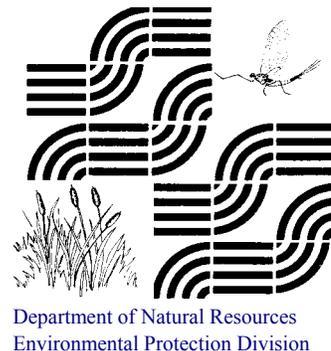


GEORGIA

Adopt-A-Stream

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Harold Harbert and Kim Morris-Zarneke, Editors



Is It Safe To Swim In Amicalola Creek?

Submitted by Duncan Cottrell, Upper Etowah Adopt-A-Stream

Dawson County's beautiful Amicalola Creek is a favorite destination for swimmers, tubers, fishermen and canoeists. Devils Elbow and Edge of the World Rapid are two popular swimming sites along the stream, which eventually flows into the Etowah River above Kelly Bridge Road. Questions have been raised recently about the health risk of swimming in the creek due to occasional elevated concentrations of bacteria. The Georgia Environmental Protection Division placed Amicalola Creek on its 2002 List of Impaired Rivers & Streams (called the 303d list). The levels of fecal coliform bacteria exceeded Georgia's water quality standard of 200 colonies per 100 milliliters (a moving geometric mean of four water samples collected in a thirty day period) of water.

There are many kinds of bacteria, and most are harmless and even useful. Pathogenic (disease causing) bacteria such as Salmonella, Vibrio (cholera) and Shigella can cause illness if swallowed in water while swimming. Infection can also occur through cuts and scrapes on the skin. Routine testing for all pathogenic bacteria, viruses and protozoa is cost-prohibitive and technically difficult. Scientists and public health officials typically monitor nonpathogenic bacteria (called *indicator organisms*) that are usually associated with pathogens transmitted by fecal contamination but are more easily sampled and measured. Harmless fecal coliforms, which originate from the same sources as the disease-causing bacteria, are the indicator organisms assumed to indicate the presence of human pathogenic organisms. When large fecal coliform populations are present in the water, it is assumed there is a greater likelihood that pathogens are present.

When Upper Etowah Adopt-A-Stream learned that Amicalola Creek had been placed on the Impaired Rivers list, they began a study to determine if that listing was justified and, if so, where the sources of

contamination might be. There is no wastewater treatment plant discharging into Amicalola Creek or any of its tributaries. Treatment plants are the typical "point sources" of fecal coliform bacteria. Rather, it appeared that pollution to Amicalola Creek originated from non-point sources, pollutants that enter streams and lakes from scattered, indirect, dispersed places (rather than a single point). Nonpoint bacterial pollution in rural areas can come from leaking septic systems, land application of manure and sewage sludge, wildlife, failing sewer lines, and livestock. According to the US Environmental Protection Agency, "the primary rural nonpoint source for pathogens is confined animal operations, in which large quantities of fecal matter are produced. Livestock excrement from barnyards, pastures, rangelands, feedlots, and uncontrolled manure storage areas is a significant nonpoint source of bacteria, viruses, and protozoal cysts."

From May through October 2002 (when Georgia Environmental Protection Division considers "water contact recreation activities are expected to occur"), Upper Etowah Adopt-A-Stream took weekly water samples from Amicalola Creek at Highway 53 and from every significant tributary to the creek. The water samples were tested for fecal coliforms by Environmental Management Services Laboratory in Pickens County. The results are listed in the following table, which shows the percent of the time a stream violated the Georgia water quality standard of 200 colonies per 100 milliliters of water.

The fecal coliform count in a stream increased following a rain, indicating bacteria were being washed off the land surface into the streams. The data indicates that the water is unsafe for swimming and human consumption after a rainfall and

unsafe for human consumption between rainfalls. In dry weather the health risk of swimming in Amicalola Creek is low (unless, perhaps, you are swimming just below the mouth of Cochrans Creek). But even in dry weather swimming in Cochrans Creek, Holly Creek or Little Amicalola Creek is risky.

The data collected by Adopt-A-Stream volunteers has been forwarded to the Georgia Environmental Protection Division's Watershed Planning & Monitoring Program with the hope that it may be useful in solving problems and protecting water quality in Dawson County streams. The EPD lists streams as impaired ("not supporting" their intended use) if 26% or more of the samples exceed the water quality standard. Streams are listed as partially impaired ("partially supporting" their intended use) if 11-25% of samples exceed the water quality standard. By this criteria, Cochrans Creek, Little Amicalola Creek and Holly Creek qualify for listing as "not supporting" bacterial water quality

Stream	% of violations (moving geometric mean of four samples)	Highest bacteria count (after rain)
Amicalola Creek at Hwy 53	22	3375
Little Amicalola Creek at Afton Rd	87	3312
Big Amicalola Creek at Amicalola Ridge Rd	17	1190
Cochrans Creek at Hwy183	100	3500
Upper Cochrans Ck at Dan Fowler Rd	11	745
Holly Creek at Holly Creek Rd	74	3975

standards. Amicalola Creek and Big Amicalola Creek qualify for "partially supporting" bacterial water quality standards.

Upper Etowah Adopt-A-Stream has begun regular water testing at Devils Elbow and at various sites along Cochrans Creek. Citizens who would like to learn how to monitor and protect their stream can do so through Upper Etowah Adopt-A-Stream by calling Duncan Cottrell at 770-735-2778.

How to Have a "Rain Garden" Watered For Free

Having a well-watered flower garden does not have to be expensive. Nor do you have to ignore local or state restrictions on outdoor watering. All you need is a little bit of imagination and a rain garden.

A rain garden is a garden located in a low-lying area. The rain garden captures run-off from your roof or drive way where it slowly soaks into the soil. Rain gardens create a more natural flow for stormwater and reduce the amount of stormwater that runs into storm drains. By reducing flows into storm drains, they reduce peak stream flow and water pollution in nearby rivers and streams.

Every time it rains, fertilizers, pesticides, debris and other pollutants wash across lawns and driveways and down streets into the nearest storm drain. From there these pollutants go directly into a river, lake or estuary. In urban environments, most pollution comes from stormwater runoff. Excess rainwater also damages streambanks and increases the risk of flooding.

Planting a rain garden filters stormwater runoff through soils and plants thereby reducing pollution while giving you a garden that is easy to maintain and needs little or no watering. Rain gardens typically allow about 30 percent more water to soak into the ground than an equivalent area of lawn. The plants in the rain garden are both beautiful and helpful. They add color and interest to your landscape and serve as habitat for butterflies, birds and other wildlife.



Beginning in January, how-to workshops will be offered in the Atlanta Area. Dr. Rose Mary Seymour of the University of Georgia's Cooperative Extension Service, Griffin Campus, will lead these workshops. For details, go to www.cleanwatercampaign.com and click Events under Community Programs. The workshop schedule is as follows:

Jan 27	Clayton County	Kim Zimmerman	678-422-2838
Jan 29	North Fulton	Corlette Dennard	404-730-8097
Feb 5	South Fulton	Corlette Dennard	404-730-8097
Feb 10	Cobb County	Jennifer McCoy	770-528-1482
Feb 25	Gwinnett County	Michael O'Shield	678-376-7157
Feb 26	DeKalb County	Alex Mohajer	404-508-2518

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	Elachee Nature Center AAS	Jan 16	Hall Co	770-535-1976
Biological & Chemical	Elachee Nature Center AAS	Jan 17	Hall Co	770-535-1976
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.

Designing Sustainable Communities *Managing Stormwater From an Ecological Perspective*

Wednesday, Nov. 12, 2003, 9:00AM-12:00PM at the Falany Performing Arts Center, Reinhardt College, Waleska, Ga

This workshop will explore the problems associated with commonly accepted stormwater codes and ordinances that often lead to downstream flooding, degraded water quality, and a loss of biological diversity in streams. Learn new concepts and technologies including on-site infiltration, residential “rain gardens,” green roof systems, porous pavement and more. Real world examples that have been implemented throughout the country will demonstrate how these low impact development methods are both economically feasible and ecologically effective. RSVP to Candace Stoughton at 770-704-7280 or cstoughton@tnc.org.

Watershed Posters Available

Project Wet and Adopt-A-Stream have a limited number of Georgia river basin maps available for educators and watershed organizers. The 14 maps (one for all 14 major river basins) include historical, educational and resource information. For a poster, please contact Kim Morris-Zarneke at 404-675-1636.

Peachtree Creek/Nancy Creek River Rendezvous on November 8th

Participate in a unique opportunity to monitor Atlanta’s streams and rivers, the Peachtree Creek/Nancy Creek River Rendezvous. This year’s River Rendezvous has expanded to include West Atlanta Watershed Alliance (Utoy, Sandy and Proctor Creeks) and South River Watershed Alliance (Upper South River). Meet at Oglethorpe College on November 8 at 9AM for refreshments and food, sample site assignments, and a quick pep talk before heading off to the field. The event caters to “all” levels of expertise in water sampling methodology. “Newcomers” will get paired with “veterans” to help make it an enjoyable learning experience for all. Please RSVP to Charlie Baube 404-364-8404 or Bill Eisenhauer 404-873-6417.

CRBI Reaches Out to Its Extended Community

Emily Goodwin, second from left, demonstrates how to test dissolved oxygen levels as Cherie Wren, first from left, signs. Over 50 students and several teachers from the Georgia School for the Deaf participated in this water quality monitoring workshop. The participants learned about nonpoint source pollution and how they can set up a sampling location to test their local waterways. Emily states, “The students were very animated and excited about the program.” By partnering with Rome/Floyd County, CRBI has helped instill new life for citizen involvement in stream monitoring in Northwest Georgia.



Citizens Get Dirty to Clean Our Waterways

Rivers Alive 2003 is a great success! With an estimated 24,000 volunteers participating in 183 events, this year's cleanup is shaping up to be the best effort to date. While final tallies are still coming in, the results are promising. As of October 21, 18,000 volunteers have cleaned up litter from Georgia waterways. To keep track of results log on to www.riversalive.org.



Georgia Governor Sonny Perdue proclaims support for Rivers Alive 2003

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

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