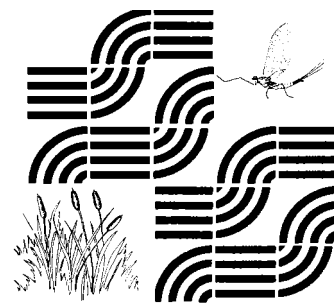


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Department of Natural Resources

Paddle Georgia 2014: The Chattahoochee River



Photos by: Gwyneth Moody~Georgia River Network~www.GaRivers.org

The 2014 Paddle Georgia (PG) event, coordinated by the Georgia River Network (GRN), took over 450 paddlers down a 110-mile stretch of the Chattahoochee River. We began the seven day journey on June 21st north of Atlanta continuing south through the heart of the city and ended our southwestern journey at Franklin on June 27th.

For the Adopt-A-Stream (AAS) trainers and coordinators, this is a major event that includes chemical monitoring certifications, on the river instruction, education, and water quality sampling and sample processing. We value this opportunity to work with GRN and to meet the many citizens that experience the river with us. Preparation starts early with understanding the history and current status of the river, selecting sample sites, creating maps, assembling our team and getting the boats ready to tackle all our goals in this week-long experience.

Once again, we were fortunate to have one of EPD's Ambient Monitoring Unit managers along, Jeremy Smith, to contribute resources and knowledge during the event. Jeremy was able to bring members of his team to assist with monitoring and sample processing. The Ambient Monitoring Unit also had goals to collect additional data pertaining to metals and nutrient content so these samples had to be shipped to a lab at the end of every day. To help with our outreach and monitoring goals, we recruited AAS certified trainers, board members and PG alumni. Our small, but mighty team this year made it all happen, collecting and processing many water quality samples, and certifying twenty-two PG participants in AAS chemical monitoring methods. With a small team and many miles to paddle each day, this made for long hours in our portable "lab" processing samples. We are sure the team was dreaming about processing water quality samples in their sleep. We can't thank them enough for their contributions in making this an effective and fun event. Many thanks to Chris and Colleen Thompson (AAS Volunteers) and trainers Michael Kahle (Cobb County Watershed Stewardship program), Chelsea Hopkins (EPD Outreach Unit), Anne Stahley (EPD Outreach Unit) and Harold Harbert (EPD Outreach Unit) as well as AAS board members Steve Blackburn and Bob Bourne.

Continued on next page.

Paddle Georgia 2014 Continued...



River Clean Up (day 4) on the Chattahoochee River

THE RIVER

The Chattahoochee River flows through three physiographic provinces including the Blue Ridge, Piedmont and Coastal Plain region. The name "Chattahoochee" is derived from a Native American word meaning "painted" or "marked rocks" that may refer to the beautiful rock outcrops one would encounter while paddling through certain sections of the river. River adventure enthusiasts today refer to the river simply as the "Hooch". Sections of the river serve as suitable habitat for trout and make the Chattahoochee only one of two trout streams in North America that flow through an urban area. The entire flow of the river is controlled by hydroelectric dams that form lakes along its journey of over 430 total miles. The headwaters of the Chattahoochee originate in the Blue Ridge area within Union County and flow into Lake Lanier. The river is widely known for providing metro-Atlantans around 70 percent of their total drinking water. Rapid growth within the metro area has greatly affected the water quality and instream flow of the river. Many more people downstream also rely on its resources as it continues to flow southwest through the city to form the Alabama-Georgia border where it eventually merges with the Flint and ends at Lake Seminole. At this point, the river becomes the Apalachicola River and it continues south where it opens up into the Gulf. The Chattahoochee drains an area of 8,770 square miles and is subdivided into four smaller watersheds (upper, upper middle, lower middle and lower). This year's trip focused on the Upper Middle and Lower Middle Chattahoochee watersheds. This was a section of the river that contains some of its wild and scenic beauty, and granite bluffs. It also provided each paddler with a close-up view of how we have industrialized the process of supplying so many people with clean drinking water. This is an important river to many, and most of the flow is controlled by relying on the powerful flowing force of water to generate power. While this has placed undue pressure on the natural systems in the river throughout the years, affecting the water quality and flow, active community engagement with government leaders and river protection groups on restoring the river have dramatically improved its condition.

We began paddling on the river through the Chattahoochee River Natural Recreation Area where the primary goal is to preserve the historical and natural beauty of the river while promoting outdoor recreation on the river. The water was clear enough to see straight to the bottom instead of the murky brown most people think of for a river that's heavily used. Flowing closer to Atlanta, the Chattahoochee River is influenced primarily by urban development with concerns of drinking water withdrawals in addition to contributions of wastewater discharge and nonpoint source pollutants such as sediment, bacteria and nutrients. Some waterways are listed for violations of fecal coliform bacteria, dissolved oxygen, metals and for not supporting fish communities due to nonpoint source pollution. Most stretches of the river near Atlanta and further downstream are on Georgia's 305(b)/303(d) list of impaired waters (refer to <http://epd.georgia.gov/georgia-305b303d-list-documents> for more information). The Chattahoochee River and its tributaries are designated for recreation with some sections being designated for the use of drinking water and fishing.

“Water is the most critical resource issue of our lifetime and our children's lifetime. The health of our waters is the principal measure of how we live on the land.” - Luna Leopold, Hydrologist

Continued on next page.

Paddle Georgia 2014 Continued...

OUR RESULTS

Floating down the river along with the other paddlers, our sampling strategy targeted tributaries and sections of the mainstem that were 'listed as impaired' or had major discharges coming in that might influence the water quality. We sampled before and after tributaries and inputs to determine if there were any major influences to the river. These samples were used for screening purposes to give us an idea of the water quality of the watershed and to determine if there were any sites of concern. Forty-six tributary sites and forty-six main stem sites were sampled along the paddle. We also took samples from NPDES (National Pollutant Discharge Elimination System) pipe discharges and outfalls. We sampled over twenty-seven different water quality parameters, or indicators, including pH, dissolved oxygen, air and water temperature, conductivity, nitrate-N, phosphate,

AAS Sampling Team Hard at Work!



Plating bacterial samples at future home of Riverview Landing in Mableton, GA

HOW DO YOU INTERPRET THE DATA?

A first step to understanding the data is to reference the State of Georgia's surface water quality standards or recommended levels for certain parameters. You can find these standards by accessing the online document from EPD: <https://epd.georgia.gov/georgia-water-quality-standards>.

We did find two tributary sites and two main stem sites with higher than the EPA recommended *E.coli* bacteria levels. The sites were sampled after a significant rain event, in which bacterial levels can often result in an increase due to surface runoff. Fortunately sites were located within counties that have strong Adopt-A-Stream programs and local community coordinators that rely on volunteers to relay water quality concerns to local water departments who then source, resample and continue to check on these sites. We observed elevated bacterial levels along the main stem where bacterial levels have been lower on previous Paddle Georgia events. Overall, tributary sites had a broader range of values than the main stem sites, which we tend to find year to year on PG. There was a noticeable change of land-use on the river from a residential area into a more industrial part of town. Visible changes in water clarity and water surface were observed, and these changes were noted in areas exposed to urban runoff. This can cause a great deal of stress on the river's water quality, but active protection of the river through volunteers, neighborhood groups such as the Chattahoochee Riverkeeper's Neighborhood Water Watch program and local governments have certainly come a long way.

Data from this event are shared with many partners including watershed organizations and the Environmental Protection Division. More frequent sampling would be welcomed to better understand what is occurring in the basin and to gather a solid base of background levels in this watershed.

Summary table of Paddle Georgia 2014 data (Min-Max) by tributaries (TRIB), mainstem (MAIN) sites on the Chattahoochee River.		
PARAMETER	TRIB	MAIN
pH	6.25 - 7.90	5.90 - 7.93
Dissolved Oxygen (mg/L)	4.20 - 8.75	5 - 10.50
Conductivity (µS/cm)	33.30 - 290	47.10 - 200
Water Temperature (°C)	10 - 28.5	10.60 - 26.20
Turbidity (NTU)	3.5 - 41.0	0 - 26.50
Total Hardness (ppm)	8.48 - 91.2	14.8 - 34.8
Total Alkalinity (ppm)	10.0 - 76	14 - 30
<i>E.coli</i> (cfu/100mL)	0 - 3200	0- 1633.33
Metals (see AAS website)		
Nutrients	Ammonia, Nitrate/Nitrite, Total Phosphorus (see AAS website)	
Total No. Sites Sampled	46	46

ammonia-N, alkalinity, hardness, turbidity, BOD (biochemical oxygen demand), TOC (Total Organic Carbon), metals and *E. coli* bacteria. During the daily journey we interacted with many of the paddlers who often asked, 'how is the water looking today?' The table above is a brief summary of tributary and mainstem site water quality values for the Chattahoochee River, and much more information can be found on our website at www.georgiaadoptastream.org by clicking on 'Data Views' and navigating to 'Paddle Georgia,' then '2014 Map' or '2014 Data.'

Do you Know an Extraordinary Volunteer, Watershed Group or Trainer? Help us Recognize their Efforts!



Each year, we look forward to celebrating the important work that Adopt-A-Stream volunteers contribute to protecting waterways. We do this by presenting awards to active participants from across Georgia in several unique categories at Adopt-A-Stream's annual volunteer conference and ceremony—Confluence. We need your help to select those who have gone the extra mile and demonstrated dedication to the AAS mission!

We encourage you to consider nominating a group or individual that you feel deserves to be recognized for their extraordinary work in 2014.

Who Will YOU Nominate for an AAS Award this Year?

ADOPT-A-STREAM VOLUNTEER AWARD CATEGORIES

Volunteer of the Year

Awarded to the individual who has gone beyond the call of duty to protect Georgia's waterways and support the Adopt-A-Stream mission, giving their time and energy to improve water quality.

Extraordinary Watershed Monitoring Effort

Help us recognize the group that is active with multiple monitoring programs and sites across the watershed and beyond municipal boundaries to better understand and improve water quality.

Adopt-A-Stream in Action

Nominee (group or individual) has taken action to address a water quality problem at their sampling site, find a resolution, and create a positive impact on the community and waterway.

Outstanding Outreach and Partnership

Nominee (group or individual) has demonstrated skill in effectively implementing AAS outreach efforts and has created a strong network of community partnerships.

Adopt-A-Stream Multimedia Award

Nominee (group or individual) has excelled in reaching out to communities about water quality issues by utilizing non-traditional media formats to raise awareness (multimedia, art, website, music, videos, etc.).

Excellence in Data Collection

Nominee (group or individual) has consistently collected QA/QC data, recognizing the importance of data integrity in a monitoring program.

Nymph Award

Nominee (group or individual) is new to the AAS program but has participated for at least one full year and has excelled in meeting its five goals.

Beyond Borders

Nominee (group or individual) has gone beyond the call of duty to improve water quality and meet AAS goals outside the state of Georgia.

Adopt-A-Stream Watershed and Trainer Awards



ADOPT-A-STREAM WATERSHED AWARDS

Each year, Adopt-A-Stream honors local public utilities, government agencies, regional commissions, nonprofits and watershed organizations that have exceeded expectations in implementing the Adopt-A-Stream goals.

- Phase 1 Municipal Separate Storm Sewer Systems
- Phase 2 Municipal Separate Storm Sewer Systems
- Other communities without a Municipal Separate Storm Sewer System permit
- Regional Commissions, university programs and other governmental agencies
- Riverkeepers, watershed organizations and other nongovernmental agencies

ADOPT-A-STREAM TRAINER AWARDS

This award will honor an Adopt-A-Stream trainer who has gone above and beyond in promoting the Adopt-A-Stream program through training workshops and outreach events in their local community. There are two categories for this award: New Trainer of the Year and Trainer of the Year.



Mark your Calendar for **CONFLUENCE 2015!**

Saturday, March 14, 2015

Water Quality Workshops, Exhibits and Awards Ceremony

2015 Theme: Public Health and Water Quality

Gwinnett Environmental and Heritage Center in Buford, GA

SAVE THE DATE

Confluence is a one-day event held for Adopt-A-Stream volunteers and partners as a platform for expanding education, sharing successes and exchanging experiences. Diversity of watersheds as well as participant organizations in our program is represented at this annual conference—from the headwaters to the coast. There will be unique opportunities to network with your basin partners, participate in hands-on workshops, and build your knowledge about water quality monitoring and nonpoint source pollution.

Help us design the best possible conference for your interests by completing this short survey by Nov. 10:

<https://www.surveymonkey.com/s/PV29T37>

If you have ideas for an oral or poster presentation, topics or speakers you would like to see offered at this year's event, or sponsors who may be interested in supporting Confluence or donating prizes for attendees, please contact us at 404-651-1511.

Look for more Confluence and AAS Award details to come in our next issue and on our website!

The Georgia Adopt-A-Stream Newsletter is published quarterly.
For more information about the Georgia Adopt-A-Stream program or
to contribute to the newsletter, contact:

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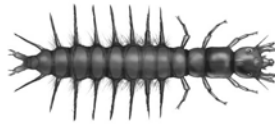
**GO BLUE in 2014 and sign up
for our e-newsletter by emailing
us at aas@gaepd.org!**



Dragonfly



Riffle Beetle



Dobsonfly



Stonefly



Net Spinning Caddisfly

Welcome New Adopt-A-Stream State Coordinator, Seirisse Baker

Seira Baker was hired on as a new AAS State Coordinator in September. She joins our staff after working the last couple of years with Environmental & Conservation Organization in Henderson, NC, running their volunteer water quality monitoring efforts. We're excited to have an experienced volunteer monitoring coordinator join our staff to help us expand AAS in Georgia. In the short period of time she's been here, Seira has already met partners from EPA and local watershed groups, helped move over 2,000 Rivers Alive shirts, received QA/QC certification, has begun conducting AAS workshops and is coordinating Confluence planning meetings. Talk about hitting the ground running!

"I am thrilled to join the EPD Outreach staff as a State Coordinator for Adopt-A-Stream and to connect with the volunteer monitoring community here in Georgia. I look forward to meeting you all soon and am excited to work with such a diverse network of partners protecting water quality across the state!"



Feel free to shoot Seira an e-mail and welcome her to the program. You can reach her via email Seirisse.Baker@gaepd.org or by calling 404-651-8512.

*Please visit our online calendar at www.GeorgiaAdoptAStream.org
for upcoming monitoring workshops and Adopt-A-Stream events.*