



# TENNESSEE RIVERKEEPER®

**Tennessee River Shows Off Mussels**

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## TENNESSEE RIVER SHOWS OFF MUSSELS

There are approximately 90 different species of freshwater mussels in the Tennessee River watershed. Stable, diverse mussel populations generally indicate clean water and a healthy aquatic environment. Unfortunately, these animals are very troubled natural resources. Because they are filter-feeders, mussels are excellent indicators of the health of aquatic ecosystems.

The U.S. has more species of freshwater mussels than any other country. If we lose our freshwater mussels, we lose more than a biological legacy unmatched in the world. We lose a part of America's cultural heritage, we lose an economic resource, and we lose an environmental health maintenance and warning system.

The Paint Rock River, a Tennessee River tributary, is home to six federally endangered species and is one of the most aquatically biodiverse creeks in the U.S. One endangered Tennessee River species is the Alabama Lampmussel (*Lampsilis virescens*) which remains in about 15 miles of the Paint Rock River in Jackson County, Alabama.



*Larvae freshwater mussels (glochidia) incysted on the gills of a fish. Mussels appear as white "seeds" attached to individual gill filaments.*

*Photos provided by Dr. Paul Johnston.*

Historically found throughout the Tennessee River system, this mussel species disappeared from all other locations within the drainage. Because the species is one of the most imperiled species in Alabama, the U.S. Fish and Wildlife, with other scientists, and various state agencies are focusing on propagating the species in captivity. Freshwater mussels are difficult to work with, but recent advances in artificial culture techniques have made mass culture efforts possible. The goal of the recovery program is to produce enough mussels to eventually establish a new population in another Tennessee River basin drainage tributary.

Fortunately, there are efforts being made to avoid these losses and things everyone can do to reduce water pollution.

For more information, please visit [www.TennesseeRiver.org/species.html](http://www.TennesseeRiver.org/species.html)

# STORMWATER WOES



It's not easy for Decatur, Alabama residents to forget the day the entire city was stripped of one of life's basic necessities – water. January 3, 2011, nearly 56,000 residents went without water and many continued to question the safety and abundance of the water provided by Decatur Utilities. Residents anxiously awaited a solution and explanation. Decatur Utilities has and will continue to supply short term solutions to this issue, but to find a more successful long-term solution one must address the root of the problem – severe water turbidity in the Tennessee River.

## What is stormwater and why should I care?

The population within the Tennessee River watershed will continue to grow, which means more development within our watershed. Unfortunately, it is accompanied by a loss of greenspace and an increase in impervious surfaces, such as driveways, parking lots, and streets. These surfaces prevent precipitation from naturally soaking into the ground. Instead, water flows across impervious surfaces collecting debris, chemicals,

dirt, and other pollutants. Storm drains then discharge the untreated water into the Tennessee River polluting the waters we use for swimming, drinking, and fishing.

Polluted stormwater runoff can have many adverse effects on aquatic ecosystems and people. Excessive nutrients can cause algae blooms and an influx of bacteria and other pathogens creates health hazards. Excessive sediment in our waterways destroys aquatic habitats by smothering aquatic plants, clouding the water, and depleting oxygen levels. It also fills in and pollutes our drinking water sources. As Decatur residents witnessed, water treatment plants can be shut down when sedimentation loads are immeasurably high. This in turn, can affect human health and increase drinking water costs.



*Runoff from a construction site after a recent rain event overwhelms the silt fence and other BMPs, leading to major flooding of the roadway and sediment entering the storm drains.*

## Muddy Water

**tur·bid' i·ty** (n): muddiness created by stirring up sediment or having foreign particles suspended.

Turbidity increases every time it rains. While there is no single source responsible for the erosion and sedimentation issues within the Tennessee River watershed, irresponsible development is an obvious source that must be addressed.

Sediment carried by stormwater runoff from construction sites in Alabama has been documented as one of the leading sources of non-point source pollution of rivers throughout the state. Site-clearing and development projects are required to use Best Management Practices (BMPs) for erosion and runoff control. However, developers often neglect to properly install or maintain BMPs because of costs or lax enforcement. Red dirt leaving a site after a major rain event often indicates that the site is void of proper BMPs or they are not properly installed or maintained. Not only is this a threat to water quality, it is often a violation of state and federal laws.

# UPDATES AND ACKNOWLEDGEMENTS

## New Staff Member: Molly Wallace

Born and raised on the Tennessee River in Decatur, AL, Molly Wallace became Director of Development at Tennessee Riverkeeper in April 2011. She assists with grants, events, and membership development.



Molly graduated from Decatur High School in 2003, earned a degree in Wildlife Science from Auburn University, and is currently working on a master's degree in secondary education at the University of North Alabama.

## New Board Members:

**Carolyn Bild** comes to Alabama via the West Coast. She is an avid photographer and writer who has spent her life living by the ocean, Lake Tahoe, Elliott Bay, and now the Tennessee River.

**Jenni McLeroy** is an attorney and co-owner of The Daily Brew on the Tennessee River in Decatur, AL. Born and raised in Morgan county, Jenny still resides near the River adjacent to the Wheeler National Wildlife Refuge.

**Karen Thomas:** Karen Thomas MPH is the 5th generation of the Thomas family to reside near the Tennessee River. She has an undergraduate degree in Environmental Sciences from UNC-Asheville and a Masters in Public Health from Emory University. Karen has worked for the Sierra Club and the Georgia Environmental Council.

## About TENNESSEE RIVERKEEPER



The mission of Tennessee Riverkeeper is to protect the Tennessee River and its tributaries by enforcing environmental laws and educating the public. The communities of the Tennessee Valley are all interconnected neighbors, upstream and downstream; and everyone needs clean water, whether you're black or white, rich or poor, Republican or Democrat. We advocate on behalf of the watershed to

ensure that future generations will inherit safe, clean water in their communities. Riverkeeper monitors polluters and their pollution permits, responds to citizen complaints, and utilizes other methods to further protect the Tennessee River and its tributaries. When the organization discovers illegal pollution, we seek enforcement of environmental laws.



**Thank you to Brad Kochelhofer and the Modern Brand for their volunteer support in designing Tennessee Riverkeeper's new logo!** For more info, visit [themodernbrand.com](http://themodernbrand.com).



**Thank you to our friends at Bonnaroo for supporting Tennessee Riverkeeper in 2011!**

**Special thanks:** Planet Roo, Nick Algee, AC Entertainment, Rick Farman, Superfly Productions, Nate Parienti, [iClips.net](http://iClips.net), Marc Ross, Rock the Earth, Andy Bernstein, [HeadCount.org](http://HeadCount.org), Adrian Zelski, DubConscious, Hunter Brown, STS9, Ketchum Secor, Old Crow Medicine Show, comedian Nate Bargatze, Robert F. Kennedy, Jr. and Waterkeeper Alliance.

# TENNESSEE RIVERKEEPER

P.O. Box 2594

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



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- Student .....\$10
- Slackwater Darter .....\$25
- Redfin Darter .....\$50
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- Hellbender Salamander.....\$1000
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Please make checks payable to: Tennessee RIVERKEEPER  
You can also become a member at our website: [TennesseeRiver.org](http://TennesseeRiver.org)