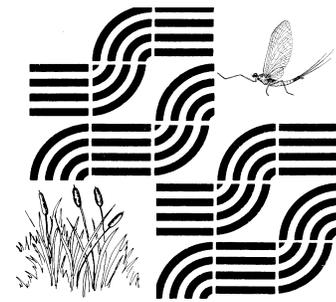


GEORGIA

Adopt-A-Stream

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Department of Natural Resources
Environmental Protection Division

Paddle Georgia 2011: The Oconee River



The 2011 Paddle Georgia (PG) event, sponsored by the Georgia River Network (GRN), took over 300 paddlers down a 106-mile stretch on the Oconee River. We began the seven day journey in Athens on June 18th, paddling through Milledgeville to end in the town of Dublin on June 24th.

For the Adopt-A-Stream (AAS) trainers and coordinators, this is a major event that includes certifications, on the river instruction, water quality sampling and sample processing. It is a worthwhile experience that we look forward to every year as we enjoy the partnerships, interactions with fellow paddlers and getting to know another river. Preparation starts early with charting the waters, investigating the history and current status of the rivers, selecting sample sites, creating maps, assembling our team and getting the boats set for this weeklong event.

This year we recruited AAS certified trainers, Board Members and PG alumni to help us with our goals for the week. They spent many a long day (and night) wrestling somewhat big orange buoys (compared to last year's big yellow buoys), collecting and processing water quality samples, and certifying over twenty-five PG participants and teachers in AAS chemical monitoring methods. We can't thank them enough for sticking it out through the storms and extremely hot days. Many thanks to trainers Kevin Finney (City of Gainesville) and Andrew Walter (City of Atlanta), AAS board members Bob Bourne and Steve Blackburn, our AAS groupies Mike DeLisle, Tammy Griffin, and Taylor Morris and the Olive and Newman families (see above image of the 'AAS stream team').

Reality of the Rivers

The Oconee River, which in Creek means 'the water eyes of the hills' flows through two physiographic regions, the Piedmont and Upper Coastal Plain. The Middle and North Oconee Rivers flow about 60 miles to converge and form the Oconee which eventually joins the Ocmulgee to form the Altamaha River. The Oconee River travels about 160 miles and drains a watershed of 5,330 square miles. This river harbors unique aquatic critters including the state listed and endangered Robust Redhorse, *Moxostoma robustum* as well as the cryptic Oconee Burrowing Crayfish, *Cambarus (Depressicambarus) truncatus* and endemic mussel species including the Altamaha Slabshell, *Elliptio hopetonensis* and the Georgia Elephant Ear, *Elliptio dariensis*. The Oconee River basin also contains three major surface water reservoirs: Lake Sinclair, Bear Creek Reservoir and Lake Oconee. Some stretches of the river are on Georgia's 305(b)/303(d) list of impaired waters (refer to <http://gaepd.org/Documents/305b.html> for more information). The Oconee River in its upper stretches is listed for violations of fecal coliform bacteria originating from urban runoff. The mainstem of the River is designated in some portions for fishing uses and in other portions as a drinking water source. Tributaries of the Oconee are designated for fishing and have some violations for fecal coliform bacteria, dissolved oxygen and pH.

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Paddle Georgia 2011 Continued...

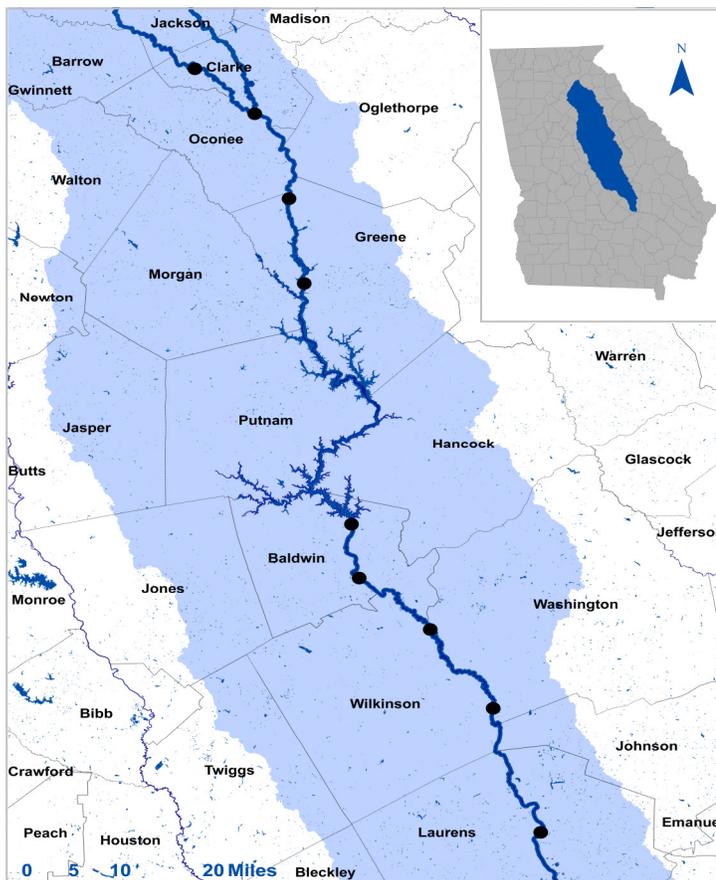
Our Findings

Floating on the river along with the other paddlers, our sampling strategy targeted tributaries and sections of the mainstem that were ‘listed,’ as well as mainstem segments before and after these streams to determine if there were any major inputs or influences to the river. These samples were used for screening purposes to give us an idea of the water quality of the rivers, and to determine if there were any sites of concern. Forty-four tributaries and thirty-one mainstem sites were sampled along the paddle. We also took samples from the lake and directly from pipe discharges. We sampled for pH, dissolved oxygen, air and water temperature, conductivity, nitrate, phosphate, ammonia, alkalinity, hardness, turbidity, metals and *E. coli* bacteria.

Paddlers had the chance to join in on the fun and ask questions such as ‘how is the water looking today?’ The table to the right is a brief summary of tributary and mainstem water quality values on the Oconee River. You can see that tributary sites had a broader range of values than the mainstem sites. We also noticed more extreme values of our parameters in the tributaries. This was especially seen in tributaries above Milledgeville with higher *E. coli* and turbidity levels and lower oxygen levels. Data from this

Summary table of Paddle Georgia 2011 data (Min-Max) by tributaries (Trib) and mainstem (Main) sites on the Oconee River.

PARAMETER	TRIB	MAIN
pH	6.0-8.9	6.5-8.3
Dissolved Oxygen (mg/L)	1.8-10.4	4.7-9.2
Conductivity (µs/cm)	50-670	60-440
Water Temperature (°C)	20.8-33.5	22.5-30.6
Turbidity (NTU)	9-114	7-31
Total Hardness (ppm)	25-120	25-120
Total Alkalinity (ppm)	0-240	20-240
Nutrients (Ammonia, Nitrate/Nitrite, TKN, TOC, Total Phosphorus (see AAS website))		
<i>E. coli</i> (cfu/100 ml)	0-1666	0-233
Total No. Sites Sampled	44	31



The 2011 Paddle Georgia Route from Athens to Dublin, Georgia. The black spots denote the daily starting and stopping points.

event are shared with Riverkeepers and the Environmental Protection Division so that sites we identified with ‘hits’ can be addressed as necessary. For more views of all the data from Paddle Georgia 2011, please visit our website, www.georgiaadoptastream.org and click on ‘Data Views’ and navigate to ‘Paddle Georgia,’ then ‘2011Maps or Data.’

This year of paddling and sampling also brought about critical learning opportunities. Day 1, floating through Athens, paddlers passed three water reclamation facilities (formerly known as wastewater treatment plants). These facilities are undergoing important upgrades that will vastly improve the water they discharge into the Oconee. The facilities were not online at the time of PG 2011, however they are expected to be fully operational soon.

On day 5, we witnessed first hand effects of the drought as over 70% of our tributary sites were unable to be sampled due to little or no flow. We were fortunate not to have to walk our boats due to some rain events earlier in the week, but like many rivers in Georgia, the Oconee has experienced daily record-low flows this year .

On day 6, paddlers saw a stream buffer violation in action. A Baldwin County landowner was clearing land within the 25-foot stream buffer without a permit. Georgia Law protects a 25-foot buffer for all State waters.

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Paddle Georgia 2011 Continued...

Those who wish to disturb land within this buffer are required to apply for a stream buffer variance. As a result of our watchful eyes and timely reporting, the landowner has been issued a fine of \$5,400 and must restore the streambank.

Paddling 106 miles allowed us to see, up close, that there are many users of the waters of the Oconee River. From paddlers to local industries, to municipalities and homeowners. We have witnessed that the river's health is directly related to the management of the river and its watershed, and that all users must do their part to protect our waterways. We would like to highlight that the Environmental Protection Division is working hard to protect these waters, through permitting new treatment facilities and the enforcement and remediation of the stream buffer violation. Together, we are the eyes and the ears of our rivers.

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Sampling the Oconee River, which was experiencing low flows as were many other rivers this year in Georgia.



AAS State Coordinators Tara Muenz (L) and Allison Hughes (R).

We Are Looking For You! We are Now Accepting Nominations for the 2011 Adopt-A-Stream Awards

Yes, we do want you, to recognize and celebrate your efforts supporting Georgia Adopt-A-Stream and water quality throughout the State. We encourage you to nominate yourself or others for any one of the categories listed below, so please take a moment to reflect on your activities and submit a well-deserved nomination!

Nominations should include a short essay describing why the volunteer (s) and/or group is deserving of the award and how they excelled in the protection of Georgia's waterways. Supporting materials, such as photographs or newspaper articles, are also accepted. To find 2010's winners, please see our March/April 2011 newsletter.

Deadline for submissions: January 10th, 2012

Awards will be given at our volunteer conference called 'Confluence' to be held at the Gwinnett Environmental and Heritage Center on Saturday, March 17th, 2012. Winners will receive free registration and are eligible for the travel stipend to attend Confluence.

Nominations can be submitted online through the website: www.GeorgiaAdoptAStream.org. You can also e-mail entries to AAS@gaepd.org or mail them to Georgia Adopt-A-Stream, 4220 International Pkwy, Suite 101, Atlanta, GA. 30354.

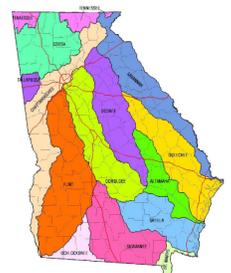
VOLUNTEER AWARDS

Volunteer of the Year
Extraordinary Volunteer Watershed Effort
Red Flag Award
Outstanding Outreach and Partnership
Adopt-A-Stream in Action
Excellence in Data Collection
Nymph Award

More information on these categories can be found online at www.GeorgiaAdoptAStream.org

WATERSHED AWARDS

These awards recognize local public utilities, government agencies, regional commissions, non-profits, and watershed organizations that have exceeded standards in implementing the four Adopt -A-Stream goals. Contact Adopt-A-Stream for more information and an application.



Paddle Georgia 2011 Continued...

Call for Volunteers

Our sampling throughout the week of Paddle Georgia was only a snapshot of the water quality and health of these rivers, scratching the surface of what was occurring. To develop baseline data for the Oconee Basin, we are looking for local volunteers to monitor sites throughout the watershed. If you are interested in adopting one of our Paddle Georgia monitoring sites to help us gather much needed data, please contact AAS, the Altamaha Riverkeeper (<http://www.altamahariverkeeper.org>) or the Upper Oconee Watershed Network (<http://www.uown.org>) for more information.



A freshwater mussel, the Georgia Elephant Ear, *Elliptio dariensis*, was found on the Oconee River.

**See you at Paddle Georgia 2012, June 16th-22nd
on the Altamaha River!**

For more information visit www.garivers.org
http://www.garivers.org/paddle_georgia/pghome.html

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

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
404.675.6240
www.GeorgiaAdoptAStream.org**

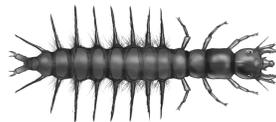
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Dragonfly



Riffle Beetle



Dobsonfly



Stonefly



Net Spinning Caddisfly