

# the Thalweg

Watershed Stewardship Program

Fall 2012

Volume 9 Issue 4

Cobb County  
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Cobb County  
Watershed Stewardship  
Program

662 South Cobb Drive  
Marietta, Georgia 30060

770.528.1482  
water\_rsvp@cobbcounty.org

#### Staff

Jennifer McCoy  
Rachel Small  
Michael Kahle  
Lori Watterson  
Cheryl Ashley-Serafine

[www.cobbstreams.org](http://www.cobbstreams.org)



## The Mob Is Coming...

## *The Watershed Mob* that is.

Cobb County Watershed Stewardship Program is excited to introduce the newest way to volunteer and help keep your watersheds clean and healthy. The *Watershed Mob* Series will occur in the afternoon on the first Thursday of each month, take about two hours to complete, and will rotate service activities throughout the county.

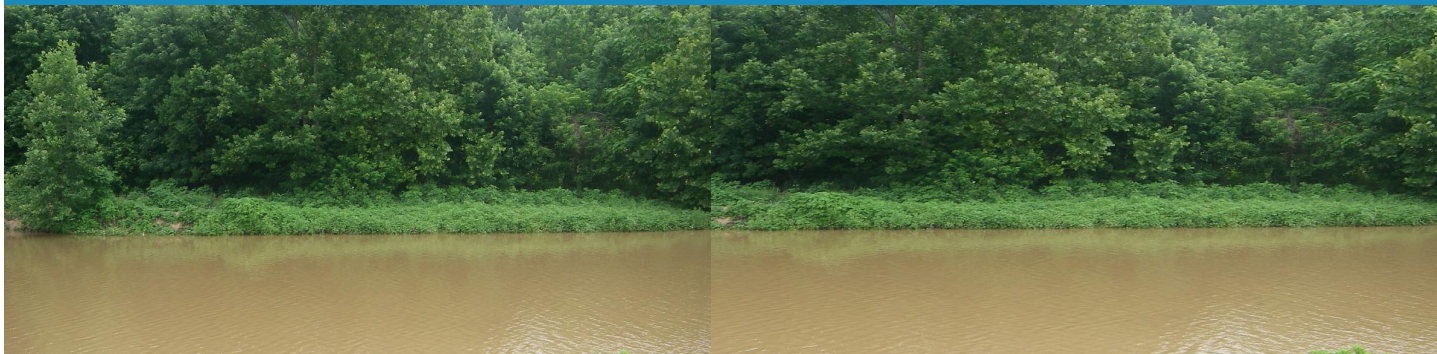
The kick off for this new series begins **Thursday afternoon, October 4, 2012** with the Watershed "Clean Up" Mob, which will clean up a waterway in the central part of the county. Join us and spend an afternoon at a local creek, lending your hand to help improve habitat and water quality. This event is registered as an official *Rivers Alive* cleanup and participants will receive a free *Rivers Alive* t-shirt in addition to knowing their efforts are enhancing aquatic habitat and reducing downstream pollution.

Check the Watershed Stewardship calendar at [www.cobbstreams.org](http://www.cobbstreams.org) for upcoming Watershed Mob events. The type of service the Watershed Mob will perform is indicated by the "middle name" in the event title. For example, you can join the Watershed "Clean-up" Mob on October 4th, help remove non-native invasive plant species by joining the Watershed "Privet Pull" Mob on November 1st, or help with the Watershed "Stormdrain Marking" Mob by placing blue frog markers on storm drains that say "No Dumping, Drains To Creek" in residential communities in the north-west part of the county in December. Volunteer for any or all of these events.

*Read more about these events on page 3...*



# Turbidity and Total Suspended Solids



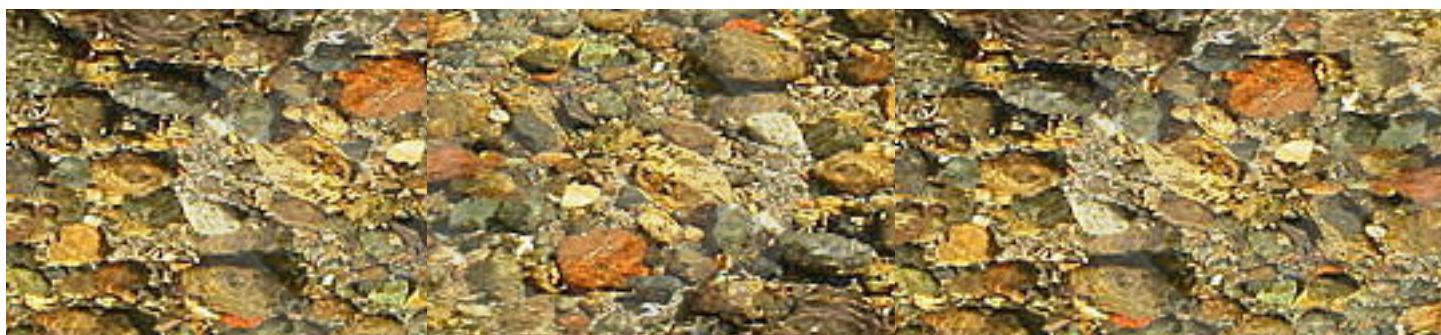
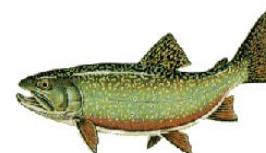
**Turbidity** is a measure of the relative clarity of water. Turbidity increases as the result of suspended solids in water that reduce the transmission of light. The nature of suspended solids varies, depending upon the source of the material—ranging from clay, silt, and plankton to industrial wastes and sewage. The presence of suspended solids can cause color changes in water, from nearly white to red-brown or green from algal blooms. High turbidity might be caused by soil erosion, waste discharge, urban runoff, abundant bottom feeders (such as carp) that stir up bottom sediments, or algal growth.

At higher levels of turbidity, water loses its ability to support a diversity of aquatic organisms. Murkier waters become warmer as suspended particles absorb heat from sunlight, causing oxygen levels to fall. Photosynthesis decreases because less light penetrates the water, causing further decreases in oxygen content. The combination of warmer water, less light, and oxygen depletion makes it impossible for some forms of aquatic life to survive.

**Suspended solids** can also directly impact aquatic life in other ways. Suspended solids can clog fish gills, reduce growth rates, decrease resistance to disease, and prevent egg and larvae development. Particles of silt, clay, and organic materials settle to the bottom, especially in slower-moving rivers and streams. These settled particles can smother the eggs of fish and aquatic insects and suffocate newly hatched insect larvae. Material that settles into spaces between rocks makes these microhabitats unsuitable for mayfly nymphs, stonefly nymphs, caddisfly larvae, and other aquatic insects living there.



Excerpt from *The ABCs of Water-Quality Assessment in Georgia*  
**STORMWATER: The Journal for Surface Water Quality Professionals**  
 By Catherine A Fox, Charles D Absher



Continued from front cover:

## Watershed Stewardship Mobs

### Are you ready to join the Mob?

Registration is required. You may register online at [www.cobbstreams.org](http://www.cobbstreams.org) by clicking the contact link on the calendar or by email at [water\\_RSVP@cobbcounty.org](mailto:water_RSVP@cobbcounty.org). You will receive a confirmation email and directions on where to meet. The service hours will usually occur in the afternoon and are perfect for high school service learning hours. Come join us and see what it's all about.

Let's work together to keep our waterways clean!

### Watershed "Clean Up" Mob - 10/4/12

Most of the litter in our streams and waterways usually ends up there after it was improperly discarded somewhere else. When someone litters, tosses a cigarette butt out of a car window, or allows trash to blow out of their truck bed, it is carried away by wind or rain. The health of a stream greatly depends on the condition of the land within the watershed. As rainwater travels over the watershed, it carries pollutants into streams resulting in the degradation of aquatic habitat and water quality. The only way to remove the trash is to go in and physically remove it. Cobb County Watershed Stewardship will supply the pick-up-stick, gloves, and the trash bags. Let's clean it up together!



Chinese Privet

### Watershed "Privett Pull" Mob - 11/1/12

**Chinese Privet (*Ligustrum sinense*)** is an abundant, semi-evergreen, small tree or large shrub, most commonly found invading the understory of moist areas. It was introduced into the United States in the early 1800s. Commonly used as an ornamental shrub for hedgerows, privet quickly escaped cultivation and is currently widespread throughout all of Georgia. Though it can invade a wide variety of habitats, privet prefers moist, open lands. It commonly forms dense thickets in fields or in the forest understory.

Privet reproduces by sprouts and an abundance of seeds, which are dispersed by birds and mammals. It shades and out-competes many native species and, once established, is very difficult to remove. Unfortunately, it remains widely sold in the nursery and gardening industry. *Source: Trees Atlanta*

Help remove this invasive from the landscape by joining this event. It's easier than you think and fun. Hope to see you there.

### Watershed "Stormdrain Marking" Mob - 12/6/12

Storm drains are found in many areas throughout a watershed, and contrary to popular belief, the storm drains on streets do not lead to a water treatment plant. They lead to nearby creeks and can carry substances such as fertilizers, pesticides, and pet waste that are washed from yards and streets. Litter, used motor oil, and antifreeze left on the landscape are also transported into the storm drains and find their way to waterways. This not only spoils the beauty of the stream, but exposure to chemicals can be toxic to wildlife. Litter may also be mistaken as food by wildlife.

To inform residents of this problem, aluminum markers with the words "No Dumping, Drains to Creek" are placed onto the surface of the storm drain. These markers are long-lasting and easy to apply. In a simple message, the community is informed that any item thrown down the storm drain, applied to the landscape, or dripped on pavement will end up in a local stream.

Would you like to help improve water quality and have an impact in your community? As a volunteer in the stormdrain marking program, you will mark drains, clean up nearby litter, and inform your neighbors about the dangers of non-point source pollution. We encourage you to join this program and start doing your part to keep Cobb County streams clean!





# What Animal Has The Longest Lifespan?

Article taken from eNature

Posted on Monday, December 19, 2011 by eNature

If you're a TV watcher, you may have noticed that the most recent iteration of the long-running TV show *Survivor* just wrapped up.

But there's a much more interesting version playing out in the wild. It's one thing to survive a few weeks on a television show, but it's quite another to live 180 years and never be voted off the island!

The tale of the ultimate survivor begins in a world of 18th century explorers, kidnappings, and tropical islands, when long-distance travel was by ship and many lands were still uncharted. The secret to this creature's longevity may be in its philosophy: Slow and steady wins the race.

## The Real Survivor

By all accounts the longest-lived creatures on earth are turtles. It may have something to do with the slowed-down lifestyle and perhaps the protective armor. At any rate, tales abound of giant tortoises of the Galapagos, Seychelles, Madagascar, and other islands that lived well over 100 years.

Sailors were said to carve their names and dates into the shells of these behemoths, providing something of a record of their lifespans. But it is quite difficult to track the lifespan of a wild animal, especially when the animal outlives the person keeping track!



*Tortoise*

## What Creature Has Lived Longest?



*Box Turtle*

The longest life of any tortoise of which there is an authenticated record is that of Marion's Tortoise, a *Testudo gigantea*. This giant tortoise, along with four of its companions, was taken as an adult from its native island in the Seychelles to Mauritius, where no tortoises occur, by the French explorer Marion de Fresne in 1766. It lived there for 152 years, until it died in 1918. Since it was a full-grown adult at the time of its capture in 1766, its actual age may be estimated at not less than 180 years and perhaps as much as 200 years.

Even the smaller members of the turtle order are known to be long-lived. One box turtle, passed down as a family pet, is said to have died at the ripe old age of 123. It was just one year older than the person many consider the oldest human on record, a French woman named Jeanne Louise Calment (1875 to 1997).

## Winners All Around

Interestingly, turtles aren't only the longest-lived individuals known, they are the oldest type of living reptiles, vastly more ancient in lineage than the fossil dinosaurs and most of the other extinct forms. That makes them older than all mammals and birds, as well. Surely they are doing something right. There may be more to the *Tale of The Tortoise and The Hare* (lifespan probably up to 8 or 10 years, if lucky!) than race strategy!

"Herpetologists generally agree that the Eastern Box Turtle is in decline over most of its range, with much of the problem attributed to habitat loss. Eastern Box Turtle populations are seriously jeopardized by habitat fragmentation resulting from urban and suburban development, which is exacerbated by increased road mortality and overcollection for the pet trade. Eastern Box Turtles are still fairly frequently encountered in Georgia, but state law prohibits their collection." Although their numbers are threatened by development, the Eastern Box Turtle is common sight in the woods. Have you encountered any turtles — in your yard or in your travels?

Should you find an Eastern Box Turtle, the best thing to do is leave it alone. They do roam their territory, which is generally 10 acres, and most likely are not lost. This long-lived animal is not legal for the taking, so keeping one for a pet is not only against the law, it is damaging to the health of their population.

*From: John B. Jensen, Carlos D. Camp, Whit Gibbons, and Matt J. Elliott - Amphibians and Reptiles of Georgia*

### Eastern Box Turtle *Terrapene carolina carolina*

Box turtles are the most common terrestrial turtle in the eastern United States. They are small to medium sized turtles, attaining a maximum length of about 8 inches and having a highly domed carapace. A key characteristic of box turtles is their hinged plastron (bottom of the shell) that can be shut completely to exclude predators. Although mud, musk, and blanding's turtles also possess hinged shells, they cannot be closed completely. Superficially, box turtles resemble tortoises but they are actually more closely related to many aquatic turtles and belong to the same family as spotted, bog, chicken, map, and painted turtles, as well as sliders, cooters, and diamondback terrapins. Box turtles in the United States are divided into two species, the Eastern Box Turtle (*Terrapene carolina*), which ranges from Texas throughout the southeast and north to Michigan and southern Massachusetts, and the Western Box Turtle (*Terrapene ornata*), which ranges west of the Mississippi to Colorado and New Mexico. The Western Box Turtle is superficially similar to the Eastern Box Turtle but is typically smaller and has a shell marked with radiating yellow lines. There are an additional two species of box turtle that are endemic to restricted habitats in Mexico. One of these species (*Terrapene coahuila*) is almost totally aquatic.



Eastern Box Turtles are highly variable in shell shape, pattern, and coloration. Based on these differences, four subspecies of Eastern Box Turtles have been designated. The most widespread subspecies is simply known as the Eastern Box Turtle (*T. carolina carolina*). This turtle ranges along the entire east coast of the United States from Massachusetts to northern Florida, as far west as the Mississippi River, and north to the Great Lakes. Although this subspecies is highly variable in coloration, it is often more brightly colored than the other subspecies and almost always has four claws on the hind feet.

*Source: [www.bio.davidson.edu](http://www.bio.davidson.edu)*



## The Crunches

Down for water  
Up for food,  
Bats are in a hungry mood.  
This goes on the whole night through.  
When everyone's snoozin'  
The bats are cruizin'.

Spencer Borg, 2<sup>nd</sup> Grade  
Keheley Elementary, Marietta  
Teacher: Annette Simpson  
2012 River of Words State Winner

welc  me

Chuck Armentrout - Chattahoochee River  
Paige Bushart- Sewell Mill Watershed  
The Guerra Family- Rubes Watershed  
River Springs Stream Team- Trib of Chattahoochee  
Donna-n-Carmen- Olley Creek  
Hubert Wieland- Sewell Mill Watershed  
Lewis Elementary School- Butler Creek

## RECOMMENDED RESOURCE

### ***The Forest Unseen - A Year's Watch in Nature*** by David George Haskell

*A biologist reveals the secret world hidden in a single square-meter of forest*

In this wholly original book, biologist David Haskell uses a one-square-meter patch of old-growth Tennessee forest as a window onto the entire natural world. Visiting it almost daily for one year to trace nature's path through the seasons, he brings the forest and its inhabitants to vivid life.

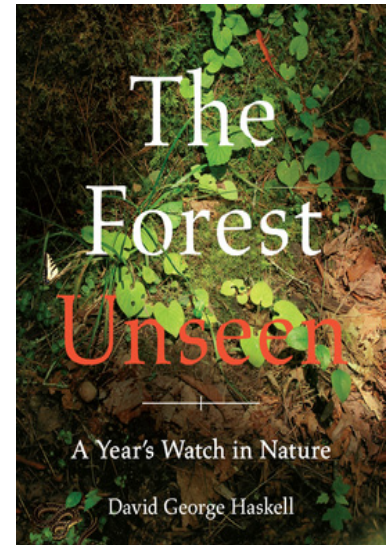
Each of this book's short chapters begins with a simple observation: a salamander scuttling across the leaf litter; the first blossom of spring wildflowers. From these, Haskell spins a brilliant web of biology and ecology, explaining the science that binds together the tiniest microbes and the largest mammals, and describing the ecosystems that have cycled for thousands—sometimes millions—of years. Each visit to the forest presents a nature story in miniature as Haskell elegantly

teases out the intricate relationships that order the creatures and plants that call it home.

Written with remarkable grace and empathy, *The Forest Unseen* is a grand tour of nature in all its profundity. Haskell is a perfect guide into the world that exists beneath our feet and beyond our backyards.

*The Forest Unseen* was published on March 15, 2012, by The Viking Press, an imprint of Penguin USA.

Source: Viking Press



## Adopt-A-Stream Stars: Excellence in Data Collection

We would like to recognize volunteers who have monitored every month in the previous quarter.

The following volunteers have submitted data each month during the June, July, and August quarter:

Rick & Sharon Donato - Anuran monitoring in the Rubes Watershed  
Norm Fagge - Chemical monitoring in the Willeo Watershed  
Sierra Club Centennial Group - Chemical, Bacterial, & Biological on Rottonwood Creek  
David Zanstra - Chemical & Bacterial on Rubes Creek  
Simon Locke - Chemical monitoring on Butler Creek  
Denise Gadd - Chemical & Bacterial monitoring on Powder Springs Creek  
Sally Brooking - Chemical monitoring on Sope Creek  
Three Forks Alliance - Chemical monitoring on Nickajack Creek

# OBSERVATIONS

Photo by John Bunnell



Marbled Salamander (*Ambystoma opacum*)

## Marbled Marvels

Most salamanders look for shelter from cool weather in the fall. One species, the Marbled Salamander, is leaving its underground world to breed now. Instead of depositing eggs directly in the water like most salamanders, the female marbled salamander lays up to 200 eggs in a small depression of leaf litter or under a log. She then guards the eggs and waits for rain to come.

The eggs hatch out after only a few days of being soaked, but the young won't mature until the following spring. Forested wetlands and floodplains must be protected in order to keep this species common in Georgia.

Linda May

Environmental Outreach Coordinator  
Georgia DNR, Wildlife Resources Division

## Paper Napkins

Use fewer paper napkins — everywhere. There's no reason to grab a huge stack of paper napkins from the concession stand when you know you will only use one or two. Each American consumes an average of 2,200 standard two-ply napkins per year, or the equivalent of just over six of these napkins per day. If everyone in the United States used an average of one fewer napkin per day, more than a billion pounds of napkins could be saved from landfills each year. A stack of napkins this size could fill the *Empire State Building*.

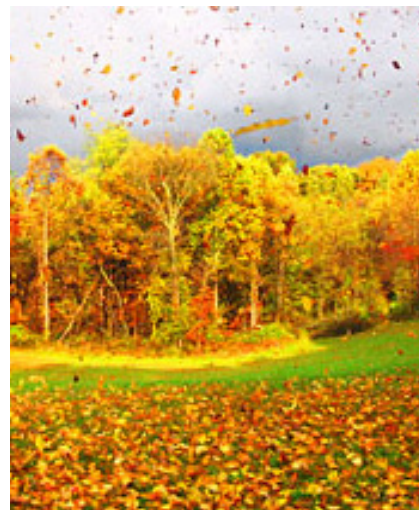
From: *The Green Book*

ECOPEDIA

## Psithurism (sith-your-ism)

The sound of the wind in the trees; The sound of the wind rustling the leaves.

Source: [www.freedExceptionary.com](http://www.freedExceptionary.com)



## VOLUNTEER OPPORTUNITY

The U.S. Army Corps of Engineers (USACE) at Allatoona Lake is seeking volunteers who would like to take part in an environmental restoration project. They will be restoring a twelve-acre wetland area in Cobb County and need help planting and moving native river cane.

River Cane (*Arundinaria gigantea*) once formed dense stands called canebrakes along stream banks throughout Southeastern United States. Farming, overgrazing, and urban development destroyed these canebrakes and the animal species that depended on them for food and shelter. As part of the USACE commitment to sustainability and stewardship of public lands and waters, they invite interested parties to join them in this unique opportunity.

This project is conducted in partnership with the Cobb County Department of Parks, Recreation, and Cultural Affairs. Volunteers are asked to join us at 9:30 AM on Saturday, September 29th at 5690 Old Stilesboro Road in Acworth, GA 30101. Registration will be conducted at that time. If you have any questions, please contact Park Ranger Stephen Cain at (678)721-6722 or Park Ranger Jonathan Wise at (678)721-6741.

## WELCOME to LORI WATTERSON & CHERYL ASHLEY-SERAFINE

Lori and Cheryl joined our team in August 2012 as seasonal program assistants. They will be presenting our water quality puppet show, Brooke and Branch, to 3rd graders at local schools this year.



Lori previously worked at Pine Jog Environmental Education Center in West Palm Beach as the Community Education Coordinator. She has worked for the Florida DNR as a fisheries biologist and is currently a naturalist at the Chattahoochee Nature Center.

Cheryl recently retired from Cobb County Schools as a teacher in the Accelerated Learning Program and General Elementary Education. She has collected stream data for our program for 5 years. She is currently working toward a certificate in Environmental Education.



Cobb County Water System  
Watershed Stewardship Program  
662 South Cobb Drive  
Marietta, Georgia 30060



*Cobb County...Expect the Best!*

This is an official publication of the Cobb County Water System, an agency of the Cobb County Board of Commissioners.

## Calendar of Events

### October

- 2 Keep Cobb Beautiful Earth Fair • 4pm - 7pm • Cobb County Civic Center
- 4 Garden Work Day • 9am - 11am • Cobb County Water Quality Laboratory
- 4 Watershed "Clean Up" Mob • 4pm - 6pm • Custer Park
- 11 Garden Work Day • 9am - 11am • Cobb County Water Quality Laboratory
- 18 Adopt-A-Stream Chemical Monitoring Workshop • 6pm - 8:30pm • Cobb County Water Quality Laboratory
- 18 Garden Work Day • 9am - 11am • Cobb County Water Quality Laboratory
- 20 Rivers Alive Clean Up with Sierra Club Centennial Group • 9am - 1pm • Rottonwood Creek, Life University
- 25 Garden Work Day • 9am - 11am • Cobb County Water Quality Laboratory

### November

- 1 Garden Work Day • 9am - 11am • Cobb County Water Quality Laboratory
- 1 Watershed "Privet Pull" Mob • 4pm - 6pm • Location TBD
- 8 Garden Work Day • 9am - 11am • Cobb County Water Quality Laboratory
- 15 Garden Work Day • 9am - 11am • Cobb County Water Quality Laboratory
- 15 Adopt-A-Stream Bacterial Monitoring Workshop • 6pm - 8:30pm • Cobb County Water Quality Laboratory
- 29 Garden Work Day • 9am - 11am • Cobb County Water Quality Laboratory

### December

- 6 Garden Work Day • 9am - 11am • Cobb County Water Quality Laboratory
- 6 Watershed "Stormdrain Marking" Mob • 4pm - 6pm • Meet at Leone Hall Price Park
- 13 Garden Work Day • 9am - 11am • Cobb County Water Quality Laboratory

Events in red are Cobb County Watershed Stewardship events.  
More information can be found on our Calendar at [www.cobbstreams.org](http://www.cobbstreams.org).