING WORKSHOPS



## **Getting Started with Georgia Adopt-A-Stream/Visual Stream Survey**

Conducting Watershed Survey, Map Assessment and Visual Stream Survey - 4 hours

This workshop is based on the manual Getting To Know Your Watershed. Volunteers learn about the process of registering the stream, wetland or lake that they will monitor. Then volunteers learn how to use maps to delineate and assess their watershed. Land use and impervious surface is discussed as it pertains to the watershed survey data forms. The second half of the workshop is spent at a stream conducting the visual stream survey and learning how to do a stream cross-section and calculate flow.

## **Chemical Monitoring Workshop for Quality Assurance**

Chemical Monitoring – 4 hours

The Chemical Monitoring workshop is designed to teach volunteers about basic stream water chemistry and how to conduct the chemical tests using hand-held field equipment. The basic set of tests that volunteers are asked to conduct includes dissolved oxygen, conductivity, pH, and temperature. Advanced tests include alkalinity, phosphate and nitrate-nitrogen. Volunteers are given a field test and written test to assess their ability to collect accurate and precise data. Volunteers who collect data within 10% accuracy and pass the written test with a score of 80% or better will be considered a QA/QC volunteer for one year.

## **Macroinvertebrate Monitoring Workshop for Quality Assurance**

Biological Monitoring – 5 hours

Learn how to sample the biological diversity of a stream! The macroinvertebrates (insects, mollusks & crustaceans) found in a stream are excellent indicators of the condition of both water quality and habitat. This workshop will focus on collection techniques for either rocky or muddy bottom streams as well as macroinvertebrate identification. A quality assurance test is available at the end of the workshop for those who wish to test their skills. Volunteers who identify the macroinvertebrates with 90% accuracy and pass the written test with a score of 80% or better will be considered a QA/QC volunteer for one year.

## **Bacterial Monitoring Workshop for Quality Assurance**

Bacterial Monitoring - 3 hours

The Bacterial Monitoring Workshop will teach volunteers how to monitor *Escherichia coli* levels in their adopted waterway. *E. coli* is an indicator organism that is often used to assess the water quality. Monitoring levels of *E. coli* can help identify possible sources of pollution. This workshop will focus on proper collection of a water sample; transfer of sample onto plates that will be incubated and proper interpretation of results. Volunteers who successfully perform the bacterial monitoring and pass the written test with a score of 80% or better will be considered a QA/QC volunteer for one year.

### **Amphibian Monitoring Workshop**

Amphibian Monitoring – 3 hours

Learn how to monitor for amphibians (frogs and salamanders), through passive methods. Amphibians are found in a variety of upland and aquatic habitats including streams, wetlands, and lakes. This workshop will focus on the instruction of monitoring techniques including treefrog refugia, coverboards, and frog calls. Volunteers will also be instructed on general life history, site setup, safe handling procedures of amphibians and the need to gather life history information critical for conservation planning. Volunteers who attend will be considered an amphibian monitoring volunteer.

### **Wetland Monitoring**

3 hours

Adopt-A-Stream's Wetland Monitoring Program immerses participants into the amazing world of wetlands. During this workshop, participants will learn about Georgia's wetland types and how to classify wetlands based on their soils, hydrology and vegetation. The workshop will also introduce them to challenges facing wetlands and provide the tools necessary to participate in their protection. Volunteers who attend will be considered a freshwater wetland monitoring volunteer.

### **Educator's Guide Workshop**

5 hours

Adopt-A-Stream Educator's Guide is designed to introduce the Adopt-A-Stream monitoring program to students across Georgia. These activities will bring water quality education to your classroom and spark your students' interest in protecting our precious water resources. During this workshop, educators will participate in several of these activities and learn how to use them in the classroom. Teachers will then be asked to submit a detailed report on how they use the Adopt-A-Stream Educator's Guide as an educational tool. This workshop is suitable for formal and non-formal teachers

**\* One PLU credit available to teachers for participation in 10 hours of any of the above workshops.**

**\*\*Most AAS workshops combine Getting Started and Chemical workshops. The Introduction is then shortened to 1.5 hour.**