

Editors:

Jennifer McCoy
Vicki Culbreth



Look What's Hopping Your Way!

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Cobb County watershed monitoring volunteers have been noting amphibian presence in local streams for a number of years. Of course, capturing a salamander or frog isn't the only way to record the amphibian presence in an area. Learning to identify frog vocalizations and recording your observations is another way to collect data on amphibian populations.

2008 has been named the "Year of the Frog" by the International Association of Zoos and Aquariums in an attempt to raise awareness about the planet's quickly declining amphibian populations. You have the opportunity to join this worldwide movement! Cobb County will be joining federal, state, and non-profit organizations around the country in recording the presence and monitoring the health of our frog and toad populations.

According to the World Conservation Union (IUCN), at least one-third of known amphibian species are threatened with extinction. As a result of their permeable skin and dual life cycle on land and in water, amphibians are among the first organisms to be impacted by the effects of pollution and global climate change. With thirty-seven of these species being found here in the U.S., amphibians (frogs, toads, caecilians, and salamanders) have been paralleled to the proverbial canary in the coal mine. As bioindicators, they provide an early warning of environmental degradation.



There are several different species of frogs and toads found in Cobb County

Amphibian monitoring volunteers will be collecting data in local neighborhoods, noting the amphibian calls heard during a predetermined walk. The walk is not only a time set aside to observe our natural world, it is also time spent improving your health through exercise and provides an opportunity for quality time with your family and friends. In addition to documenting the short-term and long-term trends in Cobb County amphibian populations, this program encourages families to spend time together in an outdoor setting, learning about local ecology while walking their monitoring route.

If you are interested in participating, a training workshop is being held on Thursday, May 1st at the Cobb County Water Quality Lab from 6:30pm to 8:30 pm. Participants will learn about local species as well as common frog and toad calls.

Special Events of Interest...

- Native Seasons Workshop on 5/9
- River Rendezvous on 5/17
- Cool Waters Workshop on 6/3 through 6/5
- Leopold Education Project Workshops: Educator on 6/11 Facilitator on 6/12
- Master Gardener Workshop on 6/19 through 6/29



Spring Fashion: Lawns Look Good in Green, Streams Do Not

By Adam Sukenick, Cobb County Watershed Monitoring

For many of us, being outside is a favorite pastime. Unfortunately, with our busy schedules we often only get as far as the backyard. With the popularity of home improvement stores, landscape supply, and limitless floral varieties it is now easier than ever to create a backyard oasis that provides us with just the right escape. With a bit of elbow grease and a bag of fertilizer, you're only a vote away from having a *Yard Of The Month* sign posted in front of your home.

But before you set your sights on that coveted prize, take pause. Consider not only the envy of your fellow neighbor, but also the impacts to the neighborhood, and the one beyond that, and the next town over as well. Fertilizer applied to your lawn promotes growth, but what if it escapes your property during a spring thunderstorm and washes into the local stream? It still promotes growth. Unfortunately, fertilizer in streams and lakes leads to algal blooms and excessive growth of aquatic plants. This not only impacts the aesthetic value of ponds and lakes, but also impacts the natural balance of streams. Excessive plant growth can lead to a spike in the demand for dissolved oxygen, which can impact macroinvertebrates, fish and other organisms that rely on healthy oxygen levels.

Many lawns, compacted during mass grading and construction, simply will not allow much penetration of rain or stormwater runoff and therefore are not as efficient at filtering water as natural soils. Correctly applying fertilizer means distributing only what your lawn can use. Beyond that, excess nutrients sit until they're washed away during the next big rain. The best way to begin a lawn maintenance program is to have your soil tested to find out what and how much your lawn needs. This service is offered through the Cobb County Extension office for \$6 per soil test bag.

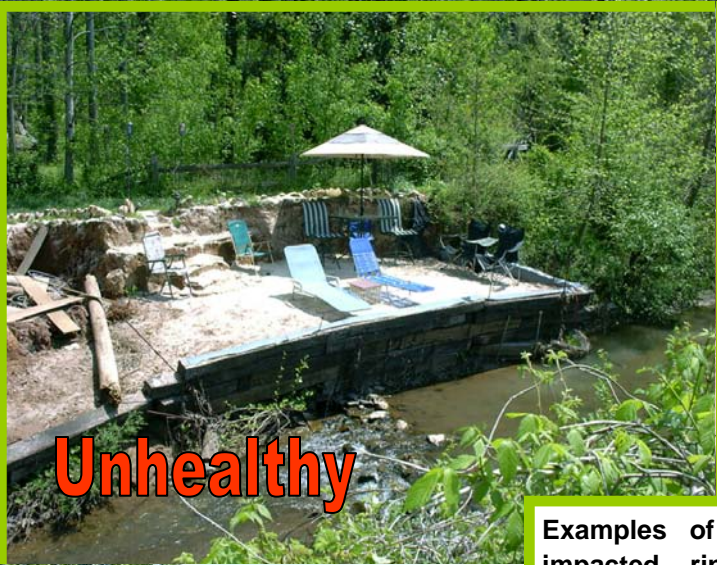
For those lucky enough to have a stream running through their backyard, there are even more issues to consider. Undoubtedly that lush green lawn runs straight downhill to your stream. All too often, homeowners want to remove the natural vegetation along the stream bank because they want access to the creek or because they're afraid the "tall weeds" will be habitat for snakes. The immediate area on either side of a stream corridor is known as a riparian zone. The vegetation that grows here fulfills many roles for stream health, water quality and diversity of aquatic communities.



Natural vegetation, composed of ground cover, shrubs and trees, provides several layers to slow the velocity of falling rain, therefore reducing the forces of erosion. Additionally, leaves on trees and the forest floor delay the rain reaching the ground and allow more time for water to infiltrate the soil. Natural vegetation also has deeper root systems than turf grasses and allows for a higher capacity of rain infiltrating the ground. Ultimately, this means less stormwater runoff reaching the stream and a lower potential for lawn chemicals to enter local waterways.

The riparian zone is a vegetative buffer that slows rainfall, absorbs runoff, and filters water before it reaches the stream. Cobb County requires a minimum 50 foot stream buffer to protect defined streams. Vegetation in the riparian zone has other important functions too. Shade from tall trees keeps water cool, and water temperature plays a vital role in regulating many biological functions within the aquatic community. Fallen leaves from riparian vegetation are the initial input into the food chain and also provide habitat for stream organisms. Branches and large limbs that fall into the creek, as well as roots from trees, provide habitat for fish and macroinvertebrates. Vegetation growing on stream banks protects against erosional forces during high flows and prevents banks from crumbling and eroding. The protected corridor along a stream is intricately linked to stream health. Impacts to the riparian zone may have severe consequences.

Keep these facts in mind as you strive for that gorgeous yard and remember: it **is** possible to have a beautiful yard without impacting local waterways. Have your soil analyzed and if you choose to apply lawn chemicals, do so in a responsible manner. Protect the stream corridor by preserving natural vegetative buffers and dispose of lawn trimmings or yard debris properly. With a bit of planning and careful consideration your private back yard escape will provide a haven for you and your stream.



Unhealthy



Unhealthy

Examples of healthy and impacted riparian zones, clockwise from upper right:

Pollutants stored over storm culvert can wash into stream

A healthy, undisturbed riparian zone

Algae bloom in residential pond

Vegetation removed from buffer zone allows runoff to flow directly to stream and leads to erosion

Residential development encroaches on stream buffer

Residential alterations remove riparian buffer



Unhealthy



Healthy



Unhealthy



Unhealthy

Opossums: Nature's Night Time Sanitation Engineers

By Erin Feichtner, Cobb County Watershed Monitoring



The Virginia Opossum is a commonly found—and misunderstood—species in Cobb County.

The Virginia Opossum (*Didelphis virginiana*), or “possum”, as it is commonly known, is an often misunderstood animal with several positive attributes. Being a marsupial, the opossum represents one of the oldest families in the animal kingdom. It is North America's only marsupial, meaning the female has a pouch in which it rears its young through infancy. Opossums are born after an 11-13 day gestation period and continue to develop inside the pouch. As they grow and the pouch becomes full, the juveniles ride on the mother's back until they are old enough to go out on their own. Females usually have two litters per year.

The opossum is generally the size of a domestic cat with gray, grizzled fur, a long, naked prehensile tail, and a white pointed snout. The prehensile tail is used to grasp branches and carry nesting material. Opossum feet are shaped somewhat like human hands with an opposable thumb on the back feet. Opossums possess 50 teeth, the most of any North American mammal, with the canine teeth figuring prominently.

The opossum has an average lifespan of 1 to 2 years. This short lifespan is due in part to the presence of many predators including dogs, cats, owls, and people (cars). The opossum is usually solitary, nocturnal, and slow moving. When frightened and unable to flee, the opossum may fall into an involuntary shock-like state, “playing possum” and feigning death, and in so doing the predator may lose interest in the apparently dead animal and not eat it. However, it should not be taken as an indication of docility. Under serious threat, an opossum will respond ferociously, hissing, screeching, and showing its teeth. But with enough stimulation, the opossum will enter a near coma, which can last up to four hours. It lies on its side, mouth and eyes open, tongue hanging out, emitting a putrid odor.

The opossum is an opportunistic omnivore with a very broad diet. They eat insects, snails, slugs, rodents, berries, over-ripe fruit, grasses, leaves, and carrion. Occasionally, opossums will eat snakes, frogs, ground eggs, corn or other vegetables. Some of their favorite foods are fruits and they are known to eat apples and persimmons. Opossums help to maintain a clean and healthy environment. They eat all types of insects, including cockroaches, crickets, beetles and other bugs. Their diet consists mainly of carrion (dead animals), and many individual opossums are killed on the highway when scavenging for road kill. Their broad diet allows them to take advantage of many sources of food provided by human habitation such as unsecured food waste (garbage) and pet food.

You may be less than thrilled if an opossum has chosen your garage, attic, or other structure as its temporary quarters. There are simple and non-lethal means to encourage them to relocate to more suitable spots in your area. Prevent unwanted visitors by picking up pet food at night, keeping lids on garbage cans, and closing potential entrance points (including pet doors). If an opossum has found its way into your home or garage, you can bait a tall, upright garbage can with pet food or fruit. A tall stack of books or boxes on the outside will let the opossum climb in, but he will be unable to get out. You can then dump the can in your yard at dusk. Cut branches away from your home to eliminate access to the roof. Opossums are normally transient animals, staying only 2-3 days in an area before moving on. Removal is neither necessary nor desirable. If opossums were eliminated from an area, they would leave a vacant ecological niche, which would be filled by adjacent opossums or by other mammals, such as rats, skunks, or raccoons. Opossums do not dig into the soil or destroy property, and they don't have a strong scent. Because they have a low body temperature, they have the lowest risk of exposure to disease than any other mammal. They seem to have a naturally high level of immunity to most diseases. In general, they present a far lower health risk to humans than dogs and cats! Opossums are more resistant to rabies than any other mammal including cattle, goats, dogs, cats, sheep, and humans. Admittedly, opossums do carry fleas (as do all wild and some domestic animals). And the opossum may bite you if you try to handle it; after all, they are wild animals.

You can still enjoy opossums as they wander through your yard, eliminating various pests as they go through their nightly excursions.

Opossum
Tracks

Sources: <http://www.opossum.org>, <http://georgiawildlife.dnr.state.ga.us>

An Evening of Food, Fun and Friendships

Participants at the Watershed Stewardship Fair...



Toured the Water Quality Laboratory



Spoke about their experiences as a monitoring volunteer



Enjoyed snacks and meeting other water stewards

The 2008 Watershed Stewardship Fair, held on February 27th at the Water Quality Laboratory, was an exciting evening of fun, great food, and new friendships. 140 volunteers of all ages, from 12 Cobb County monitoring groups, came to share their experiences as watershed stewards. Each group created a visual display of data and photos and spoke briefly of their role as a monitoring volunteer. Allison Hughes, Georgia Adopt-A-Stream Coordinator, unveiled the brand new online database and asked Cobb volunteers to be “beta testers” of the new system. Participants were also given the opportunity to tour the laboratory and learn about the various programs that are housed there, including watershed monitoring, wastewater testing, and watershed stewardship. It was an educational evening, and we thank all of the dedicated Cobb County volunteers who attended:

Post Oak Rec

Riverstone Montessori Academy

Morning Washburn

McEachern High School

East Side Elementary School

Karan's Magnet Group

Nicholson Elementary School

Sierra Club Centennial Group

Walton High School

McCleskey Middle School

Marietta Center for Advanced Academics

Paul and Lou Jane Higgins

Local Stormdrains are Getting a Facelift!

Contrary to popular belief, stormdrains do not lead to water treatment plants; in Cobb County they lead to nearby creeks and rivers. Rain washes substances such as fertilizers, pesticides, and pet waste from yards and streets into the stormdrains. Pollutants including litter, used motor oil, and antifreeze dumped into the storm drains find their way to streams. Used motor oil and antifreeze contain toxins and heavy metals. Litter not only spoils the beauty of our streams, but can also be mistaken as food by wildlife.

You may have seen a stenciled message on storm drains around Cobb saying “Keep It Clean, Drains To Stream”. We have been using stencils until this point, but have now switched to stainless markers that don't require the use of spray paint. These markers are long-lasting, easy to apply, and the application of them is a great service project for scout, youth, and school groups, neighborhood associations, and families.

As a volunteer in our storm drain marking program, you will install the markers, pick up and inventory litter, and inform your neighbors about the dangers of non-point source pollution. We encourage you to join our program and help keep our county streams clean! To organize a group marking project, contact Emily Toriani-Moura in the Cobb County Water System at 770-528-1482.



Stormdrain markers are making their debut in Cobb County

Schedule of Events

Frog Monitoring Workshop

Date: Thursday, May 1st
 Time: 6:30 pm - 8:30 pm
 Location: Water Quality Lab
 Cost: Free
 Call: 770-528-1482

Native Seasons Workshop

Date: Friday, May 9th
 Time: 3:30 pm - 8:30 pm
 Location: Water Quality Lab
 Cost: \$25.00
 Call: 404-876-2900

River Rendezvous

Date: Saturday, May 17th
 Time: 10:00 am - 1:00 pm
 Location: Water Quality Lab
 Cost: free
 Call: 770-423-1058

May 2008

www.epa.gov/owow/wetlands/awm/

American
Wetlands
Month



Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1 Frog Monitoring Workshop	2	3
4 Drinking Water Week May 4-10	5	6 Drinking Water Week	7	8	9 Native Seasons Workshop	10
11	12	13	14	15	16 Endangered Species Day	17 River Rendezvous
18 National Water Monitoring Conference May 18-22	19	20	21	22	23 World Turtle Day	24
25	26	27	28	29	30	31

AAS Workshops upon request



Griffin Middle School students practice chemical monitoring

Welcome, New Adopt-A-Stream Volunteers!

Griffin Middle School

Melissa Barlow and her students have adopted two sites, both on tributaries of Nickajack Creek. One site is on school property and the other is in nearby Rhyne Park.

David Zandstra

David will be monitoring a detention pond on a tributary of Rubes Creek.

2007 Volunteer of the Year - Didi Johnson

Each year Cobb County recognizes an Adopt-A-Stream participant for their watershed stewardship work during the year. This year's recipient is Didi Johnson of Sierra Club's Centennial Group.

Didi has been an active data collector on Rottenwood Creek for several years, conducting both biological and chemical monitoring along with organizing two cleanups each year to celebrate Rivers Alive and National River Cleanup Week. Didi acts as the team leader for other Sierra Club members, coordinating their annual Adopt-A-Stream volunteer certification renewal training. She also recruited the 2007 River Rendezvous volunteer team.

Thank you, Didi, for your continued support of Adopt-A-Stream!



Didi Johnson monitors Rottenwood Creek



American
Rivers
Month

www.americanrivers.org

June 2008

Schedule of Events

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
		Cool Waters June 3-5				National River Cleanup Week May 31-June 8
8	9	10	11	12	13	14
			Leopold Workshop			
15	16	17	18	19	20	21
						Rottenwood Creek Cleanup
22	23	24	25	26	27	28
Paddle Georgia June 20-27			National Pollinator Week		Master Gardener Workshop June 19-29	
29	30					

Cool Waters

Date: June 3rd—June 5th

Time: 8:30 am—4:00 pm

Location: Water Resources
Commission, Johns Creek

Cost: \$25

Call: 770-794-5227

Rottenwood Creek Cleanup

Date: June 21st

Location: Chattahoochee River
Recreation Area—Paces Mill

Cost: Free

Call: 770-423-1058

Leopold Education Project Workshops

Date: June 11th & 12th

Time: 9:00 am—3:00 pm

Location: Water Quality Lab

Cost: \$25—\$70

Call: 404-876-2900 x113

Master Gardener Workshop

Date: June 19th—29th

Time: 9:00 am - 3:00 pm

Location: McEachern High School

Cost: \$60.00

Call: 770-528-4070

Recommended Reading

A Walk in the Woods: Rediscovering America on the Appalachian Trail

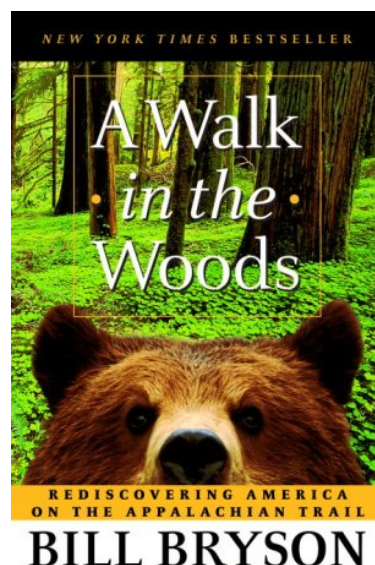
by Bill Bryson

"In *A Walk in the Woods* Bill Bryson tackles the American wilderness. Accompanied only by his old college buddy Stephen Katz, Bryson starts out one March morning in north Georgia, intending to walk the entire 2,100 miles to Maine's Mount Katahdin. If nothing else, *A Walk in the Woods* is proof positive that the journey *is* the destination. As Bryson and Katz haul their out-of-shape, middle-aged butts over hill and dale, the reader is treated to both a very funny personal memoir and a delightful chronicle of the trail, the people who created it, and the places it passes through."

Editorial Review from Amazon.com

After being fortunate enough to live in the Appalachian foothills of north Georgia, I picked up *A Walk in the Woods* to learn more about the enigma known as the Appalachian Trail. Not only did I find the natural history tidbits very interesting, I was also surprised by the dry wit and humor that permeates Bryson's work. While some readers have condemned *A Walk in the Woods* for being an inaccurate portrayal of trail hikers, I find that the story is more about his personal perception of the experience. Even so, the anecdotes and funny moments are only a backdrop to his opinions on the environment, park service, America's social condition, and the tough realities of friendship.

Vicki Culbreth



This publication, like all those profiled in our *Recommended Reading* feature, is available for checkout from the Watershed Stewardship Library, housed in the Water Quality Laboratory.

Cobb County Watershed Stewardship Program

Jennifer McCoy, Program Coordinator
Vicki Culbreth, Program Specialist
Emily Toriani-Moura, Program Assistant

662 South Cobb Dr
Marietta, GA 30060
Phone: 770-528-1482
Fax: 770-528-1483
E-mail: water_RSVP@cobbcounty.org

**This is an official publication of the
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Board of Commissioners.**

Sam Olens, *Chairman*
Helen Goreham, *District One*
Joe L. Thompson, *District Two*
Tim Lee, *District Three*
Annette Kesting, *District Four*

David Hankerson, *County Manager*



Cobb County...Expect the Best!



2nd Annual River Rendezvous Needs You!

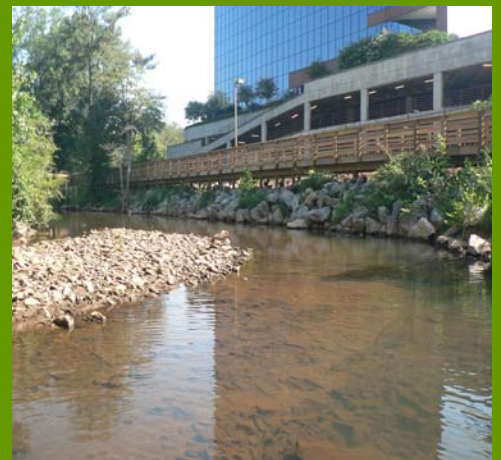
By Didi Johnson, Sierra Club Centennial Group

On May 17, 2008, Sierra Club will again partner with Cobb County Water System and Georgia Adopt-A-Stream for a watershed-wide sampling event on Rottenwood Creek. Ten teams, each led by a certified Adopt-A-Stream Chemical Monitoring volunteer, will collect samples at thirty predetermined sites on Rottenwood Creek and its tributaries. Following the sample collection, Sierra Club will sponsor a barbecue.

Cobb County Water System and Georgia Adopt-A-Stream will supply all the necessary equipment to collect the samples, a trash bag to collect trash from each site, and a disposable camera to record it all. Volunteers will record field readings for temperature, pH, dissolved oxygen, and conductivity. The Cobb County Water Quality Laboratory will analyze surface water grab samples, providing a more in-depth look at water quality throughout the watershed. Georgia Adopt-A-Stream will perform bacteria analysis for each site. The report project, including all data, will be available in July 2008.

Last year's event was a great success. Two active sewage spills were located and repaired by Cobb County and City of Marietta. It also encouraged partnerships between government and local citizens, as well as collected invaluable data and promoting water quality education.

If you are interested in participating in this year's event, please contact Didi Johnson at didij@bellsouth.net or 404-401-4577.



River Rendezvous volunteers will sample thirty sites along Rottenwood Creek.