

GEORGIA

Adopt-A-Stream



Volume 10, Number 5, September / October 2003
Harold Harbert and Kim Morris-Zarneke, Editors

Should You Be Testing Conductivity?

Every year, thousands of Georgians volunteer their time for water quality monitoring. To date though, very few groups take conductivity measurements. High profile exceptions include River Rendezvous, events that monitor an entire watershed on a single day to get a “snap shot” of water quality trends. One of the tools these River Rendezvous have implemented is conductivity measurements.

Conductivity is a measure of the ability of water to pass an electrical current. Conductivity in water is affected by the presence of inorganic dissolved solids such as chloride, nitrate, sulfate, and phosphate anions (ions that carry a negative charge) or sodium, magnesium, calcium, iron, and aluminum cations (ions that carry a positive charge). Organic compounds like oil, phenol, alcohol, and sugar do not conduct an electrical current very well. Conductivity is also affected by temperature: the warmer the water, the higher the conductivity. For this reason, conductivity is reported as conductivity at 25 degrees Celsius (25 C). For most surface water monitoring, conductivity is measured in microsiemens per centimeter ($\mu\text{s}/\text{cm}$).

Conductivity in natural systems is affected primarily by the geology of the area through which the water flows. Streams that run through areas with granite bedrock such as in North Georgia tend to have lower conductivity because granite is composed of more inert materials that

do not ionize (dissolve into ionic components) when washed into the water. On the other hand, streams that run through areas with clay soils tend to have higher conductivity because of the presence of materials that ionize when washed into the water.

Distilled water has conductivity in the range of 0.5 to 3 $\mu\text{s}/\text{cm}$. The conductivity of rivers in Georgia generally ranges from 50 to 1500 $\mu\text{s}/\text{cm}$. Studies of inland fresh waters indicate that streams supporting good mixed fisheries have a range between 50 and 500 $\mu\text{s}/\text{cm}$. Conductivity outside this range could indicate that the water is not suitable for certain species of fish or macroinvertebrates. Industrial waters can range as high as 10,000 $\mu\text{s}/\text{cm}$. Discharges to streams can change the conductivity depending on their make-up. A failing sewage system would raise the conductivity because of the presence of chloride, phosphate, and nitrate; an oil spill would lower the conductivity.

For the Peachtree Nancy Creek River Rendezvous, the average 2001 conductivity measurements was 177 $\mu\text{s}/\text{cm}$ and around 140 $\mu\text{s}/\text{cm}$ for 2002. The Athens River Rendezvous has found that most streams in the Upper Oconee report conductivity measurements in the 50 $\mu\text{s}/\text{cm}$ range; numbers above 100 $\mu\text{s}/\text{cm}$ warrant cause for concern. Individual monitoring groups can gather baseline information on conductivity measurements for their local waterbody.

Documented changes in conductivity readings deserve further investigation.

Conductivity meters are relatively inexpensive and easy to use. Information on equipment can

be found at www.riversalive.org/aas.htm, go to Monitoring Tools and click on Monitoring Equipment.

The Garden Club of Georgia, Inc. Salutes Georgia Adopt-A-Stream

April 24, 2003 The Garden Club of Georgia, Inc. inaugurated a new program, entitled ***FLOW~ Forging Leadership in Our Watersheds***, a “Program for Community-Based Watershed Protection” in Georgia. This program will be implemented at all levels – national, regional, state, district and local, by GCG’s 550 garden clubs and 16,000 individual members. “Through partnerships, sponsorships and endorsements of new and existing environmental protection programs, we can bring together the garden club movement, coupled with individual member efforts in a united effort to help solve our problems concerning water quality and water resources, a program which promotes GCG’s mission of Beautification, Conservation, and Education ...” according to Jaydee Atkins Ager, State President.

The FLOW~ mission is “to restore and preserve the ecological balance of our watersheds, balanced with economic prosperity and community well-being.”

The FLOW~ Program for Watershed Education and Watershed Restoration, is a coordinated effort, in which we focus public and private efforts to address problems in a specific watershed, in order to provide the framework for sound environmental management. And, by developing a sustainable community-based partnership of stakeholders in each watershed – a watershed alliance composed of garden club members, concerned citizens, property owners, educators, environmentalists, planners, businesses, and governmental representatives – we can help provide the leadership, education and financial support to protect our watersheds in Georgia.

This year we are pleased to have as our community partners, Georgia Adopt-A-Stream and Rivers Alive. With the assistance of Georgia Adopt-A-Stream, we have successfully conducted our first statewide FLOW~ Workshop (May14 -15 2003) for GCG Officers, Board Members, and District leaders. This Fall, we will host seven GCG District-Sponsored FLOW~ Workshops, throughout the State between September 11 and November 19. We are also hosting a cleanup this October in each of the seven GCG Districts as part of the annual Rivers Alive Cleanup of Georgia’s 70,150 miles of waterways. In addition to District sponsored cleanups, individual garden clubs in Azalea, Laurel, Magnolia and Redbud Districts are also involved with Rivers Alive.

As Georgia’s citizens begin to take a global approach to environmental problems, we must look beyond the political boundaries of county, city, state and country to the world as it really is: a collection of watersheds, lakes, rivers and aquifers that together maintain the earth’s biota – or us! The unquestionable facts are...not only are we faced with water pollution, we are actually running out of fresh water. In the developed world, widespread water shortages are projected but not yet widely experienced. In the developing world, however, the crisis has already arrived. In 2000, as many as 1.2 billion people (one out of five globally) had no access to clean drinking water. And nearly three billion were without sanitation: no underground sewage, toilets or latrines. More than five million died of waterborne diseases such as cholera, diarrhea, and dysentery – in fact, most disease in the developing world is water-related.

What does this mean for members of GCG? When Georgia’s Governor Sonny Perdue addressed garden club members at their 75th Anniversary Tea in June 2003, he was quoted as saying that the FLOW~ Program might



Mary Lovings of the Redbud District and Anne Scott Williams of the Magnolia District of Garden Club of Georgia conduct stream channel cross-section measurements.

possibly be “the most important program” ever instituted by The Garden Club of Georgia, Inc. As global citizens, not only must we concern ourselves with problems here in Georgia, but we can also offer our assistance and leadership at a national level through our membership in National Garden Clubs, Inc.

Patricia Payne White, State Co-Chair FLOW~
The Garden Club of Georgia, Inc.

Adopt-A-Stream Calendar of Events

The following workshops, taught by certified AAS trainers, provide training in visual, biological and chemical monitoring of streams. Teachers may receive 1 SDU credit for participating – please go to the AAS website under Teacher Corner for more details. Please call to register for a workshop.

What	Who	When	Where	To Register
Getting Started w/ AAS	Georgia Wildlife Federation	Sept 13	Covington	770-787-7887
Getting Started w/ AAS	Canoochee Riverkeeper	Sept 16	Swainsboro	478-289-6523
Biological	Upper Etowah AAS	Sept 20	TBA	678-640-2563
Biological	Cobb County AAS	Sept 20	Cobb Co	770-528-1480
Bio/Chem	GA AAS	Sept 20	Ware Co	404-675-1636
Chemical	Canoochee Riverkeeper	Sept 23	Swainsboro	478-289-6523
Biological	Canoochee Riverkeeper	Sept 30	Swainsboro	478-289-6523
Getting Started w/ AAS	Upper Etowah AAS	Oct 4	Canton/Woodstock	770-591-7156 x5
Chemical	Upper Etowah AAS	Oct 11	Canton/Woodstock	770-591-7156 x5
Chemical	Georgia Wildlife Federation	Oct 11	Newton Co	770-787-7887
Chemical	Clayton County AAS	Oct 18	Clayton Co	678-422-2838
Biological	Georgia Wildlife Federation	Nov 1	Newton Co	770-787-7887
Getting Started w/ AAS	Fulton County AAS	TBA	Fulton Co	404-730-8006
Chemical	Fulton County AAS	TBA	Fulton Co	404-730-8006
Biological	Fulton County AAS	TBA	Fulton Co	404-730-8006

NOTE: Workshop times vary. Please call to get exact times and locations. Workshop information is updated weekly on our website at www.riversalive.org/aas.htm

QA/QC Recertification: All QA/QC volunteers must renew certification on a yearly basis. This can be accomplished by participating in the second half of our regular chemical or biological workshop. To register, please contact one of our scheduled workshops.

Get Involved in Coastal Monitoring

Coastal Adopt-A-Wetland is swinging into full gear. They have “adopted” the Georgia Adopt-A-Stream QAQC plan for their coastal chemical monitoring workshops. They also offer an informative non-QAQC biological monitoring workshop. The dates are:

September 13	Biological	September 18	Chemical	Some of the
September 16	Chemical	October 18	Chemical	

workshop sessions are already filled so call in advanced to sign up – contact Mary at 912-598-2388 or Ellie at 912-598-3349.

On October 11, Coastal Adopt-A-Wetland is sponsoring a cleanup of the marsh on Laroche Ave., Savannah. Call Mary or Ellie for details.

Save the Date!

Georgia River Network is holding its Annual Conference on February 6-8, 2004 at Georgia College and State University, Milledgeville. Don't miss this informative conference. Go to www.garivers.org or contact Dana Poole at 706-549-4508.

Join the WRANG Fall Forum

WRANG (Water Resources Alliance of North Georgia) will hold its annual forum at the Sautee Nacoochee Community Center on September 27, 2003. There is no cost and lunch is included. The agenda includes: watershed group networking, speakers from the Georgia Water Coalition, and the role of conservation easements in watershed protection from the Georgia Land Trust. Pre-registration and details are available on the Georgia River Network calendar at www.garivers.org.



Dr. Yeomans of South Georgia College leads a Coastal Plains workshop on visual and chemical monitoring.

Get Involved in Local Monitoring

Georgia Adopt-A-Stream is fortunate to have 50 local community/watershed coordinators. Our local coordinators are independent programs affiliated with a city or county government, or with a local nonprofit. Some coordinators simply serve as point people for Adopt-A-Stream. Others may offer workshops covering watershed assessments and visual monitoring, chemical and biological monitoring; assist in identifying streams to adopt; provide resources such as maps and monitoring equipment; conduct outreach activities for local community groups and schools; and/or provide general assistance in organizing local monitoring programs. If you haven't already done so, contact your local Adopt-A-Stream community/watershed coordinator. For contact info, please go to www.riversalive.com/coordinators_and_trainers.htm.



Sharon Cowden of Fulton Co., with Brian Wiley of Hall Co./Gainesville and Michael O'Shield of Gwinnett Co. in the background, participate in a mandatory annual trainer recertification workshop.



Check out the Rivers Alive website to find a cleanup event in your neighborhood. Volunteers will receive a free T-shirt. Over 170 events across the State are registered, so go to www.riversalive.org today and get involved.

Erosion & Sediment Control Workshops For Atlanta Residents

Workshop dates are September 18, 23 & 30 and October 9. The events are free and open to the public. Registration is encouraged. To register, go online to www.cleanwatercampaign.com.

The Georgia Adopt-A-Stream Newsletter is published six times per year. For more information about the Georgia Adopt-A-Stream program or to contribute to the newsletter, call or write to:

Georgia Adopt-A-Stream
Environmental Protection Division
4220 International Parkway, Suite 101
Atlanta, GA 30354
(404) 675-1639 or 1636
www.riversalive.org/aas.htm

Printed on recycled paper

